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A Positive Psychological Perspective of the Direct and Indirect Influences of Gender Role Schema and the Experience of Childhood Trauma on Psychological, Physical, and Social Well-Being in Adulthood: Vol. 1

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Declaration

I declare that the contents of this thesis are my own work. It contains no material produced by other authors, except where appropriate references are given in the text. Ethical clearance was granted for this research, and ethical principles and procedures for human research as specified by the Central Queensland University were followed. This thesis has not been previously submitted for the purpose of assessment and is currently being submitted for the Doctor of Philosophy.

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Abstract

This research assessed psychosocial and cognitive factors influencing well-being, utilising a positive psychological perspective. The theoretical framework of this research was provided by two of the sub-theories of Self-Determination Theory – Basic Needs Theory and Organismic Integration Theory – along with Gender Role Theory, and Beck's Cognitive Triad, with each of these theories relating differentially to the concept of control or self-determination. More specifically, the current research examined the relationship between gender role schema and the experience of childhood trauma with psychological, physical, and social well-being in adults. Two studies were conducted. Study 1 employed a random sample of 410 participants from Central Queensland, Australia, to develop the World Beliefs Inventory (WBI). This 21-item inventory was developed to assess world beliefs, based on a translation of Aerts et al.'s (1994) philosophical conceptualisation of world beliefs into common terminology. Developing the WBI enabled the assessment of world beliefs, which along with beliefs about oneself (operationalised as perceived control), and the future (dispositional optimism) constitute Beck's (1976) cognitive triad. Statistical analyses indicated that the inventory provided a good representation of the world beliefs construct, as well as possessing favourable concurrent validity (e.g., positive views regarding the nature of the world were associated with decreased frequency of depressive symptoms experienced, and greater general psychological health and self-esteem). Study 2 was designed to investigate the direct and indirect relationships between gender role schema (masculinity and femininity) and the

experience of childhood trauma with psychological, physical, and social well-being, being mediated by (a) the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, (b) beliefs about the world, oneself, and the future, (c) the self-regulation of withholding negative emotion (SRWNE), and (d) somatic amplification. Study 2 employed a separate random sample of 605 participants from Central Queensland. Psychological, physical, and social well-being were each assessed independently to determine whether patterns of significant relationships were similar or different across the different types of well-being. In order to test the theories underlying the structural models of well-being, five hierarchical models of each type of well-being were analysed and compared. Satisfaction of the basic psychological needs for autonomy, competence, and relatedness, and beliefs about the future (dispositional optimism) were found to play a role in the process via which masculinity, femininity, and the experience of childhood trauma influenced all three forms of well-being, while world beliefs were additionally found to influence social well-being, and the SRWNE additionally influenced physical well-being. Results therefore support Basic Needs Theory and provide partial support for Beck's cognitive triad. They also provide evidence of the utility of the concept of the SRWNE, which was developed in accordance with Organismic Integration Theory.

CHAPTER 1: INTRODUCTION

1.1 Overview of Health and Well-Being

In the past, the use of the illness model, which conceptualised health as consisting of an absence of psychological and physical symptoms and diagnoses (Keyes & Shapiro, 2004), resulted in health being defined and measured in a variety of ways including: self-reports (Idler & Benyamini, 1997); changes in immune function; presence of visible symptoms; medical diagnosis; results of urine and blood tests, and X-rays; survival; and lifespan (Peterson & Bossio, 1991). The World Health Organization [WHO] (1946), however, defined health as "a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity" (p. 100). This definition signalled the introduction of the health model which conceptualises health as being constituted by high levels of psychological, physical, and social well-being (Keyes, 1998; Keyes & Shapiro, 2004). Health is now recognised as the product of cognitive, psychological, and social factors, as well as biological factors, and provides a far more holistic approach to health and disease, and to the treatment of health problems.

This new approach to health has resulted in the use of a range of interrelated terms, including quality of life (Power, 2003), subjective well-being (Diener, Suh, Lucas, & Smith, 1999), psychological well-being (Ryff & Keyes, 1995), positive functioning, emotional well-being (Ryan & Deci, 2001; Waterman, 1993), and social well-being (Keyes, 1998). In this research, the concept of well-being, which integrates psychological, physical, and social well-

being, will be utilised. This broader conceptualisation of health and well-being allows for a more comprehensive investigation of the psychosocial and cognitive factors that contribute to or detract from individuals' perceptions of the extent to which they are functioning well in their environment. This emphasis on the positive psychosocial factors that contribute to optimal health and well-being also extends to the field of psychology (Lampropoulos, 2001; Myers, 2004; Seligman & Csikszentmihalyi, 2000). This discipline has experienced recent calls for its traditional approach to psychopathology to be broadened to include the positive attributes that contribute to optimal well-being, an approach called *positive psychology*.

1.2 Demographic and Psychosocial Factors Influencing Health and Well-Being

Health and well-being have been shown to be influenced by a range of factors, including demographic and psychosocial factors.

1.2.1 Demographic factors influencing health and well-being

Some of the demographic factors found to influence health and well-being include socio-economic status (SES), marital status, and gender (Rosenfeld, 1997).

- *Socioeconomic status*

Socioeconomic status is clearly associated with health, as indicated by increased rates of mortality, diabetes, asthma, arthritis, bronchitis/emphysema, ulcers, and obesity in those low in SES (Australian Institute of Health and Welfare [AIHW], 2002). Lifestyle behaviours of individuals from low socio-economic groups also increase health risk as they are more likely to smoke,

participate in less physical exercise, and are more likely to be overweight (AIHW, 2002). Reasons suggested for the relationship between SES and health vary, and include factors such as standard of housing, health-related behaviours, education, exposure to detrimental occupational working conditions, diet, reduced access to preventive health services and medical care, and psychosocial factors (AIHW, 2002).

- *Marital status*

Being married (in comparison to being single) has consistently been found to be related to improved health and psychological well-being, particularly for men (DePaulo, 2004; Waite, 1996). Lillard and Waite (1995) found that both married women and men were less likely to die at any one point in time in comparison to those who had always been single and those who were divorced or widowed. Umberson (1987, 1992) found that marriage reduces participation in unhealthy behaviours, such as problem drinking in men. Marriage also appears to be associated with increased SES which influences health, especially in women (Waite, 1996). Being married tends to result in a number of health benefits. For example, marriage provides people with someone who encourages self-care (the spouse), a factor especially important for men's health (Waite, 1996). Another benefit of marriage is that moral support is provided during times of stress (Waite, 1996). Being single, however, is not without some benefit. Marks and Lambert (1998) found that although marriage generally promoted well-being in women and men, those who were single experienced some specific aspects of well-being, notably, autonomy and personal growth, to a greater extent than those who were married.

- *Gender*

Health varies as a function of gender. Males (in comparison to females) are at increased risk of heart disease and angina, have a greater incidence of non-sex specific cancers, suffer more injuries (Australian Bureau of Statistics [ABS], 2002), are killed in larger numbers in accidents related and unrelated to the workplace, are at greater risk of getting lung cancer (Pease, 1997), ischaemic heart disease, and peptic ulcers (Gomez, 1991), and are more likely to commit suicide (Rosenfeld, 1997). The higher rate of suicide in males tends to be associated with excessive consumption of alcohol and illicit drugs. Men are more than twice as likely as women to have the problem of alcohol dependence, with one in five men affected at some stage in their lives (WHO, 2005). Although men are five times more likely to commit suicide than women, women are twice as likely as men to be diagnosed with depression (Royal Australian College of General Practitioners, 2001).

Mental health and illness vary as a consequence of gender due to the fact that gender largely determines control over socio-economic resources, social status, and the way individuals are treated in their social environments. It also brings about differential exposure to specific risks (WHO, 2005). As well as being at greater risk of developing the psychosomatic problems of eating disorders, stomach sensitivity, high blood pressure, and headache (Gomez, 1991), women disproportionately experience psychological difficulties such as depression (Nolen-Hoeksema, 1987), bulimia (Worell & Remer, 1992), somatic complaints, and anxiety (WHO, 2005). Twice as many women as men experience unipolar depression. Women are also disproportionately affected by domestic violence, psychological distress, and sexual violence, and suffer the

pressures of gender bias, and having to perform multiple roles (WHO, 2005). While women in the West tend to be disproportionately affected by mood disorders, men are more likely to experience the more severe disorder of mania which tends to have dramatic consequences (Gomez, 1991). Males disproportionately experience drug dependence, delusional aggression, and psychopathology (Gomez, 1991). They also have three times the likelihood of developing antisocial personality disorder, while women are more likely to experience co-morbid disorders (WHO, 2005).

Men (in comparison to women) put their health at greater risk as they are also more likely to be smokers, consume more alcohol, are more likely to be overweight or obese, consume less fruit and vegetables, tend to consume full-fat milk rather than reduced fat milk, and use more salt (ABS, 2002). They also under utilise health services of all types, except for those related to alcohol abuse, accidents, and those dealing with diseases that are sexually transmitted (Gomez, 1991). Men also tend to only seek medical assistance once a situation becomes serious (Pease, 1997), possibly because seeking help is inconsistent with the masculine ideal (Helgeson, 1994). They are reluctant to consult general practitioners, social workers, and psychiatrists, although having been identified as “the sicker sex” (Gomez, 1991, p. 1).

Although women visit doctors more often than men, and report a greater number of health problems and symptoms, they live longer than men (Pennebaker, 1995). Men have a life expectancy of 76.6 years versus 82.2 years for women, with the situation even worse for indigenous Australians (men 56 years versus women 63 years) (AIHW, 2002).

The present study acknowledges the influence of demographic factors such as SES, marital status, and gender on well-being. It does, however, focus primarily on the psychosocial cognitive factors contributing to well-being.

1.2.2 The influence of psychosocial factors on health and well-being

While the influence of psychosocial factors on health has long been an area of contention, this association has more recently been assigned renewed credibility. Cacioppo (2003) asserted that "many of the contemporary health problems have affective bases ranging from anxiety, anger, and depression, to unrealistic or drug-induced feelings of euphoria and invulnerability" (p. 1050). A great deal of research into the relationship between emotions and health has examined the influence of negative emotions, including anger, hostility, depression, anxiety, and loneliness, and personality traits such as neuroticism and Type A Behaviour Pattern (Friedman & Booth-Kewley, 1987) on disease and health (Cacioppo, 2003). Ryff and Singer (2003) contend that an important focus for future research will be the identification of processes through which negative emotional states can be transformed so that they do not negatively impact health.

Stress responses have been identified as including physiological, cognitive, emotional, and behavioural reactions (Taylor, 1995). Cacioppo (2003) argued that a paradigm shift had occurred in which it became recognised that environmental factors influence health not through the spread of biological pathogens (germs) but through their impacts on behaviour and negative affective states. A major concern within this paradigm is the notion that while physiological systems that respond to everyday events can be beneficial to the individual in the shorter term, they can also have deleterious effects over the longer term (Cacioppo, 2003).

Cannon's (1939) early work on the emergency reaction toward aversive stimuli emphasised physiological responses to threat that enabled the 'fight or flight' response, and therefore survival. Selye's (1976) later work on the general adaptation syndrome, however, suggested that while physiological reactions to stressful events are adaptive up to a certain point, ongoing physiological activation can be harmful. Characteristics of an event that contribute to the perception of stress include uncontrollability, ambiguity, unpredictability, and a perception that the event is negative in nature (Taylor, 1990, 1995), with perceptions of control and helplessness appearing to moderate the impact of stressful events (Fisher, 1988).

More recently, it has been acknowledged that the body seeks to maintain a state of homeostasis in response to stressful events through a process of allostasis, which involves achieving internal stability of physiological systems via change (McEwen, 1998; McEwen & Stellar, 1993; Sterling & Eyer, 1988). The costs of ongoing physiological activation in response to stressors have been called allostatic load (McEwen & Stellar, 1993), and this is the physiological mechanism through which emotions can influence an individual's health (Cacioppo, 2003).

Progress in the disciplines of psychology and medicine has seen the mind-body link investigated in studies which examined the physiological pathways by which stress and the experience of traumatic events impact on health. These influences have been identified as occurring through changes in neuroendocrine activity (Cacioppo et al., 1995), cardiovascular (Tomaka, Blascovich, Kibler, & Ernest, 1997) and immune functioning (Anderson, 2003; Anderson, Kiecolt-Glaser, & Glaser, 1994; Mehl-Madrona, 2004; O'Leary,

1990; Pennebaker, 1995), the sympathetic adrenomedullary system, the peptide system, and the pituitary-adrenocortical system (Taylor, 1995). For example, associations have been identified between psychosocial factors and immune functioning in individuals with autoimmune disease, cancer, and Acquired Immune Deficiency Syndrome (O'Leary, 1990). Stress has also been identified as contributing to hypertension, arthritis, and cardiovascular disease (Taylor, 1995). It is therefore clear that psychosocial factors can and do impact adversely on the functioning of physiological systems and processes, leading to pathology.

As well as physiological influences, stress can have cognitive, emotional, and behavioural after-effects (Taylor, 1995). Cognitive after-effects include decreased concentration, and mental rumination (Bulman & Wortman, 1977; Luminet, Zech, Rime, & Wagner, 2000), which can continue well after the time of exposure to the stressful occurrence. Possible emotional responses to stressful occurrences include embarrassment, depression, stoicism, denial, anxiety, anger, fear, or even excitement (Taylor, 1995).

Behavioural responses to stressful events vary widely and include the tendency to deal with the event head on utilising active coping, or to avoid the event, using passive or avoidant coping (Brown, Nicassio, & Wallston, 1989; Taylor, 1995). Experiencing stressful occurrences also appears to result in a decrease in health promoting behaviours (Adler & Matthews, 1994); increased participation in risky behaviours (Green & Schnurr, 2000) such as smoking, and abusing alcohol and drugs; participation in unsafe sexual practices; and the tendency for individuals to reveal their emotional upset to others (Luminet et al., 2000).

Conceptualising well-being (psychological, physical, and social) from a positive psychological perspective emphasises the impact that stress can have on health. This relationship, however, does not discount the influence of demographic factors on health and well-being.

1.3 Proposed Research

This research will assess psychosocial cognitive factors influencing well-being from a positive psychological perspective. It will focus primarily on the relationships (both direct and indirect) between gender role schema and the experience of childhood trauma with psychological, physical, and social well-being in adulthood. This research will undertake two studies. Study 1 will involve the development of a scale (the World Beliefs Inventory) to measure individual differences in beliefs about the world (the degree to which the world is perceived to be just, controllable, predictable, safe, supportive**,** and meaningful). While there are existing scales that measure "just world beliefs", it will be argued that just world beliefs represent only one component of a larger concept of world beliefs. The World Beliefs Inventory (WBI) will be developed to allow for the assessment of beliefs regarding the world, oneself (perceived control), and the future (dispositional optimism). Together these three belief components constitute Beck's (1976) cognitive triad.

Development of the WBI is also expected to have both theoretical and practical applications. If, as Beck (1976) contended, beliefs about the world make a significant contribution to well-being, especially psychological well-being, it is possible that the WBI could be utilised to screen for early signs of

psychological mal-adaptation, allowing timely intervention utilising therapies such as cognitive therapy. Additionally, it could possibly be used pre- and post-treatment to assess the degree to which interventions have successfully changed maladaptive beliefs.

Study 2 will investigate, in a hierarchical manner, the relationships between gender role schema and the experience of childhood trauma with the satisfaction of basic psychological needs; beliefs; the self-regulation of withholding negative emotion; somatic amplification; and psychological, physical, and social well-being. Hierarchical structural equation modelling (SEM) will be employed to test the explanatory efficacy of five nested theoretical models that hypothesise both direct and indirect relationships between gender role schema and the experience of childhood trauma with these variables. That is, these models will investigate, in a hierarchical fashion, the direct and indirect relationships between gender role schema and the experience of childhood trauma with (a) the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, (b) beliefs about the world, oneself, and the future, (c) the self-regulation of withholding negative emotion, (d) somatic amplification, and (e) psychological, physical, and social well-being. It should be noted that the sequential ordering of the variables in these five models are nested within the fully identified fifth model.

Past research has clearly identified adherence to gender roles as a major contributor to sex differentials in health outcomes. Together with the argument that experiencing trauma as a child appears to have deleterious long-term impacts on well-being, suggests that an investigation of the processes by which these factors influence well-being is timely. While Self Determination Theory (SDT)

is a theory relating to the development of personality and motivation, Little, Hawley, Henrich, and Marsland (2002) indicated that to date, only limited research attention has been given to SDT in relation to development. The recent reconceptualisation of health and well-being from an eudaimonic perspective, the current positive psychological emphasis on psychosocial and cognitive factors contributing to optimal functioning, and recent clarification of the means by which psychological states influence physiological processes, suggest that utilising SDT to examine the influences of gender role schema and the experience of childhood trauma on psychological, physical, and social well-being may assist in identification of the means by which well-being in adulthood is negatively impacted upon. This, in turn, may assist in the development of intervention strategies.

Two of the sub-theories of Self-Determination Theory (SDT) - Basic Needs Theory, and Organismic Integration Theory (University of Rochester, 2004) – along with Gender Role Theory (Antill, Cunningham, Russell, & Thompson, 1981; Bem, 1974, 1975) will serve as the theoretical framework for this study, with Beck's (1976) cognitive triad serving as a framework for explaining the impact that important beliefs that individuals hold, have on their well-being. The common theme underlying these theories is the concept of control or self-determination. The theoretical and methodological approaches proposed in this research also align with the Aristotelian view of development (Ryan & Deci, 2002), and the concept of eudaimonic well-being, which contends that individuals have an inherent inclination to move toward psychological growth and the integration of experience with one's 'self', which influences the degree to which one's personality is a coherent whole, and ultimately impacts on

well-being. Elucidating the pathways via which gender role schema and the experience of childhood trauma are hypothesised to influence psychological, physical, and social well-being may aid in the development of psychological interventions to alleviate negative impacts on well-being, as well as to assist in optimising well-being in adulthood.

1.4 Outline of Chapters

This thesis conceptualises well-being as consisting of psychological, physical, and social well-being, and contends that a range of psychosocial and cognitive factors interact and influence well-being in adulthood. Chapter 2 reviews two factors identified as having significant associations with health and well-being, and the theories posited to explain these associations. These factors influencing well-being include gender role schema and the experience of childhood trauma. The theory of Gender Role Schema (Bem, 1983, 1985) is outlined and posited as a theory that may provide a more adequate explanation for gender differences in health and well-being than do biological differences. Self-Determination Theory (SDT) and two of its sub-theories – Basic Needs Theory and Organismic Integration Theory – are discussed as theories that could elucidate the pathways via which gender role schema and the experience of childhood trauma impact psychological, physical, and social well-being in adulthood. Self-determination is argued to be of major importance to healthy functioning and well-being.

Chapter 3 contends that the satisfaction of the basic psychological needs for autonomy, competence, and relatedness is necessary if healthy development is to occur. Basic Needs Theory (University of Rochester, 2004), a sub-theory of

SDT, is reviewed in relation to other needs theories. The importance of the satisfaction of the basic needs for autonomy, competence, and relatedness to development, motivation, and the internalisation of cultural practices such as emotion regulation is reviewed. The importance of the satisfaction of these needs to the development of a self-concept that is authentic, congruent, and integrated is highlighted (Deci & Ryan, 1991).

Chapter 4 argues that beliefs about the world (world beliefs), oneself (perceived control), and the future (dispositional optimism) reflect our experiences in the world, and shape our experiences in important ways (Janoff-Bulman, 1985; Koltko-Rivera, 2004; Simpson, 1993). The way in which this contention aligns with Beck's (1976) cognitive triad model is described. The need to base the development of a cohesive taxonomy of important world beliefs on Aerts et al.'s (1994) recommendations is highlighted. The concepts of world beliefs, perceived control, and dispositional optimism, and their associations with health and well-being, are reviewed.

Chapter 5 reviews the somewhat contradictory literature regarding the relationship between the regulation of emotions and well-being. The concept of the self-regulation of withholding negative emotions (SRWNE: Kim, Deci, & Zuckerman, 2002) is proposed as an approach that may provide an explanation for these findings. Kim et al.'s (2002) application of Organismic Integration Theory to the internalisation of the regulation of emotions (with the extent of integration illustrating the extent to which the regulation of emotions has become self-determined) is described in Chapter 5. Also described is Kim et al.'s (2002) development of a scale assessing individual differences in the SRWNE, which was based on a typology of extrinsic motivation developed by Deci and Ryan

(1991) in which four types of extrinsic motivation (external regulation, introjected regulation, identified regulation, and integrated regulation) vary in degree of choice and self-determination. It is proposed that the use of this scale may have utility in identifying the means by which environmental events (such as gender role socialisation and experiencing childhood trauma) influence health and well-being.

Chapter 6 introduces the concept of somatic amplification, which involves individuals being hypervigilant in regard to bodily symptoms and sensations, with these experiences appraised as indications of pathology and illness (Sayar & Ismail, 2001). The high prevalence of symptoms for which no adequate medical explanations exists is highlighted. Factors that cause stress and can result in increased sensitivity/reporting of physiological sensitivity are reviewed. Finally, this chapter argues for the inclusion of the concept of somatic amplification in investigations of the pathways via which the mind-body connection occurs.

Chapter 7 reviews the way in which well-being is conceptualised, arguing for the utility of an eudaimonic conceptualisation of well-being (long-term well-being based on self-actualisation) rather than a hedonic conceptualisation of well-being (short-term well-being based on hedonic enjoyment) due to the strength of biological correlates (Ryan & Deci, 2001; Waterman, 1993). The concept of well-being (from an eudaimonic perspective) is redefined in terms of positive psychological, physical, and social well-being, with physical well-being defined in terms of subjective vitality. Ryff's (1989) taxonomy of psychological well-being (consisting of self-acceptance, environmental mastery, purpose in life, personal growth, autonomy, and personal relations with others) is reviewed, as

are the concepts of subjective vitality (physical well-being), and Keyes' (1998) taxonomy of social well-being (consisting of social integration, social contribution, social coherence, social actualisation, and social acceptance). It is argued that conceptualising well-being from this positive psychological perspective could elucidate the ways in which gender role schema and experiences of childhood trauma impact on well-being in adulthood.

Chapter 8 provides a detailed cohesive rationale for the proposed psychosocial cognitive model of well-being. Research findings and a range of theories relating to self-determination (or control) are presented as justification for the causal paths in the model hypothesised to explain the process via which gender role schema and childhood trauma influence well-being in adulthood. The theories of Self-Determination Theory (and its sub-theories of Basic Needs Theory and Organismic Integration Theory) (University of Rochester, 2004), and Beck's (1976) cognitive triad model, and the concepts of the SRWNE (Kim et al., 2002) and somatic amplification (Sayar & Ismail, 2001), are discussed.

Chapter 9 presents a description of the process via which the World Beliefs Inventory (WBI) is developed. The need for the development of a psychometrically sound instrument to assess important world beliefs impacting on well-being is argued, and the method utilised in Study 1 of this research in which the WBI was developed (participants, materials, and procedure) is presented.

Chapter 10 presents the results of Study 1 in which the World Beliefs Inventory (WBI) is developed. The results of analyses including results from the pilot study, exploratory factor analysis of the WBI, reliability analyses, and the confirmatory factor analysis of the WBI are presented. Also presented are the

results of the assessment of reliabilities of the Centre for Epidemiological Studies Depression Scale (Radloff, 1977), the General Health Questionnaire - 12 (Goldberg, 1972), and the Rosenberg Self Esteem Scale (1965), with these scales subsequently subjected to item parcelling (along with the WBI), and assessment of concurrent validity with the WBI. Chapter 10 therefore presents evidence that the WBI is a psychometrically sound instrument. Implications of the development of the WBI are briefly outlined.

Chapter 11 presents the Study 1 discussion regarding the development of the WBI to operationalise the world beliefs construct. This chapter also contends that the newly developed WBI could be utilised in research investigating ways in which environmental factors influence well-being.

Chapter 12 firstly identifies the need to assess the psychosocial cognitive model of well-being, and then describes the method (participants, materials, and procedure) used in assessing the direct and indirect pathways via which gender role schema and the experience of childhood trauma influence psychological, physical, and social well-being in adulthood (being mediated by: satisfaction of the basic psychological needs for autonomy, competence, and relatedness; beliefs about the world [world beliefs], oneself [perceived control], and the future [dispositional optimism]; the SRWNE; and somatic amplification). Incorporation of the world beliefs construct into this second study allows the assessment of the explanatory efficacy of five nested theoretical models hypothesising direct and indirect influences of gender role schema and childhood trauma on psychological, physical, and social well-being utilising hierarchical structural equation modelling.

Chapter 13 presents the SEM results for Study 2. Chapter 14 discusses the findings from Study 2, and Chapter 15 presents an overview of the research results (Studies 1 and 2 combined).

CHAPTER 2: GENDER ROLE SCHEMA, CHILDHOOD TRAUMA, AND SELF-DETERMINATION THEORY

Gender Role Theory and Self-Determination Theory provide a means of investigating the ways in which well-being is influenced by the dialectic of development, that is, the degree to which the self is able to integrate environmental events such as socialisation into a particular gender role and childhood trauma, and assimilate them with one's core self.

2.1 Gender Role Schema

Tresemer (1975) distinguished sex from gender, clarifying that while classification according to sex is based on biological characteristics, gender refers more specifically to the cultural constructions of masculinity and femininity. Accepting that gender differences are not the result of only nature or nurture, allows for the acceptance of genetic differences as predispositions, which are influenced by socialisation (Hochschild, 1975).

The term gender-role (or sex-role) relates to behaviours that are culturally constructed as appropriate for either males or females (Worell & Remer, 1992). During the process of development, individuals learn the expectations regarding their gender, and then tend to align their behaviours with these expectations (Nagy Jacklin & Reynolds, 1993). Gender-role expectations consist of expectations regarding gender-appropriate attitudes, clothing, personality traits, behaviour, language, careers, hobbies, mannerisms (Worell & Remer, 1992), and the appropriate performance and expression of emotions (Lupton, 1998).

Femininity, also identified as expressivity or communion (Helgeson, 1994), is associated with participation in health promoting behaviours and relationship satisfaction. Women are encouraged to be dependent, emotionally expressive, nurturing, kind, and submissive (Worell & Remer, 1992). The feminine gender role designates that women are allowed to express jealousy, grief, fear, envy, vulnerability, and sentimentality, while the expression of rage, aggression, triumph, or anger by women is largely considered unacceptable. The feminine emphasis on expressivity assists women in accessing both formal and informal sources of support. It also leaves them vulnerable, however, to the emotional and physiological impacts of social strain, experienced as depression, decreased level of functioning, increased physical symptoms (Doran & Newton, 2000), and anxiety (WHO, 2005).

The masculine gender role is associated with being tough, heterosexual, competitive (Petersen, 1998), emotionally inexpressive, self-reliant (Worell & Remer, 1992), in control, autonomous, and physically capable (Lee & Owens, 2002). Constructions of masculinity, also identified as instrumentality or agency (Helgeson, 1994), are influenced by factors such as the Protestant work ethic (Petersen, 1998), and tend to encourage the perception that male bodies should be like smooth running machines. As a result, body awareness is restricted and little attention is given to physiological processes, leaving men vulnerable to "exhaustion, sickness, heart attacks and early death" (Pease, 1997, p. 39). The way in which masculinity is socially constructed also contributes to male reluctance in seeking medical and psychological care and information, and an increased tendency to engage in risky activities (Ho, Ghea, & Davidson, 2005) such as drug use and alcohol abuse (Lee & Owens, 2002). It also leaves men

vulnerable to the problems resulting from Type A Behaviour pattern. On the other hand, masculinity has been found to be associated with psychological health (Helgeson, 1994). This may be a reflection of the greater value many societies place on masculine characteristics such as instrumentality (Annandale & Hunt, 1990), and have rewarded accordingly.

Schemata are "cognitive, mental plans that are abstract and that serve as guides for action, as structures for interpreting information, [and] as organized frameworks for solving problems" (Reber & Reber, 2001, p. 649). Schemata therefore guide the way in which individuals filter, process, and interpret stimuli from their environment, providing an abbreviated means of characterising and categorising themselves and others. An individual's gender role schema therefore shapes his/her existence by influencing beliefs, emotions, and behaviour (Bem, 1983, 1985).

Gender role schema shapes the way in which individuals respond to events in their environment. The fact that masculinity is socially constructed as being associated with rationality and femininity with emotionality (Lupton, 1998) causes individuals to respond to traumatic events in particular ways (Petersen, 1998). For example, the masculine ideal encourages men to largely control their emotions, as emotions are perceived to be irrelevant or "impediment[s] to getting things done" (Hochschild, 1975, p. 280). Yet, working through one's emotions has been shown to be necessary for successful coping (Endler & Parker, 1990), and psychological and mental well-being (Lupton, 1998). Failure to work through one's emotional upheavals results in extended rumination, something which men tend to experience to a greater extent than women (Lee & Owens, 2002).

Gender roles vary across time. The entry of a large number of women into the paid work force during the second half of the twentieth century challenged previously held expectations regarding appropriate gender roles (Worell & Remer, 1992). Men were suddenly needed to participate in domestic chores and childcare to some extent, and women sought greater equality in their spousal relationships, providing a new source of stress for men and women. The fact that women largely continued to be responsible for domestic and childcare duties, with many men failing to take on a significant portion of this burden, saw many women carrying the double burden of working in and outside of the home. As a result, many women experienced role strain and ongoing dissatisfaction with their partner's lack of contribution to chores in the home (Worell & Remer, 1992).

Just as ideals of appropriate gender roles have evolved over time, so too have theoretical conceptualisations of gender roles. The congruence model of gender roles originally proposed that masculinity and femininity constitute opposite ends of a single dimension, and that individuals who are highly sex-typed should experience psychological well-being (Tresemer, 1975; Whitley, 1984; Worell & Remer, 1992). It is true that highly gender-typed individuals participating in activities that are incongruent with their traditional gender role tend to experience some level of psychological discomfort. Yet, it is also true that women with a traditional gender role orientation generally tend to experience decreased self-esteem and acceptance from their peers, as well as increased depression, anxiety, and social isolation (Whitley, 1984). Helgeson (1994) suggested that the interest in and focus of women on others, while being beneficial in that it provides social support, also leads to increased distress

through women being responsive to the stress of others to whom they provide support. Within the marital relationship, women have been found, when experiencing conflict with their husbands, to be more physiologically responsive to the hostility of their husbands than are their husbands (Helgeson, 1994). Doran and Newton (2000) reported that increases in blood pressure are reduced in response to hostility for individuals in positions of dominance or control. These findings suggest that sex-typing by women may not necessarily be beneficial, as claimed by the congruence model of gender roles, but rather may impact negatively on their health.

The suggestion that adhering strictly to traditional gender roles may be detrimental to well-being and adaptive functioning resulted in a search for alternative models of gender role schemata (Constantinople, 1973). Bem (1974) developed and tested a gender-role inventory (The Bem Sex-Role Inventory) that measures adherence to masculine and feminine traits independent of one's sex, with individuals being classified as feminine (high femininity/low masculinity), masculine (high masculinity/low femininity), or androgynous (high masculinity/high femininity). In this conceptualisation of gender roles, femininity and masculinity are separate and independent dimensions, making independent contributions to aspects of psychological well-being, including adaptive coping, life satisfaction, and self-esteem (Worell & Remer, 1992). An Australian Sex Role Scale (Antill et al., 1981) was later developed to enable an independent assessment of masculinity and femininity, taking into account aspects of culture specific to Australian samples.

Bem (1975) found psychological androgyny, which involves having both masculine and feminine traits, to result in more adaptive functioning. It was

argued that being androgynous, that is not being sex-typed as either masculine or feminine, provides the individual with a wider range of responses that could be used depending on the specific context. The androgyny model is based on the assumption that both femininity and masculinity are desirable and compatible, with each contributing independently to well-being (Whitley, 1983, 1984). Spence, Helmreich, and Stapp (1975) also found androgyny to influence attitudes and behaviours, resulting in "socially desirable consequences" (p. 35). Individuals who hold liberal beliefs regarding appropriate gender roles and flexibly participate in multiple roles experience decreased physical and mental health problems resulting from stress, and have greater subjective well-being, and healthier relationships (Barnett & Hyde, 2001). Explanations for these beneficial influences on health and well-being derived from adherence to a more flexible androgynous sex role include "buffering, added income, social support, increased opportunities for success, expanded frame of references, increased self-complexity, increased similarity of experiences for women and men, and gender-role ideology" (Barnett & Hyde, 2001, p. 793).

While there is an expectation that individuals will ascribe to sex congruent gender roles, this is not always the case, as psychological gender (masculinity and femininity) does not necessarily converge with biological gender (male and female) (Annandale & Hunt, 1990). The fact that biological differences do not adequately explain the health differential evident between the sexes, and the fact that gender role ascription clearly shapes the experience and behaviour of individuals, suggest that gender role orientation may better elucidate such differences. The narrow way in which health and well-being have

been conceptualised in the past may also have provided only part of the story in regard to gender differences in health and well-being.

2.2 The Experience of Childhood Trauma

Traumas are negative events that are stressful, both emotionally and physically, and adversely affect most dimensions of an individual's life (Pennebaker, 1993). Recently, the long-term influence of experiencing trauma during childhood on health and well-being in adulthood has become a primary focus of attention (Green & Schnurr, 2000). Events experienced in childhood, such as the death of a close friend or family member, divorce or separation of one's parents, a traumatic sexual experience, being the victim of violence, and a variety of other forms of upheavals experienced, have been shown to undermine an individual's mental model of the world in which they live (e.g., whether it is safe and predictable) (Luminet et al., 2000; Pennebaker, 1993). Experiencing trauma shatters an individual's belief systems, and makes untenable the positive beliefs that individuals hold (Janoff-Bulman, 1985) regarding the nature of the world, themselves, and the future (Langer, 1983; Luminet et al., 2000; Pennebaker, 1993; Taylor & Brown, 1988). Traumatic experiences also contribute to an individual's perceptions of helplessness or control over the environment (Brown & Harris, 1978; Seligman, 1975, 1990, 1995). Due to the importance of attachment to well-being (Bowlby, 1969, 1988; O'Leary, 1990; Pennebaker, 1995; Rosenfeld, 1997), traumas that involve disruption of family dynamics, loss, and separation all adversely influence a child's psychological, physical, and behavioural functioning (Gomez, 1991).

During the previous century, observations of the consequences of traumas including: war; industrial, natural, and traffic traumas; and sexual, physical, and emotional abuse, catalysed identification of the factors contributing to the development of individual differences in reactions to trauma (Gavrilovic, Lecic-Tosevski, & Jovic, 2001). Experiencing childhood trauma has been found to leave individuals vulnerable to the development of personalities that predispose them to the development of disordered mental health in adulthood after experiencing further trauma as an adult (Gavrilovic et al., 2001; Maitra, 1996). Experiencing negative life events is also a risk factor for the development of somatosensory symptomatology (Ilic, Jovic, & Lecic-Tosevski, 1998), anxiety, depression, and increased incidence of comorbid disorders (WHO, 2005). Of particular interest is the fact that health problems in adulthood are more accurately predicted by childhood trauma than trauma experienced in adulthood. Multiple or prolonged occurrence contributes to the intensity of the reaction to such stressors. The number of traumas experienced during childhood has also been found to be related to smoking, being obese, participating in low levels of physical exercise, abusing substances (Felitti et al., 1998), and participating in risky sexual practices.

The following factors have been identified as contributing to the aetiology of an extreme reaction to stressful events, Post Traumatic Stress Disorder (PTSD): - a history of psychiatric disorder in the family, trauma during childhood, poor parental care, having behavioural disorders as a child or an adolescent, parental separation or divorce before the age of 10 years, having low self-esteem prior to reaching 15 years of age, experiencing stressful events pre- and post-trauma, being female, being introverted, having high levels of

neuroticism, and having prior psychiatric disorders (Gavrilovic et al., 2001). Approximately 8% of adults in the United States have PTSD (American Psychiatric Association, 2000).

Child neglect and abuse are particularly common forms of trauma that have been found across all cultures and socio-economic strata (Schnurr, 2004). Felitti et al. (1998) found in a sample of 8,000 adults from a Health Management Organisation (HMO) in California, that as children, 11% had experienced psychological abuse, 11% physical abuse, 22% sexual abuse, 26% had substance-abusing parents, 19% had a parent with mental illness, 13% experienced domestic violence, and 3% experienced criminal activity in the household. Many participants reported experiencing more than one type of trauma in that 65% to 95% of individuals who were exposed to childhood trauma of any one type reported experiencing two or more forms of trauma; 40% to 70% of those reporting trauma reported experiencing three or more forms of trauma; with more than 6% of total individuals surveyed reporting four or more types of childhood trauma (Felitti et al., 1998).

Over the longer term, the experience of child abuse impacts perceptions of others and oneself, including one's self-esteem (Maitra, 1996). Gavrilovic et al. (2001) found that all childhood trauma in the form of sexual abuse, neglect, punishment, and having invalidating parents leads to a perception that the environment is threatening, unsafe, and hostile, making it difficult to confide in and trust others. Abused individuals also tend to experience interpersonal sensitivity which means that they feel inadequate and inferior, and have negative expectations regarding interactions with others (Gavrilovic et al., 2001).

Walker et al. (1999a) and Walker et al. (1999b) performed cross-sectional investigations of the relationship between retrospective recall of maltreatment during childhood (that is, physical, sexual, or emotional abuse, or neglect) and physical health in adulthood in a sample of 1,225 women from a HMO in Puget Sound in Washington State. Out of this sample, 42.8% reported experiencing abuse and/or neglect during childhood. Approximately 18.4% of the total women surveyed reported experiencing sexual maltreatment, 14.2% reported experiencing physical abuse, 24.1% experienced emotional abuse, and 12.2% experienced physical neglect, with approximately 50% of the abused women surveyed experiencing more than one form of childhood maltreatment (Walker et al., 1999b).

Sexual and nonsexual forms of maltreatment were found to increase the number of health problems diagnosed in adulthood, including diagnoses of minor infectious disease such as cellulitis, urinary tract infections, bronchitis, and sinusitis, and a range of other diseases such as asthma, hypertension, dermatitis, and diabetes (Walker et al., 1999a; Walker et al., 1999b). Having been abused as a child was associated with greater functional disability, and sexual and reproductive problems. Felitti et al. (1998) similarly found that, in comparison to individuals who had not experienced trauma during childhood, those who had experienced four or more forms of trauma had increased risks for all of the health outcomes included in their study, such as cancer, diabetes, stroke, ischaemic heart disease, chronic bronchitis or emphysema, having a history of jaundice or hepatitis, and self-reported poor health.

As well as experiencing decreased health as a result of childhood maltreatment, abused women have been found to participate to a greater extent in

behaviours that risked their health (Walker et al., 1999a). This finding is congruent with Felitti et al.'s (1998) identification of an association between the number of traumatic events experienced during childhood and health-related behaviours during adulthood.

Experiencing trauma during childhood has also been found to be related to a range of psychiatric disorders during adulthood, including depression, panic attacks, increased suicidal tendencies, and self-harm (Gladstone, Parker, Mitchell, Malhi, Wilhelm, & Austin, 2004). Gavrilovic et al. (2001) found total scores on the Child Abuse and Trauma Scales to be associated with paranoia, depression, interpersonal sensitivity, obsessiveness, anxiety, psychoticism, and somatisation.

Experiencing sexual abuse as a child appears to have especially deleterious effects on health and well-being in adulthood. Sexual abuse has been found to be related to phobic anxiety, psychoticism (Gavrilovic et al., 2001), decreased health-related quality of life (Dickinson, De Gruy, Dickinson, & Candib, 1999), and increased incidence of pain disorders including abdominal pain, back pain, and migraine (Walker et al., 1999a). Individuals who have been sexually abused as children tend to experience the most health-related problems and increased use of medical services in adulthood, at a greater cost per annum (Schnurr, 2004; Walker et al., 1999a; Walker et al., 1999b). Women who were sexually abused as children also tend to have experienced physical and emotional abuse in the family childhood home. These women are particularly at risk of developing depression, panic disorder, and borderline personality disorder. They are also at increased risk of developing drug and alcohol abuse and are vulnerable to perpetrating self-harm (Gladstone et al., 2004).

Despite the fact that experiencing trauma in childhood has been clearly shown to adversely impact well-being in adulthood, many General Practitioners (GPs), therapists, and researchers have failed to take the influence of this factor on well-being into consideration. Such neglect in research may be due to difficulties involved in performing longitudinal studies and doubts regarding the veracity of retrospective recall of childhood events. Brewin, Andrews, and Gotlib (1993) pointed out, however, that while retrospective recall of peripheral details of events experienced in childhood is of questionable accuracy, field and laboratory studies show that recall of the central aspects of an event tend to be accurate and reliable. Results from some studies where independently documented historical evidence of trauma is available, such as that of Williams (1994), suggest that childhood trauma may be significantly under-reported.

Previous studies have also tended to examine the influence of only a small range of negative childhood events (specifically, the death of a parent/parents and divorce of parents), often on only a single outcome measure (Maier & Lachman, 2000). In research, these issues could be addressed by including a wider range of traumas commonly experienced by children in the conceptualisation of the experience of childhood trauma, with a broader range of outcomes considered. Investigations of mediating variables should also assist in identifying the factors that cause some individuals to cope well, despite experiencing trauma in childhood. While many individuals experience increased vulnerability following trauma, some individuals manage to transform experiences of trauma into increased resilience and motivation (McFarlane & Yehuda, 1996). Identification of the means via which such adaptive responses

occur could prove valuable in the development of early interventions to prevent the development of extreme stress responses such as PTSD.

2.3 Self-Determination Theory

Self-Determination Theory is a "macro-theory of human motivation concerned with the development and functioning of personality within social contexts" (University of Rochester, 2004, para. 1). It is also a theory of individual differences, inherent human needs, and values. This theory emphasises the extent to which human behaviour is self-determined, and the result of personal choice (University of Rochester, 2004). It has been responsible for a new direction in motivation research, in that while extrinsic motivation in the past was perceived to be associated with negative outcomes, SDT predicts, and research has shown, that such a contention requires qualification. Outcomes are dependent on the specific form of extrinsic motivation that is involved (Blais, Sabourin, Boucher, & Vallerand, 1990; Pelletier, 2002; Vallerand & Bissonnette, 1992), reflecting the degree to which extrinsically motivated behaviours become self-determined. Autonomous self-regulation has been found to be related to well-being and a range of other desirable outcomes across many contexts including health care (Williams, Grow, Freedman, Ryan, & Deci, 1996; Williams, Rodin, Ryan, Grolnick, & Deci, 1998), attachment (La Guardia, Ryan, Couchman, & Deci, 2000), religious behaviour (Ryan, Rigby, & King, 1993), political attitudes (Koestner, Losier, Vallerand, & Carducci, 1996), and education (Grolnick, Ryan, & Deci, 1991).

Self-Determination Theory has been utilised to investigate: the undermining influence of extrinsic reward on intrinsic motivation; the factors

influencing intrinsic motivation and associated outcomes; the developmental and environmental factors that are related to the different forms of extrinsic motivation (utilising the concept of internalisation); and the influence of the different types of extrinsic motivation on behaviour, well-being, learning, and persistence (Deci & Ryan, 2002). It has been applied in a range of contexts including parenting, mental health, sport, exercise, and organisational structures (University of Rochester, 2004).

Sub-theories of SDT, including Basic Needs Theory and Organismic Integration Theory, were developed to explain findings related to a range of phenomena regarding motivation (University of Rochester, 2004).

- *Basic Needs Theory* has been utilised to categorise environmental factors as supporting or thwarting self-integration and optimal functioning (according to whether they support the satisfaction of the needs for autonomy, competence, and relatedness), allowing predictions to be made regarding personality development and the experience and behaviour of individuals in particular contexts (Ryan & Deci, 2002).
- *Organismic Integration Theory* posits that different types of regulatory styles of extrinsically motivated behaviours (i.e., external, introjected, identified, and integrated regulations) are the result of developmental influences. These regulatory styles have been used in predicting eudaimonic well-being and performance (Ryan & Deci, 2002).

A dialectic view of development relates to "the integrative tendency of the self as it meets the forces and events that arise internally from organismic conditions and externally from contextual circumstances" (Deci & Ryan, 1991, p. 244). Self-Determination Theory is based on what has been called an

organismic-dialectical meta-theory, which assumes that all individuals have tendencies that incline them to move in the direction of psychological growth and development, and to develop increasingly complex, integrated, and coherent self-structures (Hodgins & Knee, 2002; Ryan & Deci, 2002), and mature personalities (Lewis, 1999). Integration, and therefore development, occurs when an individual assimilates and integrates experiences, achieving a feeling of agency in relation to them. Increasingly, individuals also become more socially integrated with others in their social environment (Hodgins & Knee, 2002; Ryan & Deci, 2002). The tendency to seek to self-actualise potential sees humans motivated to challenge themselves and "to actively internalise and transform cultural practices" (Ryan & Deci, 2002, p. 3). Ryan and Deci (2002) assert that this view of an agentic assimilating organism able to achieve and act from a sense of a coherent self is shared with Adler's (1956) theory of personality, psychoanalytic (Freud, 1960) and humanistic approaches (Maslow, 1968; Rogers, 1967), and some cognitive developmental approaches**,** but is opposed by operant behaviourists and social cognitive approaches (Bandura, 1989; Higgins, 1987).

The positive tendency toward growth, as posited by SDT, does however, need support from one's environment (University of Rochester, 2004). Self-Determination Theory posits that aspects of an individual's social environment either support or thwart the satisfaction of basic psychological needs, with such differences impacting on the degree to which an individual's personality is synthesised. Some interpersonal and cultural factors contribute to fractionalisation, alienation, and decreased levels of well-being and positive functioning, instead of cohesion (Deci & Ryan, 1991). Experiencing childhood

trauma and being socialised into a specific gender role are likely to be factors that differentially influence the satisfaction of basic psychological needs and ultimately, well-being. Investigating these influences from a self-determination perspective is expected to add valuable knowledge to the discipline of psychology, and to extend evidence of the practical utility of SDT, a relatively nascent theoretical approach.

CHAPTER 3: SATISFACTION OF THE BASIC PSYCHOLOGICAL NEEDS FOR AUTONOMY, COMPETENCE, AND RELATEDNESS

Basic Needs Theory, a sub-theory of Self-Determination Theory (SDT), relates to the importance of the satisfaction of basic psychological needs to health and well-being (University of Rochester, 2004). Psychological needs have been defined as "the nutriments or conditions that are essential to an entity's growth and integrity" (Ryan, 1995, p. 410). These needs are not necessarily conscious needs, but individuals will tend to seek out situations that allow such needs to be met. Self-Determination Theory asserts that greatest integration of one's self is possible when an individual's environment allows satisfaction of the basic psychological needs for autonomy, competence, and relatedness (Hodgins & Knee, 2002; Ryan & Deci, 2002). Having such an environment facilitates intrinsic motivation, internalisation, and more specifically, emotional integration (Ryan, 1995), and results in having a self concept that is congruent, integrated, and authentic (Deci & Ryan, 1991).

Self-Determination Theory posits that *autonomy*, *competence*, and *relatedness* are inherent aspects of development, with the provision by parents for support of autonomy, contributing to the degree of attachment between the parent and child (Ryan, Deci, & Grolnick, 1995). This aligns with attachment theory's contention that from infancy, secure attachment allows children the opportunity to behave autonomously, optimising competence and the development of social relations with others (Bowlby, 1988).

Self-Determination Theory asserts that learning to regulate the balance of one's needs is an important developmental task, with individuals varying in the extent to which they can regulate their own arousal (Little et al., 2002). The ability of children to self-regulate enables the pursuit of goals relating to competence and relatedness, and is associated with belief systems, even at a very young age (Little et al., 2002).

Throughout the life cycle, basic psychological needs must be met in order for individuals to feel an inherent long-term sense of eudaimonia or well-being and integrity (Ryan & Frederick, 1997; Ryan & Deci, 2000). Murray (1938) proposed an extensive list of basic psychological needs which included the need for abasement, achievement, affiliation, aggression, autonomy, counteraction, deference, defendance, dominance, exhibition, harm avoidance, "infavoidance", inviolacy, nurturance, order, play, rejection, seclusion, sentience, sex, succorance, superiority, and understanding. The current taxonomy is therefore less extensive, including only the needs for autonomy, competence, and relatedness. Maslow (1968) contended that an inherent tendency exists for humans to seek self actualisation and psychological health through having a unified personality, being expressive spontaneously, feeling that one is being one's authentic self, and having a sense that one's potentials have been developed.

Ryan and Deci (2002) differentiated their conceptualisation of basic needs from that of others, and from strivings, desires, and personal motives. While some strivings or motives may seek to satisfy the basic psychological needs, the satisfaction of many motives is not essential for well-being, and may in fact be detrimental to it. Individuals may be motivated to seek a particular

outcome that not only will not contribute to their well-being, but that will also distract them from other activities that could satisfy basic psychological needs and contribute toward well-being (Ryan & Deci, 2000). For example, being efficient at achieving one's goals (satisfying the need for competence) will not ensure psychological well-being if the pursuit of those goals interferes with the satisfaction of relatedness or autonomy. Balance in the satisfaction of needs is therefore important to well-being. While some motives and goals contribute to the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, it is clear that many goals and motives that drive behaviour are either peripheral to need satisfaction, or develop as need substitutes in response to the thwarting of basic psychological needs (Ryan, Sheldon, Kasser, & Deci, 1996).

Self-Determination Theory specifies that for all humans, across all groups, genders, and cultures, both individualistic and collectivistic (Ryan, 1995), satisfaction of the innate psychological needs for autonomy, competence, and relatedness is required for well-being and health, and that the degree to which these needs are met determines the extent of well-being, performance (University of Rochester, 2004), and development (Deci & Ryan, 2000). The WHO (2005) similarly contends that the three factors which protect individuals from developing mental disorders include having the autonomy that one can exercise in response to experiencing traumatic events, having access to resources that enable individuals to choose their responses to experiencing traumatic events (which is similar in some ways to the concept of competence), and support from one's loved ones (satisfaction of the need for relatedness). Self-Determination Theory also predicts that developmental outcomes can be negative when an

environment hinders the satisfaction of basic needs, resulting in a "self" that is alienated, passive, or reactive (Ryan & Deci, 2002).

3.1 Satisfaction of the Need for Autonomy

The need for autonomy, identified as one of the three basic psychological needs by Basic Needs Theory, pertains to the need to be the source of one's own behaviour, allowing a perception of internal locus of control (Little et al., 2002). The extent to which an individual is autonomous influences the degree to which they are intrinsically/extrinsically motivated (Deci & Ryan, 2000; Little et al., 2002).

Autonomous individuals should be open to experiencing emotions, but on the other hand should also experience higher thresholds regarding what constitutes threat, and therefore may be less likely to experience some particular emotions (Hodgins & Knee, 2002). Autonomous individuals should also exhibit less avoidant tendencies such as abusing substances or participating in compulsive behaviours (Hodgins & Knee, 2002). Hodgins and Knee (2002) assert that autonomous individuals should also exhibit less cognitive bias in making attributions for their own behaviours and those of others, and should be less prone to the use of stereotypic thinking when making judgments.

Actions must be autonomous if they are to result in empowerment (Little et al., 2002). Little et al. (2002) assert that "autonomy is the quality of owning one's actions and making action choices that are integrated with the self" (p. 392). Self-Determination Theory posits that autonomous behaviour is intrinsically motivated, while extrinsically motivated behaviour is performed

because of others and is unsatisfying, tending to result in negative affect (Little et al., 2002).

Self-Determination Theory clarifies that autonomy is different conceptually to independence, although the two terms are often confused and used interchangeably (Ryan & Deci, 2002). While autonomy and integration concern volition and coherence within the individual, independence concerns whether individuals rely on others (Ryan, 1995). The studies of Ryan and Lynch (1989) and Ryan, Stiller, and Lynch (1994) with adolescents support this distinction between autonomy and independence, showing that teenagers willing to be dependent on their parents exhibited greater autonomy. Greater relatedness and dependence fostered autonomy, and greater autonomy fostered greater relatedness. Satisfaction of each psychological need contributes not only to the overall balance of an individual's well-being, but also to the social well-being of an individual in his/her social group, community, and culture (Ryan, 1995). Ryan and Deci (2002) contend that SDT largely considers independence/dependence to be a dimension that is orthogonal to autonomy/heteronomy.

3.2 Satisfaction of the Need for Competence

Basic Needs Theory posits competence to be one of the three basic psychological needs (Deci & Ryan, 1991). The need for competence refers to the human need to act on one's environment in such a way that desired outcomes are achieved and adverse outcomes avoided as a result of one's own efforts (Deci & Ryan, 1991; Ryan & Deci, 2002; White, 1959). This need causes individuals to actively seek out challenges that optimise their capacities and skills.

Competence, therefore, refers to the resulting sense of confidence, rather than the skill one has achieved (Ryan & Deci, 2002). The concept of competence has been important in theories of motivation and personality (Elliott, McGregor, & Thrash, 2002), which have inferred that humans are driven to achieve competence and avoid incompetence (Spangler, 1992). Elliot et al. (2002) proposed that the concept of need for competence integrates White's (1959) concept of 'effectence motivation', which asserts that organisms have an inherent need to affect and gain control over their environment, and Murray's (1938) and Atkinson's (1964) concept of the need for achievement. This need is adaptive in that it catalyses the development of abilities and skills (Elliot et al., 2002). Perceiving oneself to be competent in a particular situation is also immediately inherently rewarding (Elliot et al., 2002), resulting in a pleasurable feeling of efficacy and joy (White, 1959).

The tendency for infants to be curious and explore their environment illustrates the inherent nature of effectence motivation (Elliot et al., 2002). The need for competence exists from birth and during the process of development "is filtered through cognitive structures of increasing complexity and channelled in various directions as a function of maturation, the individual's biological make-up, competence-relevant experiences, and socialization history" (Elliot et al., 2002, pp. 371-372). Elliot et al. (2002) warn that while satisfaction of the need for competence generally results in well-being, balance within one's "personhood" must also be retained if optimal functioning is to be achieved.

3.3 Satisfaction of the Need for Relatedness

The need for relatedness, the third basic psychological need, refers to the need to feel an authentic sense of connection to others (Bowlby, 1988; Deci & Ryan, 1991; Vallerand & Ratelle, 2002) and with one's broader community (Ryan, 1995). It is not concerned with one's position in the community (e.g., as a member of a particular group), but refers to the sense of communion with others (Ryan & Deci, 2002). Adler (1956) proposed that the most important contributing factor to mental health is cooperation with others in one's community, or "social interest", with failure to align one's lifestyle to such basic needs resulting in insecurity and a sense of being unfulfilled (Bednar & Peterson, 1995). This need was also identified in Durkheim's (1951) classic work on the increased rate of suicide in those who were not well integrated in society. Clinical research shows that feeling a sense of relatedness to others is of primary importance to physical health and psychological well-being (Rhodes & Lakey, 1999), with a lack of intimacy and social integration resulting in physiological stress (Berkman, 1984), and the development of psychopathology (Lewis, 1999).

Overall, past findings suggest that factors that contribute to the satisfaction of the basic psychological needs catalyse processes of intrinsic motivation, while factors thwarting the satisfaction of the basic psychological needs impair inherent motivational processes (Deci & Ryan, 1991). It is suggested that the degree to which these needs are satisfied will consequently influence beliefs, the self-regulation of the withholding of negative emotions, somatic amplification, and well-being.

CHAPTER 4: BELIEFS ABOUT THE WORLD (WORLD BELIEFS), ONESELF (PERCEIVED CONTROL), AND THE FUTURE (DISPOSITIONAL OPTIMISM)

During the process of development, individuals evolve a set of premises regarding existence and the nature of the world (Watzlawick, Beavin, & Jackson, 1968). According to Simpson (1993)

> *We each have a personal theory of the construction of reality, its structure and conduct; a cohesive set of assumptions and expectations about who we are and how the world works, which influences our planning and behaviour, as it shapes our decisions as to how we will act, and how we expect the world to respond* (p. 678).

These premises regarding the nature of the world, oneself, and the future reflect our experience in the world, but also shape our experiences in important ways (Beck, 1976; Janoff-Bulman, 1985; Koltko-Rivera, 2004; Simpson, 1993). One such premise that has been identified is the Belief in a Just World (BJW), which has been described as a cognitive bias that allows increased perceptions of control, increased evaluations of one-self, and assists in the perception of a more optimistic future (Neal, 1998). The present study proposes that BJW is only one component of world beliefs, and that rather than world beliefs predicting perceived control and optimism, they are part of a cognitive triad consisting of world beliefs (beliefs about the world), perceived control (beliefs about oneself),

and optimism (beliefs about the future). This suggestion is in line with Beck's (1976) triad of cognitive distortion.

Beck's (1976) cognitive triad model posits that distorted cognitions regarding the world, the self, and the future influence one's emotions, in particular, causing depression. This assertion was in contrast to the view presented by the dominant psychological schools of the time - neuropsychiatry, behaviourism, and psychoanalysis - which proposed that the origins of psychological disturbance were beyond consciousness. Each of these approaches minimised or ignored the influence of an individual's self talk on their psychological well-being. Beck, by comparison, suggested that maladaptive thinking causes emotional distress (Cilente, 2001). The fact that cognitive therapy has been successfully utilised in treating depressive disorders has resulted in its use in the treatment of a range of other disorders (Beck, 1976**,** 1989), including substance abuse, eating disorders, and dissociative disorders (Cilente, 2001). According to Beck (1976), this is congruent with the original intentions of the cognitive model. Beck perceived psychological disorders to be the result of incorrect beliefs and distortions in perceptions of experience**,** contending that correcting fallacious thinking allows individuals to create more fulfilling lives. Although a Cognitive Triad Inventory was developed by Beckham, Leber, Watkins, Boyer, and Cook (1986) to assess beliefs about the world, oneself, and the future, this inventory was developed utilising a very small clinical sample, with a non-Australian sample, and at a time preceding the recent world events that have challenged people's perceptions regarding the nature of the world. This inventory was therefore deemed to be unsuitable to assess current beliefs regarding the world, oneself, and the future.

4.1 World Beliefs

While consensus appears to exist regarding the importance of beliefs about the nature of the world, a range of terms have been utilised to describe such beliefs (Bowlby, 1969; Marris, 1975; Parkes, 1971) including world assumptions (Janoff-Bulman, 1985), world views (Aerts et al., 1994; Fletcher, n.d; Heylighen, 2000), and world beliefs (Leffel, 1994). A broad, cohesive taxonomy of important world beliefs has, however, been lacking. While it has been previously recognised that some individuals have a need to believe in a world that is just (Heider, 1958; Lerner, 1965; Lerner & Simmons, 1966), and others have the need to believe in a world that is personally controllable (Walster, 1966), the present study contends that a broader concept of world beliefs may have utility in predicting well-being.

The term "just world hypothesis" was first used by Lerner (1965) to describe a desire to believe that the world is just, in that people tend to get what they deserve. Belief in a Just World has been found to be associated with psychological well-being (Lipkus, Dalbert, & Siegler, 1996). Having such a belief appears to assist individuals to believe that they live in an orderly and stable environment in which hard work and morality is rewarded, while lack of effort and immorality is suitably punished (Bollmer, 1998; Carmona, Gorman, Neal, & Bollmer, 1998; Heider, 1958).

The first BJW scale was designed by Rubin and Peplau (1975) to measure belief in a just world generally. Its uni-dimensionality, however, was questioned (Ambrosio & Sheehan, 1989). Lipkus (1991) subsequently developed another scale in order to differentiate between BJW for oneself, others, and within the socio-political realm. Belief in a Just World for oneself was found to have

stronger associations with stress, life satisfaction, and depression, than BJW for others (Lipkus et al., 1996). Low levels of BJW have been found to be generally maladaptive, increasing stress and depression, and decreasing well-being (Carmona et al., 1998). High BJW, on the other hand, has been found to be associated with religiosity, conservatism, authoritarianism, decreased empathy for the underprivileged (Andre & Valesquez, 1990; National Centre for Children in Poverty, 2002), decreased negative affect, increased positive affect, and the use of adaptive coping strategies in dealing with adverse events (Lipkus et al., 1996).

The issue of whether gender differences in BJW exist has not been settled. Ambrosio and Sheehan (1989) found a gender difference in BJW, with men having stronger beliefs than women that the world is just. Other studies such as that of Ritter, Benson, and Synder (1990) failed to find a significant gender difference. It would be expected, however, that patriarchy would impact on BJW, with men having stronger BJW in order to maintain congruence between beliefs and their generally favourable position in society.

World beliefs develop over time, with the zeitgeist of an individual's culture absorbed unconsciously in the form of systems of beliefs (Leffel, 1994). One approach to world views/beliefs is that of Leffel (1994) who claimed that an individual's world view consists of beliefs regarding reality, human nature, values, and the nature of truth.

The Principia Cybernetica Project is an international organisation that was formed to develop an integrated, multidisciplinary approach to a philosophical conceptualisation of world views. Heylighen (2000), a member of the Principia Cybernetica Project, asserted that the aspects of a world view form

part of a system of interactions between an individual and their world, a cybernetic model of a world view. In cybernetics, a unit which functions as a control system uses change to compensate for disturbances in the environment. Information regarding past occurrences and causal impacts on the future allows the unit to understand events and to anticipate the future. Heylighen (2000) proposed that the aspects of a world view operate together as a control scheme.

Taking a broad approach, Aerts et al. (1994) from the Center Leo Apostel at the Vrije Universiteit Brussel, which collaborates with the Principia Cybernetica Project (Riegler, 2004), gathered critical thinkers from the disciplines of physics, philosophy, engineering, sociology, psychiatry, psychotherapy, and theology, to conduct a multidisciplinary investigation of world views. They sought to develop an integrated framework of world views in response to a perceived lack of a coherent framework regarding the nature of reality. Aerts et al. (1994) defined a world view as "a coherent collection of concepts and theorems that … allow us to construct a global image of this world, and in this way to understand as many of our experiences as possible" (p. 8). This approach to world views/beliefs contends that the components of a world view must address: the nature of the world; reasons for the world being the way it is; reasons for reality being experienced the way that it is by humans, and the role of humans in the world; how humans should participate in their world; possible futures for humans; and the way in which a framework could be developed that explains the nature of the world, why it is the way it is, and why human existence is exhibited in its current form (Aerts et al., 1994).

While a World View Survey (Fletcher, n.d) and a World Assumptions Scale (Janoff-Bulman, 1985) have been developed for use with traumatised

individuals, their factor structures indicate that they do not align well with the guidelines compiled by Aerts et al. (1994) regarding what constitutes a world view. For example, the World View Survey, when factor analysed, was found to consist of nine subscales constituting two second order factors of a *Trauma Reactive* subscale (Anxious Uncertainty, Inadequacy, Dangerous World, Self-abnegation, Lack of Control, Poor Ego-strength, Poor Attachment) and a *Negative Beliefs* subscale (Poor Ego-strength, Poor Attachment, Lack of Empowerment, and Negative Outlook) (Fletcher, n. d.). The World Assumptions Scale (Janoff-Bulman, 1985) assesses the beliefs individuals hold regarding the benevolence of the world, meaningfulness of the world, and self as worthy.

World beliefs have not, up until now, been operationalised in a manner congruent with the multidisciplinary approach of Aerts et al. (1994) that seeks to provide a broad assessment of important world beliefs. Based on Aerts et al.'s (1994) suggestions, the components of world beliefs for the purpose of the present study have been identified as the degree to which individuals perceive the world to be safe, just, controllable, predictable, supportive, and meaningful.

4.2 Perceived Control

The second element of Beck's (1976) cognitive triad is constituted by beliefs about one-self and is operationalised in this study as perceived control. Although the drive for control of, or power over one's environment is acknowledged to be inherent to humans (Adler, 1956), no definitive theory of control exists, and the concept of personal or perceived control is not associated with either one major theorist or group of theorists (Walker, 2001). Walker (2001) noted that the concept of control and related concepts have been

ambiguously defined, and little agreement exists regarding appropriate means of measurement. Seligman (1975) performed early experimental studies on the influences of a perceived lack of control, proposing that non-contingency between effort and outcome causes learned helplessness and depression. The theory of learned helplessness proposes that when repeated control efforts fail, attempts will cease. This lack of attempting to control the environment in one situation then generalises to other situations. Learned helplessness results in motivational, cognitive, and emotional deficits (Seligman, 1975). Other concepts related to perceived control include locus of control (Rotter, 1990), and self-efficacy (Bandura, 1977), which has been identified as a good predictor of physical and mental health (O'Leary, 1990).

Another area in which perceived control has played an important role is in Kobasa's (1979) conceptualisation of "hardiness", which includes the dual concepts of challenge and commitment. Perceived control also forms a part of Antonovsky's (1987) concept of "sense of coherence" which he proposed is confidence that one can control oneself and the world, and that things will tend to work out to the extent to which they can generally be expected to. Aside from the fact that Antonovsky included only belief that one can control the world, rather than a broader conceptualisation of beliefs about the world, a sense of coherence generally aligns with Beck's (1976) cognitive triad (i.e., beliefs about oneself, the world, and the future).

There have been a variety of ways in which types of control have been distinguished (Walker, 2001). Averill (1973) conceptualised control as consisting of behavioural, cognitive, and decisional control. Thompson (1981) conceptualised control as being made up of cognitive and behavioural control

(with behavioural control incorporating decisional control and choice). Brown et al. (1989) viewed control from a coping perspective, distinguishing between active and passive coping. Rothbaum, Weisz, and Snyder (1982) reviewed the concept of personal control, and concluded that while an innate drive exists for humans to attempt to control and manipulate the environment using primary control, when this form of control is not possible, all control efforts do not cease as efforts will be made at secondary control, in which one tries to fit oneself to the environment. They proposed that achieving an optimal balance between primary and secondary control is of greater import than perceived levels of primary control.

Despite these conceptual issues, a perception of personal control has been shown to influence the health and well-being of individuals across a range of age groups via its influence on social, psychological, and cognitive functioning (Averill, 1973; Langer, 1983; Major, Mueller, & Hildebrandt, 1985; Rodin, 1986; Rodin & Langer, 1977; Shapiro, Schwartz, & Astin, 1996; Thompson, 1981). Perceived control has been shown to be an important factor in the self-regulation of stable mental functioning (Langer, 1983), mental well-being (Bandura, 1989; Neal, 1998; Rosenfeld, 1997), psychotherapy (Anderson et al., 1994; Bandura, 1989; Beck, 1976; Seligman, 1990; Taylor & Brown, 1988), happiness (Myers, 2004), and an important contributor to physical health (Langer, 1983), influencing mortality and morbidity (Rodin & Langer, 1977). Mental health is related to the perception that one has control over one's cognitions, emotions, beliefs, and thoughts, and their associated behaviours (Shapiro et al., 1996). On the other hand, impaired control has been identified as a contributing factor in depression (Seligman, 1975, 1990, 1995), eating

disorders (Shapiro, Weatherford, Kaufmann, & Broenen, 1994), substance abuse, and increased levels of stress and anxiety (Bandura, 1989), and symptom reporting in the elderly (Rodin, 1986). Rodin posited that the relationship between control and health might occur through physiological reactions in the immune and endocrine systems. Even if efforts are not made to control a negative event, the perception that control is possible is adaptive, in that the event is perceived as less stressful (Allen, 1998; Langer, 1983).

While perceived control tends to be generally beneficial, in some circumstances this not the case (Shapiro et al., 1996), in that it can lead to increased stress (Averill, 1973), concern with self-presentation (Burger, 1989), anxiety (Glass & Singer, 1972), and anger (Shapiro et al., 1996). A strong desire for control may also damage the intimate relationships one has with others through ongoing power struggles (Shapiro & Shapiro, 1992), and can increase cardiovascular reactivity (Shapiro et al., 1996). While behavioural control is effective when dealing with controllable events, when dealing with uncontrollable events, a great need for control, high self-efficacy, and extended behavioural efforts to impose control can be maladaptive (Shapiro et al., 1996).

Until the 1980s, the major psychological traditions held the view that psychological well-being was the result of realistic perceptions of reality (Taylor & Brown, 1988). It is now recognised, however, that normal individuals tend to be characterised by "exaggerated perceptions of personal control; unrealistically positive views of the self (self-serving bias); and unrealistic optimism" (Walker, 2001, p. 25). Individuals who are psychologically normal overestimate the degree of control they have over their environment, have greater faith in their own capabilities than is warranted (Seligman, 1990; Taylor & Brown, 1988), and

underestimate their vulnerability to adverse occurrences (Weinstein, 1989). While perceptions of control tend to be based on positively biased perceptions of reality rather than reality itself, it is clear that in the majority of circumstances a perception of control is adaptive, contributing to physical and psychological health (Langer, 1983; Taylor & Brown, 1988).

4.3 Dispositional Optimism

Beliefs regarding the future (dispositional optimism) constitute the third component of Beck's (1976) cognitive triad. Optimism has been found to be influenced adversely by traumatic losses experienced before the age of 8 years, and by parenting practices and styles (Hjelle, Busch, & Warren, 1996). While writers have postulated the benefits of positive thinking for some time (Peale, 1953), the influence of optimism and a variety of other overlapping concepts on health and well-being has more recently been widely acknowledged (Adler & Matthews, 1994; Allen, 1998). The two theories of optimism dominant in contemporary psychological theory include Seligman's (1990, 1995) theory of Explanatory Style Optimism and the theory of Dispositional Optimism (Scheier, Weintraub, & Carver, 1986). While the theory of Explanatory Style Optimism emphasises attributions (measured on the dimensions of permanence, pervasiveness, and personalisation), individuals make (either optimistic or pessimistic) for events that have previously occurred, the theory of Dispositional Optimism emphasises expectations (degree of optimism) for the future.

Optimism is beneficial to health and well-being in that it can reduce the likelihood that one will become ill, decrease illness severity, increase speed of recovery, and reduce the likelihood of relapse (Peterson & Bossio, 2001). The

powerful influence of optimism on health occurs via biological, social, and psychological processes that optimise health (Peterson & Bossio, 2001).

Optimism has been identified as positively influencing health (Friedman, Sobel, Myers, Caudill, & Benson, 1995) by: (1) causing individuals to follow health regimens that contribute to optimal health (Peterson & De Avila, 1995; Robbins, Spence, & Clark, 1991), (2) causing individuals to experience less stressful life events because timely preventive action occurs when necessary, (3) seeking medical assistance before symptoms become serious, and (4) encouraging meaningful relationships that provide social support when required (Seligman, 1995). Optimism has also been found to be negatively associated with "focusing on and expressing feelings" (Scheier et al., 1986, p. 1263). Optimistic individuals have greater quality of life, and tend to be less depressed and angry than pessimists (Pennebaker, 1995; Scheier et al., 1989). They tend to cope effectively with negative events (Aspinall & Taylor, 1992; Taylor, 1986), have better physical health (Seligman, 1990), and tend to experience reduced trauma, greater popularity, higher levels of positive affect (Peterson, 2000), and lower levels of negative affect (Aspinall & Taylor, 1992; Carver et al., 1993; Scheier & Carver, 1992; Stanton & Snider, 1993). Optimism is also related to seeking social support (Aspinall & Taylor, 1992), and focusing on the positive aspects of a negative situation (Scheier et al., 1986). Pessimism, on the other hand, has been found to predict helplessness, social isolation, illness, depression, and mortality (Peterson, 2000).

Beliefs regarding the world, oneself, and the future are therefore conceptualised as schemata that shape an individual's perceptions and experience, while also reflecting previous experiences. Based on the previous

review of the literature regarding world beliefs, perceived control, and dispositional optimism, one could make the assumption that such beliefs would impact on emotion regulation, somatic amplification, and ultimately, well-being.

CHAPTER 5: THE SELF-REGULATION OF WITHHOLDING NEGATIVE EMOTIONS

The regulation of emotion appears to play an important role in the mind-body connection, yet many contradictions remain regarding this relationship. The conceptualisation and measurement of the self-regulation of withholding negative emotions (Kim et al., 2002) utilising SDT has resulted from an attempt to integrate theory and research findings regarding the regulation, expression, and suppression of emotions, emotional flexibility, and ambivalence over emotional expression. Emotions consist of the emotional experience, expression of the emotion, and the associated physiological changes (Bonanno, Papa, O'Neill, Westphal, & Coifman, n.d.; Butler, 2003; Elias, 1991; Lee & Owens, 2002). These components of emotion are believed to be amenable to self-regulation (Gross, 1998; Richards & Gross, 2000).

Emotion regulation is a personality process, influencing mental (Richards & Gross, 2000) and physical health, with dysregulation of emotions playing a role in histrionic personality disorder, depressive disorder, schizophrenia, generalised anxiety disorder (Gross & Levenson, 1997), and the progression of cancer via decreased immune functioning (Pennebaker, 1995). Emotion regulation also influences sympathetic activation (Gross & Levenson, 1997), memory (Bonanno et al, n.d.; Richards & Gross, 2000), and quality of social interactions (Keltner, 1995). The norms and goals regarding appropriate emotional expression tend to be culturally determined, and specific to particular contexts (Butler, 2003). Self regulation of emotion is evident in adults in

Western cultures, with children aged six years having already developed a range of strategies used to regulate emotions (Richards & Gross, 2000).

It has been claimed that expressing emotions (including negative emotions) is better for one's health than suppression or denial (Geise-Davis & Spiegel, 2003). It is adaptive in that it allows individuals to communicate their feelings to others, thereby contributing to the process of social interaction (Butler, 2003; Izard, 1990; Keltner, 1995). Emotional expression has been found to be associated with: health; pain (Beutler, Engle, Oro'-Beutler, Daldrup, & Meredith, 1986); diseases with a psychosomatic component including coronary heart disease, headache, arthritis, and asthma (Friedman & Booth-Kewley, 1987); self reports of health status (Watson & Pennebaker, 1989); positive affect (King & Emmons, 1990); and decreased subsequent distress (Bonanno et al., n.d.). Kennedy-Moore and Watson (2001) clarified that emotional expression is not always adaptive in that it can impact on health via associated increased physiological activity (Adler & Matthews, 1994), and can also in some circumstances impact negatively on one's social relationships (Levenson & Gottman, 1983).

Emotional suppression, a method of regulating emotions, is the hiding of emotional states one is feeling (Butler, 2003; Richards & Gross, 2000). Butler (2003) asserts that strategies used to regulate emotions over the shorter term may over the longer term reduce physical and psychological health and disrupt social relationships if used consistently. Laboratory studies tend to indicate that emotional suppression, in comparison to other emotion-regulation strategies, increases physiological arousal but fails to reduce the experience of negative emotions (Butler, 2003; Gross & Levenson, 1997).

Confusion has existed regarding concepts related to the inhibition of emotion, such as can be seen in Freud's interchangeable use of terms including repression, suppression, and defense (Erdelyi, 1985). Erdelyi (1985) contends that Freud realised in 1894 that repression does not involve repressing the memory of the facts of an event, but repression of the emotional aspects of the memory. The repression, denial, and inhibition of negative emotion have been found to be associated with an increase in stress-related hormones, and specific illnesses including asthma, cancer, and hypertension (Schwartz, 1990). Suppression of emotional expression is costly, in that it requires self-monitoring and self-adjustment, and utilises cognitive resources that could be used for other tasks (Cacioppo, 2003).

Individuals who habitually suppress their emotions frequently experience increased physiological arousal, and this may put them at increased risk of a variety of diseases (Butler, 2003), as has been found with increased vulnerability to the development of cancer (Geise-Davis & Spiegel, 2003). Speculation exists that experiencing difficulties in childhood may result in the development of a repressive coping style (Derakshan & Eysenck, 1997). Endler and Parker (1990) argued that in order to resolve negative issues, emotions must be worked through or maladjustment will occur.

A rigid style of regulating emotions does not allow individuals to work through their emotions (Giese-Davis & Spiegel, 2003). While the positive influence of emotional expression on health is increasingly being recognised (Bakal, 1992), Bonanno et al. (n.d.) found that individuals with emotional expressive flexibility, that is, those who could both suppress and enhance emotional expression, had better long-term adjustment, with each of these

abilities having an independent influence. Giese-Davis and Spiegel (2003), in reviewing studies investigating a possible association between emotional repression and cancer, suggested that it is inflexible regulation of affect that appears to be associated with the development and progression of cancer. Intervention strategies have been developed for cancer patients based on the recognition of the necessity to discuss problems and to share emotions with others (Pennebaker, 1995).

Ambivalence over expressing emotions, according to King and Emmons (1990), is a similar concept to that of expressive defensiveness or the repressive coping style (Weinberger, 1990). Instead of focusing only on the experience and repression of negative emotions, however, ambivalence over expressing emotions includes inhibition and rumination of both negative and positive emotions. King and Emmons (1990) found ambivalence over expressing emotions to be associated with psychological distress and the number of symptoms reported. Women in comparison to men were more expressive and ambivalent over the expression of emotions, particularly with regard to positive emotions (King & Emmons, 1990). This converges with Hochschild's (1975) contention that women often experience situations in which they are expected to be nurturing on the one hand (as traditional feminine ideals dictate), and on the other to remain emotionally detached in particular contexts. While men tend to be less expressive, this does not appear to result in conflict/ambivalence over the expression of emotion.

Self-Determination Theory offers an alternative conceptualisation of the regulation of emotions in an attempt to address equivocal research findings. For example, the influence of the inhibition/expression of emotion on health is not

clear cut, as emotional expression has been found to both decrease (Buck, 1984; Kim et al., 2002) and increase arousal (Lanzetta, Cartwright-Smith, & Eleck, 1976). Additionally, both emotional inhibition (King & Emmons, 1990) and the expression of emotions (Hecker, Chesney, Black, & Frautschi, 1988) have been found to be associated specifically with cardiovascular disease.

Organismic Integration Theory, a sub-theory of SDT, outlines the process of internalisation, applied in this case specifically to the process of internalising the self-regulation of withholding negative emotions (University of Rochester, 2004). Internalisation is the process by which an external regulation is internalised. Deci and Ryan (1991) asserted that "the development of self entails integrating new experiences and regulatory processes with one's intrinsic self" (p. 239). The degree to which integration occurs illustrates the degree to which regulated behaviours are self-determined (Deci & Ryan, 1991), and is dependent upon the extent to which an individual's environment supports the satisfaction of basic psychological needs (Ryan, 1995).

Kim et al. (2002) defined the self-regulation of withholding the expression of negative emotion as "the way in which individuals manage the experience and withholding of negative emotions and impulses" (p. 318). Regulatory style for withholding negative affect has been posited to be an aspect of personality that is relatively stable (Kim et al., 2002).

Kim et al. (2002) utilised SDT to develop a scale assessing individual differences in the self-regulation of withholding negative emotions, based on a typology of extrinsic motivation developed by Deci and Ryan (1991) in which the four types of extrinsic motivation vary in degree of choice and self-determination (Vallerand & Ratelle, 2002). In the past, extrinsic motivation was

believed to refer to "behaviors performed in the absence of self-determination and thus which could only be prompted by external contingencies" (Vallerand & Bissonnette, 1992, p. 600). It has more recently been purported that there are a range of different forms of extrinsic motivation, with some of these forms self-determined and performed via a process of self-regulation (Ryan & Connell, 1989; Vallerand & Bissonnette, 1992). Self-Determination Theory proposes that "the different motivational orientations represent different levels of self-determination, which can be ordered along a self-determination continuum" (Vallerand & Ratelle, 2002, p. 44), ranging from controlled to autonomous self-determination (Ryan & Connell, 1989). Self-Determination Theory therefore extends and refines prior conceptualisations of extrinsic/intrinsic motivation (Blais et al., 1990).

External regulation is the type of regulation least self-determined, increasing sequentially (in the degree to which behaviour is self-determined) to *introjected regulation*, *identified regulation*, and *integrated regulation*, with integrated regulation the most self-determined form of extrinsic motivation (Vallerand & Bissonnette, 1992; Vallerand & Ratelle, 2002). Ryan (1995) argued that the differing forms of regulation reflect differences "in the orientation of motivation but not necessarily its level or amount" (p. 408).

5.1 External Regulation

External regulation involves regulating one's behaviour in order to either avoid a negative outcome that is separate to the behaviour itself (a constraint) or to achieve a separate positive outcome (a reward) (Ryan, 1995; Vallerand & Bissonnette, 1992; Vallerand & Ratelle, 2002). For example, drivers may keep

within the speed limit in order to avoid being issued a speeding fine by the police. Individuals who are externally regulated tend to feel alienated or controlled, with the result that when the external regulatory influence is removed, behavioural regulation ceases (Ryan, 1995). External regulation is the form of self-regulation that is the least self-determined (Vallerand & Ratelle, 2002).

5.2 Introjected Regulation

Introjection is a form of internalisation in which only partial internalisation occurs (Kim et al., 2002). Introjected regulation takes the form of individuals controlling themselves in order to approve of themselves and to avoid shame, guilt, or anxiety that results from failing to comply with one's own expectations (Ryan, 1995). Introjection involves the internalisation of controls and beliefs, but they are not self-determined and therefore are "experienced as pressure and tension toward specific aims" (Vallerand & Bissonnette, 1992, p. 401). An example of introjected regulation is a student studying before exams in order to avoid feelings of guilt. With introjected regulation, individuals impose on themselves their own constraints or rewards. The withholding of the expression of negative emotions to meet their own expectations regarding how they should behave constitutes introjected regulation (Kim et al., 2002). External regulation and introjected regulation are controlled and low in autonomy.

5.3 Identified Regulation

Identification with an acquired regulation (and value) results in identified regulation (Kim et al., 2002; Ryan, 1995). This occurs when individuals in a group regulate themselves in ways that are socially sanctioned, such as

withholding negative emotion if its expression would conflict with normative interpersonal group processes (Kim et al., 2002). Identified regulation is considered to be "relatively self-determined" (Vallerand & Ratelle, 2002, p. 43), as an individual's behaviour is perceived to align with their core identity and values (Ryan, 1995). Consequently, less conflict results from identified regulations than from external and introjected regulations (Ryan, 1995).

5.4 Integrated Regulation

Complete internalisation involves integrating the identification with other elements of the "self", so that performance of the behaviour is autonomous. Integrated regulation of emotions is the type of extrinsic motivation that is the most self-determined (Vallerand & Ratelle, 2002). It involves having an awareness of one's emotional states and expressing them in a way that one freely chooses (Kim et al., 2002; Ryan, 1995). Integrated and identified regulations are conceptualised as being quite autonomous types of internalised regulation (Kim et al., 2002).

This schema conceptualises intrinsic motivation (i.e., performing behaviours as a result of being motivated by the inherent satisfaction such behaviours provide) and amotivation (i.e., a lack of regulation due to a perception of non-contingency between behaviour and outcomes, or a perception of a lack of competency, or failure to be supplied with appropriate environmental affordances) as separate categories to extrinsic regulation as they do not involve the internalisation of extrinsic motivation (Vallerand & Ratelle, 2002).

Ryan and Connell (1989), in investigating motives for prosocial behaviours and academic achievement, found support for the proposed conceptualisation of a continuum of motives, with results taking the form of a "quasi-simplex pattern of intercorrelations" (Ryan, 1995, p. 408). According to Ryan (1995), a simplex refers to "an ordered continuum of correlations such that conceptually closer categories are more highly related than conceptually more distant ones" (p. 408). Acceptable levels of validity and reliability were found for the motivational styles proposed by the self-determination continuum (Ryan & Connell, 1989).

Self-Determination Theory proposes that the purpose of emotional integration is the assimilation of emotions in such a way that the individual is able to act flexibly and autonomously (Kim et al., 2002), although it is largely the need for relatedness that catalyses internalisation of values and the processes of regulation (Deci & Ryan, 1991). This converges with Pennebaker's (1993) assertion that while efforts to control emotions (and mental processes) could be perceived to be cognitive issues, they are actually social in origin. Self-Determination Theory asserts that the withholding of negative emotions can have a healthy consequence, but only if "full internalisation and integration of the regulation of the relevant emotional withholding" occurs (Kim et al., 2002, p. 318). Controlled regulation (due to the belief of individuals that they should not express such emotions), however, creates internal tension and conflict, resulting in less healthy consequences (Kim et al., 2002). Integrated emotional regulation, being an autonomous type of internalised regulation, does not create conflict, with the result that it benefits health (Kim et al., 2002).

The most beneficial consequences with regard to these variations in degree of motivation to self-regulate the expression of negative emotions should result from integrated regulation. External regulation should have the greatest negative consequences. The consequences of introjection and identification should lie between that of external regulation and integration (Vallerand & Ratelle, 2002).

Studies performed in the context of romantic relationships (Blais et al., 1990), tertiary education (Vallerand & Bissonnette, 1992), the aged (Vallerand, O'Connor, & Hamel, 1995), and environmental responsibility (Pelletier, 2002), and performed across a range of age groups support the existence of a self-determination continuum. Correlations between the different forms of self-determination were found in these studies to form a simplex structure, as predicted, with the more self-determined forms of extrinsic motivation contributing to a range of desirable outcomes, including relationship satisfaction, behavioural persistence in tertiary study, and behaviours aimed at protecting the environment. The use of a single index score computed using weighted scores for the different forms of extrinsic motivation was also supported and found to have utility. Scales developed on the basis of the self-determination continuum for use in specific domains have been shown to be reliable and valid (Blais et al., 1990; Pelletier, 2002; Vallerand & Bissonnette, 1992).

Gender differences have also been identified in extrinsic motivation, in that females were found to report higher levels of integrated and identified regulation and a lower level of external regulation than males (Vallerand & Bissonnette, 1992). Although research findings have not been consistent, this

finding aligns with previous research that found females to have greater internal control and lower external control than males (Cooper, Burger, & Good, 1981).

Kim et al. (2002) developed a questionnaire based on SDT to assess individual differences in the extent to which the Self-Regulation of Withholding Negative Emotions (SRWNE) occurs. They conducted three studies, showing that the SRWNE scale has reasonable validity and reliability, and is associated with self-reported health. The studies also showed that the scale can be used across the genders and across cultures in predicting coping responses to stress, and can be discriminated from measures of emotion regulation (suggesting that this scale may be useful for examining the association between negative affect and health).

Research on the determinants and consequences of the different forms of extrinsic motivation has been limited up until now as this typology was only recently conceptualised. It is hoped that use of this conceptualisation will assist in clarifying some of the inconsistencies regarding the association between emotion regulation and well-being.

CHAPTER 6: SOMATIC AMPLIFICATION

Somatic amplification is "a new concept which denotes the tendency to experience somatic and visceral sensation as usually intense, noxious and disturbing" (Sayar & Ismail, 2001, p. 266). It is characterised by an individual's belief that they have a serious illness, an expectation that the disease will progress, the "sick role" and its associated issues of compensation and litigation, and exhibiting the symptoms as disabling and traumatic (Barsky & Borus, 1999). This concept is related to the concepts of conversion, dissociation (Brown, 2004), somatisation, hypochondriasis (Barsky, Goodson, Lane, & Cleary, 1988; Barsky, Wyshak, & Klerman, 1990), and alexithymia (Reber & Reber, 2001). Alexithymia is a characteristic of individuals with psychosomatic disorders, which involves experiencing difficulty in the identification and expression of one's emotional states. Somatosensory amplification involves individuals being hypervigilant in regard to bodily symptoms and sensations, with the result that such experiences are readily appraised as signs of pathology and illness (Sayar & Ismail, 2001). Between 15% and 30% of medical patients have symptoms for which there is no adequate medical explanation (Kirmayer, Groleau, Looper, & Dao, 2004). The World Health Organization Cross-National Study in Primary Care found a high prevalence of medically unexplained symptoms in 14 countries, documenting the strong relationship between anxiety, depression, and somatic symptoms (Simon, VonKorff, Piccinelli, Fullerton, & Ornell, 1999). Depression specifically was found to be associated with headache, weakness, back pain, and constipation. Simon et al. found that although approximately

50% of depressed individuals reported a range of symptoms unable to be explained medically, 11% denied that they were depressed when asked directly. Data from this WHO study found somatic symptoms to cluster in groups of musculoskeletal, neurologic/conversion, autonomic, and gastrointestinal symptoms (Righter & Sansone, 1999).

Severe manifestations of somatic amplification may result in pain without medical explanation being labelled as pain disorder, fatigue as undifferentiated somatoform disorder, and a variety of other symptoms labelled as somatoform disorder not otherwise specified (Kirmayer et al., 2004). Many individuals fail to meet the threshold required for a somatoform disorder to be diagnosed, and are defined as somatically preoccupied (Righter & Sansone, 1999).

While GPs often designate these symptoms to be the result of psychological factors, theories of psychogenic aetiology such as somatic amplification do not fully explain such symptoms. Sociophysiological and psychophysiological models can usually, however, adequately explain the way stress, loss, and conflict impact on the body physiologically, influencing the experience of symptoms (Kirmayer et al., 2004; Lipowski, 1988). Many somatic symptoms commonly experienced are the result of prolonged stress, which activates the hypothalamic-pituitary-adrenocortical axis (Kirmayer et al., 2004). The fact that the central nervous system modulates the experience of symptoms *and* pain (Kirmayer et al., 2004) makes it difficult to differentiate organic pain and pain of psychogenic origin, a distinction which Sullivan (2004) claims is based anyway on moral pseudoscientific standards rather than objective standards. While psychological explanations for symptoms are often inadequately communicated to the patient, in some cultures sociophysiological

explanations for somatic symptoms resulting from community and family problems are validated. As a result individuals tend to be willing to accept the fact that stress, emotion, and social circumstances are influencing the way in which they are experiencing symptoms (Kirmayer et al., 2004). Commonly reported symptoms without medical explanation include fatigue; ear, nose, and throat problems; dizziness; pain in the abdomen, back, and muscles; and problems with digestion (Kirmayer et al., 2004). While most patients with major depression initially see their GPs for somatic symptoms only, more than 90% of them accept that their symptoms are related to their emotional state (Kirmayer, Young, & Robbins, 1994).

While a symptom may be accurately reported or exaggerated, reporting symptoms in a distorted manner can be the result of depression (Sayar & Ismail, 2001), anxiety (Smith et al., 2005), hostility (Barsky et al., 1988; Barsky et al., 1990), a personality disorder, substance abuse (Righter & Sansone, 1999), social or psychological distress (Pennebaker, 1995), or issues relating to self-image. Distorted reporting of symptoms may also occur as a function of the reinforcement or punishment which is likely to result from reporting such symptoms (Feuerstein, Labbe, & Kuczmierczyk, 1986). Individuals may become aware of and report symptoms where there is little else upon which to focus their attention. Cultural and demographic factors such as race, age, marital status, sex, socio-economic status, and occupational status influence the reporting of symptoms, with black, older, unmarried, female, lower SES, and unemployed individuals reporting a higher number of symptoms (Feuerstein et al., 1986). Those who have been abused as children also report a greater number of symptoms (Gavrilovic et al., 2001; Ilic et al., 1998; WHO, 2005). Righter and

Sansone (1999) speculated that experiencing multiple forms of abuse during childhood may best predict a focus on somatic symptoms in adulthood. Recommended treatments for somatic amplification include the use of antidepressants, cognitive behavioural therapy, consultation with a therapist, and attentive listening (Righter & Sansone, 1999).

Based on psychiatric and medical research, a scale has been developed that allows the assessment of somatic amplification (Rossi, 2004). The Somatic Amplification Scale (Barsky et al., 1988) is a modified version of the Miller, Murphy, and Buss's (1981) Private Body Consciousness Scale. This scale taps differences in tolerance for environmental stimuli and "subjective sensitivity to internal bodily states" (Rossi, 2004, p. 176). While it is not a direct physiological measure, its assessment of individuals' perceptions of physiological sensitivity is likely to add a valuable component to investigations of the mind-body connection.

CHAPTER 7: WELL-BEING

The WHO's (1946) definition of health opened the way for health and well-being to be defined, categorised, and researched from a new perspective in which social aspects of well-being are included. Well-being has been researched from the perspectives of hedonic well-being and eudaimonic well-being (Ryan & Deci, 2001; Ryff, Singer, & Love, 2004). The hedonic perspective views well-being in terms of life satisfaction, and the balance of positive to negative affect (and sometimes happiness). The eudaimonic perspective, on the other hand, views well-being in terms of self-actualisation, living a meaningful existence, and the extent to which individuals are functioning at their potential (Ryan & Deci, 2001; Waterman, 1993). It therefore emphasises well-being over the longer term. These two forms of well-being have been found to be conceptually distinct in a sample of elderly women, with each having different biological correlates (Ryff et al., 2004). While hedonic well-being was only minimally associated with biological markers, in that it was associated with HDL (beneficial cholesterol), eudaimonic well-being was associated with increased Rapid Eye Movement sleep, lower levels of "daily salivary cortisol, pro-inflammatory cytokines, [and] cardiovascular risk" (Ryff et al., 2004, p. 1383). While SES is associated with hedonic well-being to a small extent, well-being is enhanced to a greater extent by making progress in the pursuit of intrinsic goals, as exhibited by eudaimonic well-being (Sheldon & Kasser, 1995).

Streams of research focusing on the concept of well-being have included research into emotional well-being (Diener et al., 1999) (based on a hedonic

conceptualisation of well-being), and positive functioning which has tended to be conceptualised as consisting of social well-being (Keyes, 1998) and psychological well-being (Ryff & Keyes, 1995) (which tend to be more reflective of an eudaimonic conceptualisation of well-being). Ryff and Keyes (1995) argued that well-being involves more than life satisfaction and happiness as suggested by the concept of hedonic well-being, and that sometimes well-being over the longer term, achieved through ongoing effort, may in fact be in conflict with happiness over the shorter term (Waterman, 1993). As the present study employs an eudaimonic perspective of well-being rather than a hedonic one, emotional well-being will be excluded from the conceptualisation of well-being in this study. Subjective vitality will be added to the well-being concept as research suggests that a perception of vitality may be an important marker of well-being (Ryan & Frederick, 1997). This reconceptualisation of the well-being construct results in well-being being defined in terms of positive psychological, physical, and social functioning, with physical functioning measured in terms of subjective vitality.

7.1 Psychological Well-Being

Psychological well-being involves the perception that one's life is coherent (Antonovsky, 1987) and meaningful (Ryff, 1989). Ryff (1989) formulated a model of psychological well-being consisting of six dimensions - Self-Acceptance, Environmental Mastery, Purpose in Life, Personal Growth, Autonomy, and Positive Relations with Others - representing the challenges individuals face in seeking to self-actualise (Ryff & Keyes, 1995). Ryff and Keyes (1995) developed a theory-based conceptualisation of psychological well-

being, drawing inspiration from the work of earlier theorists. Aspects of psychological well-being are derived from Aristotle's concept of eudaimonia, which asserts that the ultimate good in human existence results from happiness achieved as a by-product of seeking to self-actualise (Waterman, 1993). This aligns with the work of theorists such as Rogers (1967) (on full functioning), Maslow (1968) (on self-actualisation), and Havighurst and Neugarten (1967) (on socialisation) that illustrate the elements of psychological well-being (Keyes & Magyar-Moe, 2003). According to Reber and Reber (2001) the term self-actualisation was first coined by Goldstein, an organismic theorist, to describe the inherent motivation of humans to seek to fully develop their potential. Goldstein proposed that self-actualisation was the primary human motive, with all other motives subsumed under its rubric.

Ryff (1989) and Ryff and Keyes (1995) have clearly defined each dimension underlying their model of psychological well-being.

7.1.1 Self-acceptance

Self-acceptance involves the ability to identify and accept one's positive and negative attributes (Ryff, 1989), with those high in Self-Acceptance having a positive self-attitude, accepting both aspects of their character, and accepting their past (Ryff & Keyes, 1995).

7.1.2 Purpose in life

Purpose in life refers to the perception that life has direction and meaning because people have goals that they seek to attain (Ryff, 1989). Someone high in Purpose in Life finds life meaningful, holds beliefs that provide meaning, and lives in a purposeful manner (Ryff & Keyes, 1995).

7.1.3 Personal growth

Personal growth refers to the perception that one is optimising potential (Ryff, 1989), with those high in Personal Growth seeking to continually develop. They are always open to new opportunities, and acknowledge that self-improvement is occurring over time and that greater self-knowledge and personal effectiveness continue to increase (Ryff & Keyes, 1995).

7.1.4 Positive relations with others

Having positive relations with others involves having meaningful relationships with others (Ryff, 1989). An individual high in Positive Relations with Others has authentic relationships with others, has a genuine concern for the well-being of others, and has the ability to be empathic, to experience genuine intimacy, and to "understand the give and take of human relationships" (Ryff & Keyes, 1995, p. 727).

7.1.5 Environmental mastery

Environmental mastery involves being up to the challenges presented by one's environment in daily life (Ryff, 1989). An individual high in Environmental Mastery has a sense of control over their environment, is an active participant in life, actively attempts to deal with challenges, and works toward shaping their environment in ways that contribute to their well-being (Ryff & Keyes, 1995).

7.1.6 Autonomy

Autonomy refers to the ability to live according to one's own convictions and values, even if they are in conflict with that of others (Ryff, 1989). A person high in Autonomy is self-determined, self-controlled rather than controlled by

the values of others, and lives according to his/her own standards (Ryff & Keyes, 1995).

Using a large representative sample, Ryff and Keyes (1995) assessed their multidimensional model of psychological well-being, examining gender and age differences across the proposed dimensions, and assessing the associations between the proposed dimensions and depression, life satisfaction, and happiness.

Each of the 18 well-being items (three items for each subscale) was found to be strongly related to the latent variable it was hypothesised to represent. Intercorrelations for the six scales were modest. Ryff and Keyes (1995) suggested that while alpha coefficients were only low to modest, this was probably due to the fact that only three items were used to represent each scale, with emphasis placed on adequately representing the "breadth" of each construct, instead of seeking to "maximise internal consistency" (p. 721). A super factor model was found to best fit the data set, with each of the six scales contributing to the latent construct of psychological well-being. Although it was found that the correlation between the Self-Acceptance and Environmental Mastery scales was high, suggesting the suitability of a five-factor model with these two scales combined, the fact that these factors differed as a function of age supports the six-factor conceptualisation. Across a range of studies, the Purpose in Life and Personal Growth dimensions were found to decrease with age, while the Autonomy and Environmental Mastery dimensions increased with age (Ryff et al., 2004). Self-Acceptance did not differ significantly across the age groups. The results across past studies varied for the relationship between the Positive Relations with Others dimension and age, with some showing no age differences

and others showing increased Positive Relations with Others with increased age (Ryff & Keyes, 1995; Ryff et al., 2004). The fact that these past studies have been cross-sectional in nature means that it remains unclear whether age differences in the patterns of findings reflect maturation or different cohorts (Ryff & Keyes, 1995).

The conceptualisation of psychological well-being from a positive, eudaimonic perspective was recently validated on a large sample (approximately 7,000 individuals) in the Midlife in the United States (MIDUS) study (Brim, Ryff, & Kessler, 2004). The findings will be employed in the present study to aid in the investigation of well-being with an Australian sample, and in the identification and assessment of the factors contributing to it.

7.2 Physical Well-Being (Subjective Vitality)

According to Maslow (1968), the human characteristics that indicate progress made toward self-actualisation include "the feeling of zest in living, of happiness, of euphoria, of serenity, of joy, of calmness, of responsibility, of confidence in one's ability to handle stresses, anxieties, and problems" (p. 157). Subjective vitality is an important characteristic that contributes to the achievement of self-actualisation. It is a reflection of positive physical health, and has been defined by Ryan and Frederick (1997) as "one's conscious experience of possessing energy and aliveness" (p. 530). Self-Determination Theory contends that subjective vitality results from the degree to which one's needs for autonomy, competence, and relatedness are met (Deci & Ryan, 1991). Subjective vitality is a component of eudaimonic well-being and plays a role in optimal functioning (Ryan & Deci, 2001). It involves feeling alert, alive, and

having energy. Ryan and Frederick (1997) developed a Subjective Vitality Scale (individual difference version), consisting of seven items. Gump and the Psychosocial Working Group of the John D. and Catherine T. MacArthur Research Network on Socioeconomic Status and Health [Gump & the PWG] (1999) reported that this scale has quite good internal consistency and validity. Reliability over an eight week period was shown to be acceptable (r = .64) (Ryan & Frederick, 1997). Subjective vitality measured at the individual difference level was found to be positively associated with self-esteem, self-actualisation (University of Rochester, 2004), mental well-being, self-motivation, and positive affect (Gump & the PWG, 1999). It was found to be negatively associated with anxiety and depression (University of Rochester, 2004), external locus of control, and psychological distress (Gump & the PWG, 1999). Scheier et al. (1999) found vitality, as assessed by the vitality subscale of the Profile of Mood States (McNair, Lorr, & Droppleman, 1971) to be positively associated with socioeconomic status.

Vitality and vigour generally refer to the same state in which enthusiasm and energy are present, and weariness, exhaustion, and fatigue are absent (Gump & the PWG, 1999). While these terms subsequently tend to be utilised interchangeably, the term vitality will be utilised in this study.

The importance of subjective vitality to well-being has been largely ignored by researchers in the past. It is expected that the addition of this component to the well-being construct will enable a more comprehensive investigation of eudaimonic well-being and the factors influencing it.

7.3 Social Well-Being

Keyes (1998) contended that the conceptualisation of subjective well-being should be extended to include social well-being, as psychology, while acknowledging the private/public dichotomy, has tended to fail to evaluate the aspects of well-being that relate to the extent to which social challenges are met. Social health has in the past been conceptualised as a lack of negative social states such as alienation and anomie rather than the existence of positive social conditions. Keyes (1998) asserted that psychological research has exhibited "a bias towards psychological conceptions of well-being" (p. 133). While well-being within the individual has received considerable attention (e.g., Ryff, 1989), it is suggested that equal attention needs to be focused on the social nature of well-being.

Social well-being has been defined as "the appraisal of one's circumstances and functioning in society", and is a reflection of "positive social health" (Keyes, 1998, p. 122). This clarifies the fact that social well-being reflects an individual's perception of their experiences within their social milieu, as opposed to measures reflecting interpersonal social well-being such as measures of social support, or measures performed at the societal level such as assessments of social capital. Health and well-being should therefore be conceptualised in a way that is inclusive of an individual's self-actualisation within social groups, and the validation and affirmation this confers on individuals (Rosenfeld, 1997).

Keyes (1998) operationalised and validated five scales of social well-being that were developed in line with social psychological and sociological theory. According to Keyes (1998), the Social Well-Being Model, (which along

with psychological well-being constitutes positive functioning) consists of Social Integration, Social Contribution, Social Coherence, Social Acceptance, and Social Actualisation.

7. 3.1 Social integration

Social integration refers to an individual's assessment regarding the quality of their association with their broader community (Keyes, 1998). Feeling a sense of belonging is an essential aspect of health (Cohen & Wills, 1985; House, Landis, & Umberson, 1988; Pennebaker, 1995; Ryff & Singer, 2003), and therefore integration with others in one's neighbourhood and community should result from a shared experience of commonality with others (Keyes & Shapiro, 2004). A lack of social integration results, at the most extreme level, in suicide (Durkheim, 1951).

7.3.2 Social contribution

According to Keyes (1998), social contribution, which overlaps with Bandura's (1977) concept of self-efficacy, and the concept of social responsibility, is an individual's perception regarding the value of what they can contribute to the common good of society. Many individuals find it difficult to feel that they are valuable contributors to society when their own existence is not valued in and of itself (Ellis & Harper, 1975; Keyes & Shapiro, 2004). Social contribution is constituted in part by an individual's perception that he/she fills a vital role in society (Keyes, 1998).

7.3.3 Social coherence

Social coherence is an individual's perception of the quality of their social world and the way in which it is organised and operates (Keyes, 1998). It relates to the ability to find meaning in existence (Keyes & Shapiro, 2004).

Healthier individuals are interested in the nature of their social world, and can make sense of the way in which it operates. According to Keyes (1998), social coherence involves the perception that "society is discernable, sensible, and predictable" (p. 123).

7.3.4 Social actualisation

Social actualisation refers to "the evaluation of the potential and the trajectory of society" (Keyes, 1998, p. 123). It involves individuals perceiving that they are likely to benefit from social growth. Social actualisation is the perception that the institutions and individuals in human society are evolving in a way that will promote optimal development, despite the fact that this does not appear to be true for everyone (Keyes & Shapiro, 2004). Yet health involves an optimistic view of possible futures. While self-determination involves the sense that an individual controls his/her own destiny, social actualisation involves the perception that society is controlling its future. The concept of social actualisation, according to Keyes (1998) shares some characteristics with Maslow's (1968) concept of self-realisation, Ryff's (1989) emphasis on personal growth, and Waterman's (1993) focus on eudaimonia. Social actualisation reflects the degree to which individuals are functioning well, as a result of being open to new experiences and ongoing development (Keyes, 1998).

7.3.5 Social acceptance

Social acceptance refers to an individual's perception of society as judged according to the characteristics of other people in general (Keyes, 1998). Social acceptance involves an acceptance of diversity in others, trusting in the inherent goodness of others, and holding favourable perceptions regarding the nature of humans, all of which contribute to individuals feeling comfortable with fellow

members of the human species (Keyes & Shapiro, 2004). Those who accept others also tend to hold the view that individuals are generally productive (Keyes, 1998). Just as mental health involves self-acceptance (Ryff, 1989), accepting others in one's society may exhibit social health (Keyes, 1998).

Keyes (1998) performed two studies (one utilising a telephone survey and the second a self report questionnaire) that validated the five posited dimensions of social well-being. These studies provide evidence of convergent validity between the social well-being scales and community involvement, anomie, generativity, perceived constraints, life satisfaction, dysphoria, and happiness. Keyes (1998) also found social well-being to generally increase with age and level of education, suggesting that skills, resources, and experience accumulated as one ages, and achieved via the process of education, assist individuals in meeting social challenges.

While these social well-being scales are associated with mental health measures that assess psychological well-being, they do not overlap with them (Keyes, 1998). Additionally, these scales are only minimally correlated with optimism. Keyes' results therefore suggest that the social well-being scales adequately represent the degree to which individuals meet the social challenges they face. Keyes (1998) asserts that "social well-being is an accomplishment" (p. 133).

Operationalising well-being as positive psychological, physical, and social functioning should provide a broader view of the perceptions that individuals hold regarding the extent to which they are functioning well in their environment. This approach allows for an investigation of factors associated

with eudaimonic well-being, which is in line with the WHO's (1946) definition of health.

CHAPTER 8: RATIONALE FOR THE PROPOSED PSYCHOSOCIAL COGNITIVE MODEL OF WELL-BEING

Figure 1 presents the fully identified psychosocial cognitive model, showing the hypothesised direct and indirect relationships between gender role schema and the experience of childhood trauma with psychological, physical, and social well-being, being mediated by: (1) satisfaction of the needs for autonomy, competence, and relatedness, (2) beliefs about the world, oneself, and the future, (3) the self-regulation of withholding negative emotions, and (4) somatic amplification.

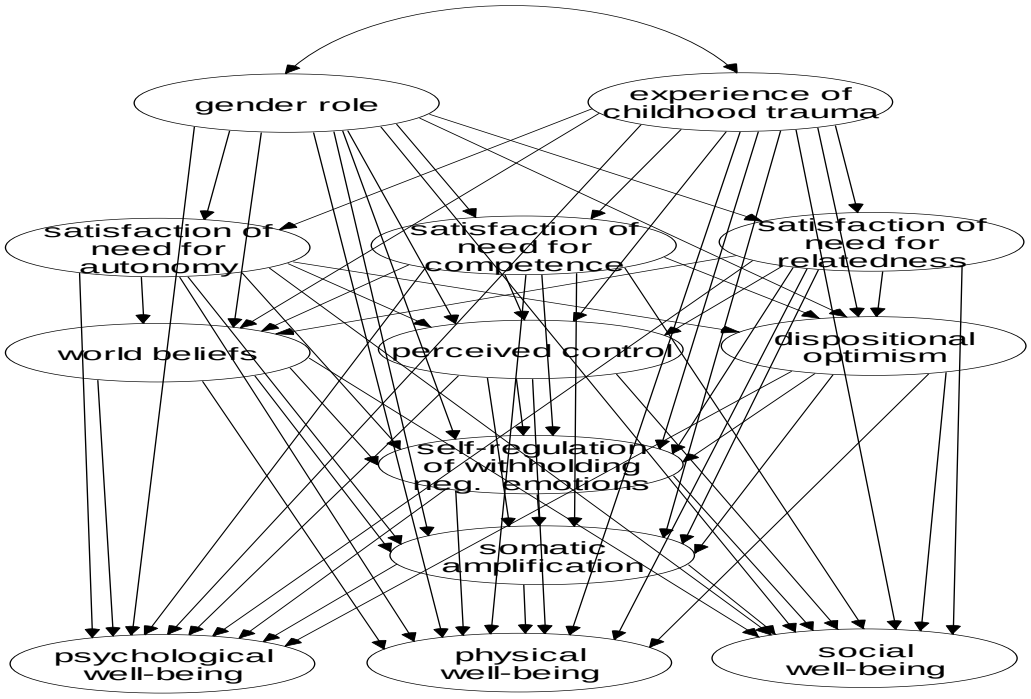


Figure 1. Psychosocial cognitive model of the direct and indirect relationships between gender role schema and the experiences of childhood trauma, with psychological, physical, and social well-being.

A fascination with the mind-body connection led the researcher to seek to identify environmental events that are commonly experienced, and that while appearing to have little to do with health and well-being, have been identified as having a significant impact on these outcomes. As gender role orientation provides the schema for most human cognitions and behaviours, and the experience of childhood trauma is a common occurrence among people in general, these two factors were identified as prime topics of study for the current research. Interest in the relationship between perceptions of control, health, and well-being resulted in a search for theories that could shed light on the pathways via which such influences occur.

While this eclectic approach has resulted in the combined use of a range of seemingly disparate theories, the common thread that weaves through these theories is that they all relate to the concept of *control* or *self-determination*. Specifically, Self Determination Theory contends that environmental events that fail to satisfy the basic needs of autonomy, competence, and relatedness, adversely affect development, and fail to support the self-regulation/self-determination of cultural practices (Ryan & Deci, 2000: Ryan & Frederick, 1997; University of Rochester, 2004). In other words, these needs must all be satisfied if an individual is to achieve a sense of personal control. Beck (1976) additionally contends that failure to control maladaptive thinking that occurs in response to experiencing adverse events can result in individuals suffering maladaptive emotional responses, which adversely affects well-being. Self-Determination Theory's concept of the SRWNE (Kim et al., 2002) asserts that internalising the regulation of the withholding of negative emotions indicates that the regulation has become self-determined rather than an externally controlled

regulation, and will therefore contribute to well-being rather than conflict and decreased well-being. The concept of somatic amplification also relates to the concept of control, in that it appears to be those without control in society at large (that is, individuals who are black, unmarried, female, older, unemployed, and low in SES), who report the greatest levels of somatic amplification (Feuerstein et al., 1986). This eclectic approach utilising these diverse theories allows for an integrated assessment of the ways in which gender role orientation and the experience of childhood trauma impact psychological, physical, and social well-being, with perceived control or self-determination as the common theme underlying the investigation.

The process through which well-being develops involves individuals integrating socially with others, integrating external events with their core inner self (or personality), and achieving a feeling of agency in relation to them (Deci & Ryan, 1991; Ryan & Deci, 2002). When basic psychological needs are thwarted, however, by events and cannot be accommodated into one's core self, the individual's intrapsychic equilibrium is disturbed. A certain amount of ambiguity and contradiction can be tolerated between our mental schemata and reality if we do not inspect the model too closely, with only minor revisions required on a regular basis (Simpson, 1993).

These revisions of schemata constitute a coping response (Simpson, 1993). Major revisions are required when trauma fractures such models, resulting in "a pile of paradigms lost" (Simpson, 1993, p. 678). When experiences are of such intense trauma that they cannot be accommodated via change of one's belief systems, incomplete reformatting of one's schemata follows, and extreme stress reactions including PTSD can occur (Simpson,

1993). For example, survivors of torture have reported that rebuilding their disintegrated and shattered sense of self is one of the most challenging tasks of recovery (Turner & Gorst-Unsworth, 1993). Experiencing trauma shatters what Simpson (1993) calls "life's protective delusions" (p. 676), such as believing that one is invulnerable, and believing in a world that is controllable (Langer, 1983) and just (Lerner & Miller, 1978).

Rothbaum et al. (1982) similarly contended that humans have an innate desire to personally control their environment using primary control, and where this is not possible, efforts will be made to fit oneself to the environment utilising secondary control. This aligns with the assertion that while active coping is associated with positive outcomes when utilised to deal with controllable stressors, passive coping is effective in dealing with uncontrollable stressors (Scheier et al., 1986; Taylor, 1990). It may be that adjusting one's beliefs and the withholding of negative emotions in response to uncontrollable aspects of the environment are adaptive forms of secondary control and passive coping, in that they assist individuals to maintain a sense of certainty. A perception of increased sensitivity to physiological activity may be the resulting associated cost when the withholding of negative emotions is externally regulated in response to social expectations and is therefore not self-determined.

This assumption or leap in logic is an extrapolation of the fact that those in subordinate positions in society experience greater increases in blood pressure in response to hostility than do those in positions of dominance and control (Doran & Newton, 2000; Helgeson, 1994), and tend to report a greater number of somatic symptoms (Feuerstein et al., 1986). This suggests that the concept of the SRWNE may answer Ryff and Singer's (2003) call for identification of the

means by which negative emotions could be transformed so that they do not negatively impact health and well-being. The internalisation of the regulation of withholding negative emotions is therefore expected to be shown to be the means by which negative emotions are transformed so that well-being is not negatively impacted.

The present study seeks to use the theme of control or self-determination to investigate the relationships of gender role schema and the experience of childhood trauma with well-being in adulthood, in response to (1) the failure of biological explanations to adequately explain gender differences in health and well-being, (2) the need for well-being to be investigated from an eudaimonic perspective, and (3) the need to redress the failure of much research investigating health and well-being in adulthood, to include childhood trauma as a contributing variable. This research presents a psychosocial cognitive model of well-being which proposes that gender role schema (masculinity and femininity) and the experience of childhood trauma will be related both directly and indirectly to psychological, physical, and social well-being, being mediated by the satisfaction of the basic psychological needs for autonomy, competence, and relatedness; beliefs about the world, oneself, and the future; the self-regulation of withholding negative emotions; and somatic amplification. This research will incorporate two studies.

The first study will involve the development of the World Beliefs Inventory (WBI) to tap individual differences in beliefs individuals hold regarding the nature of the world. Following suggestions provided by Aerts et al. (1994) from the Center Leo Apostel (a multidisciplinary, multinational think-tank), the WBI will assess the extent to which individuals perceive the world to

be safe, just, controllable, supportive, meaningful, and predictable. The development of the WBI will allow for the assessment of beliefs individuals hold regarding the world (world beliefs), oneself (perceived control), and the future (dispositional optimism), in line with Beck's (1976) cognitive triad model, which contends that these belief components influence well-being.

The second study will be designed to test the efficacy of the hypothesised psychosocial cognitive model of well-being (See Figure 1). The pattern of structural relationships hypothesised in the proposed model is underpinned by Basic Needs Theory, Organismic Integration Theory (University of Rochester, 2004), Gender Role Theory (Antill et al., 1981; Bem, 1974), and Beck's (1976) cognitive triad theory. The common theme that cuts across these identified theories is the concept of *control* or *self-determination.*

8.1 Rationale Underlying the Hypothesised Relationships Posited in the Proposed Psychosocial Cognitive Model of Well-Being

8.1.1 Gender role - Masculinity

Gender role orientation is expected to be directly and related to psychological well-being, physical well-being (operationalised as subjective vitality), and social well-being. Gender role orientation (masculinity and femininity) reflects socially and culturally sanctioned behaviours, which have associated costs and benefits. Masculinity (also identified as agency or instrumentality) is associated with psychological health (Helgeson, 1994), but leaves highly masculine men reluctant to seek the support of others (decreasing social well-being). The fact that men on average have shorter life-spans than women (AIHW, 2002) also indicates that masculinity is associated with

decreased physical well-being. Masculinity is therefore expected to be directly and positively associated with psychological well-being, and negatively and directly associated with both physical and social well-being.

In accordance with the proposed model and guided by Gender Role Theory (Antill et al., 1981; Bem, 1974, 1975) and Basic Needs Theory (University of Rochester, 2004), it is also expected that some of the influence of gender role ascription will be indirectly associated with psychological, physical, and social well-being, being mediated by the satisfaction of the needs for autonomy, competence, and relatedness. Specifically, in line with the masculine focus on instrumentality (Helgeson, 1994), masculinity is predicted to be positively associated with satisfaction of the needs for autonomy and competence, but negatively associated with satisfaction of the need for relatedness. Autonomy and competence are each then expected to be positively associated with psychological, physical, and social well-being due to the empowerment that patriarchy provides to those meeting the social and cultural definitions of masculinity by providing rewards for such characteristics (Annandale & Hunt, 1990). On the other hand, decreased relatedness is then expected to be associated with decreased psychological, physical, and social well-being.

The proposed model also suggests that some of the influence of gender role schema on well-being will be mediated by beliefs about the world (i.e., world beliefs), oneself (i.e., perceived control), and the future (i.e., dispositional optimism). Beck's (1976) cognitive triad model provides a framework for investigating the influence of factors such as gender role schema (masculinity/femininity) on important beliefs individuals hold, which are then

posited to influence well-being. Beck contends that aspects of an individual's environment can impact important beliefs that the individual holds regarding the world, oneself, and the future, subsequently influencing that person's functioning. As a schema provides a framework for perception (Reber & Reber, 2001), and masculine instrumentality is valued and rewarded in Western societies (Annandale & Hunt, 1990), it is expected that masculinity will relate positively and directly (and indirectly) to beliefs regarding the world (equated with "world beliefs" in the model), oneself (equated with "perceived control" in the model), and the future (equated with "dispositional optimism" in the model). Such support from social and cultural arrangements encourages positive perceptions regarding the world, oneself, and the future. Greater world beliefs, perceived control, and dispositional optimism, are then each expected to be associated with greater psychological, physical, and social well-being.

The proposed indirect relationships hypothesised between gender role and world beliefs, perceived control, and dispositional optimism suggest that some of the influence of masculinity and femininity on world beliefs, perceived control, and dispositional optimism may be mediated by the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, as predicted by Basic Needs Theory (University of Rochester, 2004). Due to the fact that masculinity emphasises instrumentality or agency (Helgeson, 1994), it is expected that masculinity will be positively associated with more favourable perceptions regarding the world (world beliefs), personal control (perceived control), and the future (dispositional optimism) (Hodgins & Knee, 2002) through its association with the satisfaction of the needs for autonomy and competence. Greater world beliefs, perceived control, and dispositional

optimism are each then expected to be positively associated with psychological, physical, and social well-being. On the other hand, socialisation into the masculine gender role fails to encourage males to satisfy their need for relatedness (encouraging them instead to be largely emotionally inexpressive and self-contained) (Hochschild, 1975). Decreased world beliefs, perceived control, and dispositional optimism are each then expected to be associated with decreased psychological, physical, and social well-being, in accordance with Beck's (1976) cognitive triad theory. Masculinity is therefore expected to have an indirect influence on world beliefs, perceived control, and dispositional optimism via its negative relationship with the extent to which the need for relatedness is satisfied. The alienation felt by males as a result of not having their need for relatedness satisfied is exhibited by their high incidence of suicide (Royal Australian College of General Practitioners, 2001).

Theory also suggests that some of the influence of gender role on psychological, physical, and social well-being may be mediated by the SRWNE. Self-Determination Theory states that controlled regulation of extrinsically motivated behaviours creates internal tension and conflict (having unhealthy outcomes), and that the withholding of negative emotion (illustrating the internalisation of an extrinsically motivated behaviour) can only have healthy consequences if full integration of that regulation with an individual's core self occurs so that the regulation become self-determined (Deci & Ryan, 1991). Based on Gender Role Theory (Antill et al., 1981; Bem, 1974), and Organismic Integration Theory's assertion that environmental influences can result in incomplete internalisation of culturally valued regulatory processes such as the SRWNE (Kim et al., 2002; University of Rochester, 2004), it is expected that

gender role orientation will be related directly (and indirectly) to the self-regulation of withholding negative emotions. As masculine socialisation encourages males to be emotionally inexpressive (Worell & Remer, 1992), it is expected that masculinity will be directly and positively associated with the SRWNE. The SRWNE is then in turn expected to be associated with greater psychological, physical, and social well-being.

The proposed indirect relationship between gender role (masculinity and femininity) and the SRWNE suggests that some of the influence of masculinity and femininity on the self-regulation of withholding negative emotions may be mediated by satisfaction of the basic psychological needs for autonomy, competence, and relatedness (University of Rochester, 2004), with satisfaction of these needs expected to subsequently influence beliefs regarding the world, oneself, and the future, as predicted by Beck's (1976) cognitive triad. Specifically, masculinity is predicted to be positively associated with satisfaction of the needs for autonomy and competence, which in turn, are expected to be positively related to world beliefs, perceived control, and dispositional optimism. These perceptions are then subsequently expected to be positively associated with the SRWNE (due to the environment providing support for the internalisation of the cultural value of men being emotionally controlled), with the regulation of the withholding of negative emotions then becoming self-determined and autonomous rather than an externally controlled cultural regulation. Greater SRWNE is in turn expected to be associated with greater psychological, physical, and social well-being, illustrating the positive outcomes associated with the internalisation of this cultural regulation. The SRWNE is also expected to be indirectly influenced by masculinity through its negative

association with satisfaction of the need for relatedness. Specifically, masculinity is predicted to be negatively associated with the satisfaction of the need for relatedness due to males in Western countries having been socialised in ways that do not emphasise the need for close associations with others (Worell & Remer, 1992). The resulting failure to have the basic psychological need for relatedness satisfied is expected to be reflected subsequently in less positive views regarding the world (world beliefs), oneself (perceived control), and the future (dispositional optimism). These less positive views are then expected to be associated with decreased SRWNE, indicating that the regulation of the withholding of negative emotions is externally controlled rather than self-determined. Decreased SRWNE is then expected to be associated with decreased psychological, physical, and social well-being.

As predicted by current knowledge regarding somatic amplification (Barsky & Borus, 1999; Feuerstein et al., 1986; Pease, 1997; Rossi, 2004; Sayar & Ismail, 2001), it is expected that some of the influence of masculinity on psychological, physical, and social well-being will be mediated by somatic amplification. As masculine socialisation encourages men to largely ignore physiological states, focusing instead on their instrumental capacities (Pease, 1997), it is expected that masculinity will be directly and negatively associated with somatic amplification. Somatic amplification is then expected to be associated with greater psychological, physical, and social well-being. Gender role orientation is also expected to be indirectly associated with somatic amplification, being mediated sequentially by the satisfaction of basic psychological needs (University of Rochester, 2004), beliefs (Beck, 1976), and the self regulation of withholding negative emotions (Kim et al., 2002), as

predicted by Organismic Integration Theory (Deci & Ryan, 1991). Specifically, masculinity is expected to indirectly influence somatic amplification via its positive association with satisfaction of the needs for autonomy and competence, the satisfaction of which is expected to be positively associated with world beliefs, perceived control, and dispositional optimism. These favourable perceptions are then predicted to be positively associated with the SRWNE, which is expected to be subsequently associated negatively with somatic amplification. Decreased somatic amplification is then expected to be associated with greater psychological, physical, and social well-being. Masculinity is also expected to be indirectly associated with somatic amplification through its negative association with the satisfaction of the need for relatedness. Failure to have the need for relatedness adequately met is then expected to be associated with decreased world beliefs, perceived control, and dispositional optimism. These perceptions are then expected to be associated with decreased SRWNE (indicating that this regulation is externally controlled), which is expected to be subsequently associated with increased somatic amplification. The fact that somatosensory amplification involves the tendency to appraise symptoms and bodily sensations as evidence of pathology, suggests that somatic amplification will be negatively associated with self-reported physical health operationalised as subjective vitality (Sayar & Ismail, 2001). The close association identified between the reporting of somatic symptoms/somatic preoccupation and anxiety and depression (Simon et al., 1999) suggests that somatic amplification will also be associated with decreased psychological well-being. Sociophysiological explanations for somatic preoccupation suggest that social circumstances influence the way in which symptoms are experienced (Kirmayer et al., 2004). It

could be inferred therefore, that the same social circumstances which lead to somatic preoccupation would also be reflected in an individual's level of social well-being, with somatic amplification negatively associated with social well-being. It is therefore consequently expected that somatic amplification will be negatively associated with psychological, physical, and social well-being. Increased somatic amplification is then expected to be associated with decreased psychological, physical, and social well-being.

The posited indirect influence between gender role (masculinity and femininity) and psychological, physical, and social well-being suggests that some of the influence of masculinity and femininity on psychological, physical, and social well-being will be mediated sequentially by the satisfaction of needs (University of Rochester, 2004), beliefs (Beck, 1976), the self-regulation of withholding negative emotion (Kim et al., 2002), and somatic amplification (Rossi, 2004), as predicted by current knowledge regarding somatic amplification.

8.1.2 Gender role - Femininity

Femininity is expected to directly and indirectly influence psychological, physical, and social well-being. Femininity (also identified as expressivity or communion) emphasises social relationships (resulting in increased social well-being). Women also live longer than men, indicating increased physical well-being (AIHW, 2002). The feminine emphasis on emotional expressivity, however, leaves women high in femininity vulnerable to decreased psychological well-being (Doran & Newton, 2000; WHO, 2005). Femininity is therefore predicted to be directly and positively associated with physical and social well-being, and directly and negatively associated with psychological well-being.

It is also expected that some of the influence of femininity on psychological, physical, and social well-being, will be mediated by satisfaction of the needs for autonomy, competence and relatedness. Femininity, in line with the feminine emphasis on expressivity (Helgeson, 1994), is predicted to relate positively to the satisfaction of the need for relatedness, but to relate negatively to the satisfaction of the needs for autonomy and competence. Greater satisfaction of the need for relatedness is in turn expected to be associated with increased psychological, physical, and social well-being, while decreased satisfaction of the needs for autonomy and competence are each then expected to be associated with decreased psychological, physical, and social well-being.

In accordance with Beck's (1976) cognitive triad model, the proposed model suggests that some of the influence of femininity on psychological, physical, and social well-being will be mediated by beliefs about the world (world beliefs), oneself (perceived control), and the future (dispositional optimism). Femininity is expected to be directly and negatively associated with perceived control, due to the fact that females in Western societies continue to face barriers to developing perceptions of personal control. This includes the fact that females continue to be considered largely responsible for childcare and domestic duties, with social arrangements failing to support a balance of these responsibilities between males and females. In turn, decreased perceived control is expected to be associated with decreased psychological, physical, and social well-being. Femininity is expected, however, to be positively associated with world beliefs and dispositional optimism, indicating that women's perceptions regarding the nature of the world and the future are reliant on more than the degree to which power is assigned to them according to their sex (reflecting

greater appreciation of humanitarian qualities). World beliefs and dispositional optimism are then each expected to be associated with increased psychological, physical, and social well-being.

Femininity is also expected to be indirectly associated with world beliefs, perceived control, and dispositional optimism, via the fact that gender role socialisation of females in Western countries tends to direct women away from goals that could meet their needs for autonomy and competence. Decreased satisfaction of the needs for autonomy and competence is expected to subsequently decrease world beliefs, perceived control, and dispositional optimism. World beliefs, perceived control, and dispositional optimism are each then expected to be associated with decreased psychological, physical, and social well-being. On the other hand, it is expected that femininity will be indirectly associated with favourable beliefs about the world (world beliefs), oneself (perceived control), and the future (dispositional optimism), due to its encouragement of the satisfaction of the need for relatedness (Doran & Newton, 2000; Helgeson, 1994; Worell & Remer, 1992). World beliefs, perceived control, and dispositional optimism are each then expected to be positively associated with psychological, physical, and social well-being.

Organismic Integration Theory suggests that some of the influence of femininity on psychological, physical, and social well-being will be mediated by the SRWNE. As socialisation into the feminine gender role emphasises emotional expressivity, it is predicted that femininity will be negatively and directly associated with the SRWNE. Decreased SRWNE is then expected to be associated with decreased psychological, physical, and social well-being. The proposed indirect relationship between femininity and the SRWNE suggests that

adherence to the feminine gender role will also indirectly influence the SRWNE via its influence on the degree to which satisfaction of the basic psychological needs for autonomy, competence, and relatedness is achieved. Satisfaction of these needs is then assumed to influence world beliefs, perceived control, and dispositional optimism. Specifically, femininity is expected to be negatively associated with satisfaction of the needs for autonomy and competence, with failure to adequately satisfy these needs being associated with decreased world beliefs, perceived control, and dispositional optimism. These less positive views are then expected to decrease the SRWNE, which is in turn expected to be associated with decreased psychological, physical, and social well-being. On the other hand, femininity is expected to be positively associated with the satisfaction of the need for relatedness, which is expected to be positively associated with favourable views of the world (world beliefs), oneself (perceived control), and the future (dispositional optimism). These positive views are then expected to be positively associated with the SRWNE, which is in turn expected to be associated with greater psychological, physical, and social well-being.

Some of the influence of femininity on psychological, physical, and social well-being is expected to be mediated by somatic amplification. As previous research has shown that women, in comparison to men, have significantly higher levels of somatic amplification (Rossi, 2004) and tend to report a greater number of somatic symptoms (Feuerstein et al., 1986), it is expected that femininity will be directly and positively related to somatic amplification. Somatic amplification is then expected to be associated with decreased psychological, physical, and social well-being. Femininity is also expected to indirectly influence somatic amplification through its sequential

influence on satisfaction of the basic psychological needs, beliefs, and the SRWNE. More specifically, femininity is expected to be negatively associated with the satisfaction of the needs for autonomy and competence. Failure to have the needs for autonomy and competence adequately satisfied is then expected to be associated with less favourable views of the world (world beliefs), oneself (perceived control), and the future (dispositional optimism). These beliefs are then expected to be negatively associated with the SRWNE which is expected to be subsequently associated with increased somatic amplification. Increased somatic amplification is then expected to be associated with decreased psychological, physical, and social well-being.

An indirect influence of femininity on somatic amplification is also proposed to occur through the positive association between femininity and the satisfaction of the need for relatedness. Satisfaction of this need is then predicted to be positively associated with favourable world beliefs, perceived control, and dispositional optimism. These beliefs (regarding the world, oneself, and the future) are then expected to be positively associated with the SRNWE, which is consequently expected to be associated with decreased somatic amplification. Somatic amplification is in turn expected to be associated with increased psychological, physical, and social well-being.

8.2 Childhood Trauma

The experience of childhood trauma is expected to be directly and indirectly related to psychological, physical, and social well-being. Experiencing childhood trauma has been identified as a commonly experienced factor influencing well-being during adulthood. Specifically, childhood trauma has

been found to be associated with increased physical symptoms (or decreased physical well-being), psychological disorder (Schnurr, 2004), and social difficulties in the form of interpersonal sensitivity (Gavrilovic et al., 2001). It is therefore expected that the experience of trauma will be directly and negatively associated with psychological, physical, and social well-being.

In accordance with Basic Needs Theory (University of Rochester, 2004), it is also hypothesised that some of the influence of childhood trauma on psychological, physical, and social well-being will be mediated by satisfaction of the basic psychological needs for autonomy, competence, and relatedness. Experiencing childhood trauma contributes to perceptions of helplessness (equated inversely with autonomy and competence) (Brown & Harris, 1978; Seligman, 1975, 1990, 1995), and difficulties in confiding and trusting in others (Gavrilovec et al., 2001), making it difficult for individuals to satisfy the need for relatedness (Bowlby, 1969; Gomez, 1991; O'Leary, 1990; Pennebaker, 1995). It is therefore expected that the experience of childhood trauma will be negatively associated with the satisfaction of the needs for autonomy, competence, and relatedness, reflecting the fact that such experiences interfere with the process of healthy development across all dimensions. Decreased satisfaction of the needs for autonomy, competence, and relatedness are each then expected to be associated with decreased psychological, physical, and social well-being.

The proposed model also suggests that some of the influence of childhood trauma on psychological, physical, and social well-being will be mediated by beliefs about the world (world beliefs), oneself (perceived control), and the future (dispositional optimism). With regard to the influence of the experience of childhood trauma on beliefs individuals hold, the literature

indicates that childhood trauma results in an increased perception that the world is unsafe, hostile, and threatening (Gavrilovic et al., 2001); decreased perceptions of control (Brown & Harris, 1978; Seligman, 1975, 1990, 1995); and decreased optimism (Hjelle et al., 1996). Experiencing childhood trauma, therefore, directly challenges an individual's world beliefs, perceptions of control, and dispositional optimism (Luminet et al., 2000; Pennebaker, 1993). In accordance with Beck's (1976) cognitive triad model and previous research, it is therefore predicted that the experience of childhood trauma will be directly and negatively associated with world beliefs, perceived control, and dispositional optimism. World beliefs, perceived control, and dispositional optimism are each then expected to be associated with decreased psychological, physical, and social well-being.

It is also proposed that some of the influence of childhood trauma on world beliefs, perceived control, and dispositional optimism may be mediated by its negative association with the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, as predicted by Basic Needs Theory (University of Rochester, 2004). Experiencing childhood trauma interferes with the process of healthy development (Gomez, 1991; Pennebaker, 1995), and is therefore expected to decrease the satisfaction of the needs for autonomy, competence, and relatedness, with decreased satisfaction of each of these needs then expected to be associated with decreased world beliefs, perceived control, and dispositional optimism. World beliefs, perceived control, and dispositional optimism are each subsequently expected to be associated with decreased psychological, physical, and social well-being.

Theory also suggests that some of the influence of childhood trauma on psychological, physical, and social well-being may be mediated by the SRWNE. Based on Organismic Integration Theory (University of Rochester, 2004) and the fact that experiencing childhood trauma adversely affects processes of emotion regulation causing individuals to be at increased risk of developing anxiety and depression (WHO, 2005), it is predicted that the experience of childhood trauma will be directly and negatively associated with the SRWNE (Kim et al., 2002). Decreased SRWNE is then expected to be associated with decreased psychological, physical, and social well-being. The posited indirect relationship between childhood trauma and the SRWNE suggests that some of the influence of childhood trauma on the self-regulation of withholding negative emotion may be mediated by the satisfaction of the needs for autonomy, competence, and relatedness (University of Rochester, 2004), which in turn, is expected to be related to beliefs about the world, oneself, and the future, as predicted by Beck's (1976) cognitive triad. Specifically, childhood trauma is expected to be negatively associated with the satisfaction of the needs for autonomy, competence, and relatedness, as such experiences impede healthy development. The fact that the basic psychological needs for autonomy, competence, and relatedness are not adequately satisfied in those who experience childhood trauma is likely to impact negatively on world beliefs, perceived control, and dispositional optimism, reflecting the fact that individuals who are not empowered tend to have stronger perceptions of threat. These decreased world beliefs, perceived control, and dispositional optimism, are then expected to be subsequently related to decreased SRWNE, in that the regulation of the withholding of negative emotions is expected to be externally controlled rather

than become a self-determined regulation. This expectation does not deny the fact that some individuals will, as a result of experiencing childhood trauma, become increasingly self-determined/self-motivated (McFarlane & Yehuda, 1996), rather than less so, exhibiting increased resilience. Decreased SRWNE is in turn expected to be associated with decreased psychological, physical, and social well-being.

It is expected that some of the influence of childhood trauma on psychological, physical, and social well-being will be mediated by somatic amplification. As experiences of stress and trauma tend to set off physiological reactions (Cacioppo, 2003; Taylor, 1995), and as somatic amplification tends to follow experiences of conflict, stress, and loss (Kirmayer et al., 2004), it is expected that the experience of childhood trauma will be positively and directly (and indirectly) associated with somatic amplification. Somatic amplification is then expected to be associated with decreased psychological, physical, and social well-being. These expectations align with sociophysiological and psychophysiological models of the mind-body connection (Kirmayer et al., 2004). The posited indirect relationship suggests that some of the influence of childhood trauma on somatic amplification may also be sequentially mediated by the satisfaction of basic psychological needs (University of Rochester, 2004), beliefs (Beck, 1976), and the self-regulation of withholding negative emotions (Kim et al., 2002), as predicted by Organismic Integration Theory (Deci & Ryan, 1991). Specifically, childhood trauma is expected to be negatively associated with satisfaction of the three basic psychological needs (i.e., for autonomy, competence, and relatedness) due to the fact that it interferes with developmental processes. Failure to have these needs adequately satisfied is then expected to be

associated with decreased positive views regarding the world (world beliefs), oneself (perceived control), and the future (dispositional optimism). These decreased beliefs (world beliefs, perceived control, and dispositional optimism) are expected to subsequently be associated with decreased SRWNE, which is then expected to be associated with increased somatic amplification. Somatic amplification is in turn expected to be associated with decreased psychological, physical, and social well-being.

8.3 Specific Research Aims

The primary aim of Study 1 is the development of the World Beliefs Inventory and to assess whether the inventory represents an adequate conceptualisation of the 'world beliefs' concept. Its underlying factor structure will be identified. The nature of the associations between factors of the WBI and depression, self-esteem, and general psychological well-being will also be determined.

Study 2 aims to determine whether gender role schema and the experience of childhood trauma are related to psychological well-being, physical well-being (i.e., subjective vitality), and social well-being directly and/or indirectly, being mediated by (1) the satisfaction of basic psychological needs for autonomy, competence, and relatedness, (2) beliefs about the world, oneself, and the future, (3) self-regulation of withholding negative emotions, and (4) somatic amplification.

CHAPTER 9: STUDY 1 – DEVELOPMENT OF THE WORLD BELIEFS INVENTORY

9.1 Introduction

According to Beck (1976), world beliefs, along with beliefs about oneself and beliefs about the future constitute a cognitive triad, with these beliefs significantly influencing well-being (especially psychological well-being). However, the lack of a valid and reliable means of assessing individual differences in important beliefs individuals hold regarding the nature of the world has up until now, resulted in inadequate testing of the utility of Beck's (1976) cognitive triad model.

While the importance of beliefs about the world (such as beliefs in a controllable and just world) has been widely recognised, and a range of terms used to describe world beliefs including world views (Aerts et al., 1994; Fletcher, n.d; Heylighen, 2000), world assumptions (Janoff-Bulman, 1985), and world beliefs (Leffel, 1994), a cohesive taxonomy of world beliefs has previously been missing. The present research posits that a broad concept of world beliefs may prove useful in the prediction of psychological, physical, and social well-being.

Taking a broad approach to world views/beliefs, Aerts et al. (1994) from the Center Leo Apostel at the Vrije Universiteit Brussel, formed a multinational think-tank of critical thinkers from the disciplines of philosophy, sociology, physics, engineering, theology, psychiatry, and psychotherapy, to develop an integrated framework of world beliefs. A world view (or world beliefs) was defined as "a coherent collection of concepts and theorems that … allow us to

construct a global image of this world, and in this way to understand as many of our experiences as possible" (Aerts et al., 1994, p. 8). Taking a philosophical approach, this group contended that the components of a world view must address: the nature of the world, reasons for the world being the way it is; reasons for reality being experienced that way that it is by humans, and the role of humans in the world; how humans should participate in their world; possible futures for humans; and the way in which a framework could be developed that explains the nature of the world, why it is the way it is, and why human existence is exhibited in its current form (Aerts et al., 1994). Translating this philosophical conceptualisation of world beliefs into everyday terminology, in which world beliefs are conceptualised as consisting of the degree to which individuals perceive the world to be safe, just, controllable, predictable, supportive, and meaningful, enables the assessment of important world beliefs. It also allows for the assessment of Beck's (1976) contention that world beliefs are associated with important aspects of psychological well-being. In the present study, this will be accomplished via (1) the proposed development of the World Beliefs Inventory (WBI), and (2) testing the concurrent validity of the WBI through its structural relationships with scales that assess psychological adjustment (the Centre for Epidemiological Studies – Depression Scale (CES-DS) (Radloff, 1977); the General Health Questionnaire – 12 (GHQ-12) (Goldberg, 1972)) and self-esteem (the Self-Esteem Scale (Rosenberg, 1965)).

9.2 Method

9.2.1 Participants

Residential addresses of prospective respondents in Study 1 were randomly selected from lists of residential addresses provided by the Rockhampton, Gladstone, and Livingstone Shire Councils.

Table 1

Demographic Data of Participants in Study 1

Demographic variable		%	*n*
Age	18-24 years	12.9	53
	25-44 years	42.2	173
	45-64 years	34.1	140
	65 years and over	9.8	40
	Missing	1.0	4
Gender	Males	33.4	137
	Females	66.1	271
	Missing	0.5	2
Education	Primary school	3.2	13
	1 or 2 years of secondary school	6.6	27
	3 or 4 years of secondary school	13.7	56
	5 or 6 years of secondary school	14.4	59
	Technical/trade	17.3	71
	Tertiary	44.4	182
	Missing	0.5	2
Marital status	Single	22.0	90
	Married	51.5	211
	De facto	10.5	43
	Separated	2.7	11
	Divorced	9.8	40
	Widowed	3.4	14
	Missing	0.2	1
Income	Less than $10,000 per year	18.3	75
	$10,001 to $20,000 per year	21.2	87
	$20,001 to $30,000 per year	14.6	60
	$30,001 to $40,000 per year	13.9	57
	$40,001 to $50,000 per year	12.9	53
	$50,001 to $60,000 per year	6.3	26
	More than $60,000 per year	11.5	47
	Missing	1.2	5
Occupation	Employer of more than 10; executive in an organisation greater than 100; senior public servant	2.0	8
	Professional (with degree, diploma, or society)	29.8	122
	Small business employer or self-employed; non-executive administrator in large company; middle level public servant	14.9	61
	Clerical; low level administration; low salary skilled white-collar worker	7.8	32
	Skilled blue-collar worker with apprenticeship or similar training	8.5	35
	Unskilled or semiskilled worker (e.g., driver, labourer, shop assistant; typist but not secretary)	12.4	51
	Unemployed; pensioner; student; home duties	19.3	79
	Missing	5.4	22

A total of 410 questionnaires (13.7%) were returned out of the 3,000 questionnaires distributed to Central Queensland residences. Of the 410 respondents, 137 (33.4%) were males and 271 (66.1%) were females, with gender information missing for 2 participants (0.5%). Table 1 presents the age group, education level attained, marital status, income level, and occupational category of the participants (See Appendix A).

As shown in Table 1, the majority of participants (173 or 42.2%) were between the ages of 25 and 44 years. This is consistent with ABS (2001) statistics which indicated that approximately 40.2% of Central Queensland residents (or those residing in the Fitzroy Statistical Division) who were at least 18 years of age, were between the ages of 25 and 44 years. There were more females (N = 271; 66.1%) than males (N = 137; 33.4%) in the sample. ABS (2001) statistics indicated that approximately 50.66% of Central Queensland residents aged 18 years or over were males and 49.34% females. Thus, males were under-represented in this sample. With regard to educational level, the majority of participants reported achieving tertiary level (N = 182; 44.4%). While direct comparison to ABS statistics is not possible due to ABS data being collected for those at least 15 years of age (and the current study being inclusive of those at least 18 years of age), the ABS (2001) statistics indicated that 28.69% of Central Queensland residents had completed further education (postgraduate degree, graduate diploma/graduate certificate, bachelor degree, associate diploma/diploma, or certificate). The majority of participants were married (N = 211; 51.5%). ABS (2001) statistics for those 15 years of age and older in Central Queensland were comparable, indicating that 53.28% were married. In terms of income level, the majority of the participants (N = 87; 21.2%) reported annual

income in the $10,001 to $20,000 range. ABS (2001) statistics similarly indicated that 22.48% of Central Queensland residents aged 15 years and older had an income between $160 and $299 per week. In terms of occupational status, the majority of participants (N = 122; 29.8%) reported that they were in the professional category. By comparison, ABS statistics indicated that 13.35% of residents of Central Queensland aged 15 years and over were in the professional category (with an additional 11.10% reporting being in the associate professional category). This suggests that professionals may be over-represented in the current sample. As this sample cannot be said to be truly representative of the population from which it was drawn, care should be taken when extrapolating the study's findings to the general population.

9.2.2 Materials

This study employed a questionnaire comprising of five sections (See Appendix B). Section 1 requested that participants provide demographic information regarding their age, gender, education level, marital status, income level, and occupation.

Section 2 consisted of the World Beliefs Inventory (WBI) written to tap into beliefs individuals hold regarding the nature of the world. The items written to represent the WBI were written in accordance with Aerts et al.'s (1994) identification of issues that need to be addressed by a world view/world beliefs framework, as well as reflecting pertinent knowledge provided in the small amount of literature available regarding world beliefs (views, or assumptions). Tempered by the necessity to translate Aerts et al.'s philosophical ideas into everyday terminology in order to operationalise the world beliefs construct for use in the general population, 30 items were written to reflect the degree to

which individuals perceive the world to be safe, just, controllable, predictable, supportive, and meaningful (with 5 items written to represent each perception).

Belief in a safe world is the belief that the world provides a safe or benevolent environment. This belief reflects the fact that psychologically normal individuals underestimate their vulnerability to threats from the environment (Weinstein, 1989). Belief in a safe world is challenged by experiencing traumatic events. Experiencing trauma makes untenable positive perceptions regarding the nature of the world such as the belief in a safe world, and necessitates reformulation of one's mental model of the world (Luminet et al., 2000; Pennebaker, 1993). Achieving congruence between experience and perception can therefore be expected to come at the cost of a decreased belief in a safe world, and acknowledgment of the fact that one is vulnerable to what can be a threatening and hostile environment. The following five items were written to reflect this 'belief in a safe world':

- The world is a threatening place.
- The world is a protective place.
- The world is an unsafe place.
- The world is a safe place.
- The world is a harmless place.

Belief in a just world (BJW) reflects the just world hypothesis (Lerner, 1965), which is the belief that people get what they deserve and deserve what they get. Belief in a just world provides individuals with the perception that the environment is orderly and stable, and that hard work and morality are rewarded, while lack of effort and immorality are punished (Bollmer, 1998; Carmona et al.,

1998; Heider, 1958). While BJW was identified long ago (Heider, 1958; Lerner, 1965; Lerner & Simmons, 1966), its significant associations with aspects of well-being, including stress, depression, life satisfaction, negative affect, positive affect, and use of adaptive coping strategies, have only been identified more recently (Lipkus et al., 1996). Belief in a just world is congruent with Leffel's (1994) contention that world beliefs consist of beliefs regarding reality and values. It also fits with the guidelines of Aerts et al. (1994), which include the need for a framework of world beliefs to address the nature of the world, reasons for the world being the way it is, how humans should participate in their world, and possible futures for humans. It appears that in order to achieve a sense of congruence between beliefs and events that occur in the worldly environment, individuals are willing to ignore some of the obvious injustices that exist in the world. The following five items were written to reflect this 'belief in a just world':

- The world is a biased place.
- The world is an unjust place.
- The world is a just place.
- The world is a place in which people get what they deserve.
- The world is a fair place.

Belief in a controllable world is the belief that the environment is controllable. This belief is congruent with Aerts et al.'s (1994) proposition that issues that need to be addressed by a world view include the nature of the world, reasons for the world being the way it is, reasons for reality being experienced the way that it is by humans, how humans should participate in their world, and

possible futures. While humans have an inherent need to control and manipulate their environment (Adler, 1956; Antonovsky, 1987; Rothbaum et al., 1982; Walster, 1966; White, 1959), belief in a controllable world relates to the corresponding nature of the world or environment (i.e., the extent to which the world can be controlled) rather than to the individual's perception of their ability to control their world. As belief in a controllable world represents the 'flipside' of perceptions of personal control, variables identified as being significantly associated with perceptions of personal control are also likely to be associated with belief in a controllable world. Such an extrapolation results in the proposition that beliefs in a controllable world could also be associated with mental functioning and well-being (Bandura, 1989; Langer, 1983; Neal, 1998; Rosenfeld, 1997), psychotherapy (Anderson et al., 1994; Beck, 1976; Seligman, 1990; Taylor & Brown, 1988), mortality, morbidity (Rodin & Langer, 1977), depression (Seligman, 1975, 1990, 1995), stress anxiety, substance abuse (Bandura, 1989), eating disorders (Shapiro et al., 1994), and active and passive coping (Brown et al., 1989). The following five items were written to reflect this 'belief in a controllable world':

- The world is an uncontrollable place.
- The world is a manageable place.
- The world is a chaotic place.
- The world is a controllable place.
- The world is a dependable place.

Belief in a predictable world is the belief that the world operates in a manner that can be foreseen. Such a belief is based on the assumption that

distinct cause-effort relationships exist, providing certainty between past and future. This belief is in line with Aerts et al.'s (1994) argument that aspects of a world view should address the nature of the world, reasons for reality being the way it is, and possible futures for humans. Belief in a predictable world contributes to our understanding of our experiences in the world, in that it allows a sense of congruence and integration. Experiencing trauma appears to challenge an individual's positive perceptions regarding the world, such as the belief that the world operates in a predictable manner (Luminet et al., 2000; Pennebaker, 1993). Stress results from incongruence between experience and beliefs, with adjustment to beliefs required in order for a sense of cohesion/integration to be regained. The following five items were written to reflect this 'belief in a predictable world':

- The world is a place of certainty.
- The world is a predictable place.
- The world is an uncertain place.
- The world is an orderly place.
- The world is an unpredictable place.

Belief in a supportive world is the belief that the world provides humans with a supportive environment. This belief is congruent with Aerts et al.'s (1994) assertion that world beliefs should include beliefs regarding the nature of the world and reasons for reality being experienced the way that it is by humans. An important component of belief in a supportive world is belief in the support of other humans. Humans have an inherent need to experience a sense of connection to and support from others in their environment (Adler, 1956;

Bowlby, 1988; Deci & Ryan, 1991; Ryan, 1995; Vallerand & Ratelle, 2002). When an individual's belief in a supportive world is challenge by adverse events occurring in the environment, individuals experience interpersonal sensitivity, which means that they feel inadequate and inferior, and have negative expectations regarding interactions with others. The following five items were written to reflect this 'belief in a supportive world':

- The world is an unsupportive place.
- The world is a responsive place.
- The world is not an accommodating place.
- The world is a cooperative place.
- The world is a supportive place.

Belief in a meaningful world is the belief that the world operates in a manner that has meaning. This belief is in opposition to the proposition that the world operates in a chaotic fashion, having neither rhyme nor reason. Belief in a meaningful world reflects the human need to interpret experience in a way that provides an integrated, authentic, and congruent sense of reality/existence in the world. This belief is consistent with Aerts et al.'s (1994) contention that a world view should address reasons for reality being experienced the way that it is, and reasons for human existence being experienced in its current form. The following five items were written to reflect this 'belief in a meaningful world':

- The world is an understandable place.
- The world is a meaningful place.
- The world is a purposeful place.
- The world is a meaningless place.

- The world is an incomprehensible place.

Respondents were asked to indicate the extent of their disagreement or agreement with each item by rating the item on a 6-point Likert scale ranging from 1 = strongly disagree, 2 = moderately disagree, 3 = barely disagree, 4 = barely agree, 5 = moderately agree, to 6 = strongly agree. Of the 30 items, 12 were reverse scored (items 2, 3, 6, 8, 11, 12, 13, 15, 18, 21, 26, and 27), with high scores indicating favourable perceptions regarding the nature of the world.

Section 3 consisted of the 20-item Centre for Epidemiological Studies - Depression Scale (CES-DS) (Radloff, 1977), which measures the frequency of depressive symptoms experienced during the previous week (range of 0 = rarely or none of the time [less than 1 day] up to 3 = most or all of the time [5 to 7 days]). Higher scores indicated greater frequency of depressive symptoms. The following is a sample item from the CES-DS: "I felt that I was not as good as other people." The CES-DS has high reliability, ranging from .85 in the general population to .90 for a clinical sample. It has also been found to have moderate test-retest reliability for periods of 2 to 8 weeks (Radloff, 1977). Good concurrent validity has been shown between the CES-DS and the Hamilton Clinician's Rating Scale (r = .69, after a month of inpatient treatment) and the Raskin Rating Scale (r = .75, after one month of treatment as an inpatient) (Radloff, 1977). Construct validity has been shown by its association with negative life events. A similar factor structure has been identified for this scale when used with a range of samples, including males and females, blacks and whites, and Americans from different age and socioeconomic groups (Radloff, 1977).

Section 4 consisted of the General Health Questionnaire – 12 (GHQ – 12), which is a derivative of Goldberg's (1972) earlier and larger scale. It consists of a 12-item self-report questionnaire that measures psychological adjustment in terms of symptoms experienced during the past few weeks in relation to everyday activities (Oulum Yliopisto, 2003). The GHQ-12 has been used to screen for psychological disorder including anxiety, depression (Render, Moran, Patel, Knapp, & Mann, 2002), hypochondriasis, social impairment (Center for Generontology and Health Care Research, 2004), eating disorders, somatoform disorders, and alcohol abuse (Cano, Sprafkin, Scaturo, Lantinga, Fiese, & Brandt, 2001). Cano et al. (2001) reported inter-item reliabilities of .90 for the GHQ-12 in a clinical sample. Items are scored on a 4-point scale, ranging from 1 = more so than usual, to 4 = much less than usual. Of the 12 items, 5 are to be reverse-scored. Possible scores range from 12 to 48, with high scores indicating high psychological adjustment. The following is a sample item from the GHQ-12: "Have you been able to concentrate on your work?" Scores on the GHQ-12 have been shown to correlate at .87 with scores on the Symptom Checklist – 10 (Nguyen, Attkisson, & Stegner, 1983), which assesses global psychological distress, and at .59 with scores on the Primary Care Evaluation for Mental Disorders Questionnaire (Spitzer et al., 1994), which assesses the existence of 15 somatic symptoms and 10 psychological symptoms possibly experienced in the previous month (with clusters of symptoms also assessed).

Section 5 consisted of the 10-item Self-Esteem Scale (Rosenberg, 1965) which was designed to assess global self-esteem, a relatively stable characteristic (Buckworth & Dishman, 2002). Respondents are requested to indicate on a Likert scale (ranging from 1 = Strongly agree, 2 = Agree, 3 = Disagree, to 4 =

Strongly disagree) their level of agreement/disagreement with statements regarding self-esteem. The following item is a sample item from the Rosenberg (1965) Self-Esteem Scale: "I feel that I have a number of good qualities." Five of the 10 items are to be reverse-scored (items 1, 2, 4, 6, and 7), with high scores indicating high levels of self-esteem. Possible scores range from 10 to 40. This scale has shown evidence of good validity and reliability (Center for HIV Identification, Prevention, and Treatment Services, 2005; Mental Health Statistics Improvement Program, 2005; The European Monitoring Centre for Drugs and Drug Addiction, 2005) in studies performed with a wide range of samples, including males, females, adolescents, adults, and the elderly (European Monitoring Centre for Drugs and Drug Addiction, 2005).

9.2.3 Procedure

Questionnaires were distributed by mail to prospective participants in Central Queensland in November, 2005. Each questionnaire had attached to it an information sheet and a consent form, and was accompanied by two addressed, postage-paid envelopes. The information sheet informed the participants that the purpose of the study was to examine well-being in adulthood, with the information gathered to be utilised for research purposes only. It also stated that participants had to be at least 18 years of age to be eligible to participate, and that they could withdraw from the study at any time. Anonymity and confidentiality were assured. Contact details were provided for the researcher and the researcher's supervisor to cover the likelihood that some individuals would seek further information regarding the study. The contact details of Anglicare, Centacare, and Lifeline were provided as sources of assistance for participants who may experience negative sequelae from filling in the study's questionnaire

and who may require counselling. Instructions were provided to prospective participants to place the consent form (and the tear off section of the information sheet for those who wished to receive a summary of the study's results) in one envelope, and to place the questionnaire in the remaining envelope, for posting back to the researcher.

CHAPTER 10: STUDY 1 - RESULTS

10.1 Introduction

The development of the World Beliefs Inventory (WBI) was based on a translation into everyday terms of a philosophical conceptualisation of world beliefs (Aerts et al., 1994). Thirty items were written to tap the extent to which individuals perceive the world to be safe, supportive, meaningful, controllable, predictable, and just.

10.2 Pilot Study

A pilot study was conducted between 22 August 2005 and 19 September 2005, to check the readability and clarity of the 30 items written to tap world beliefs. A total of 200 questionnaires containing these 30 items were distributed to a convenience sample of residents of Central Queensland, of which 86 (43%) completed questionnaires were returned. Content analysis of the responses suggested two minor changes to the wording of two scale items. After these changes were effected, Study 1 proceeded.

10.3 Exploratory Factor Analysis (EFA) of the World Beliefs Inventory

Of the original 410 respondents recruited for this study, half (N = 205; male = 70, female = 135) were randomly selected for the exploratory factor analysis stage of the study.

Missing data. Inspection of the data set revealed a small number of missing data. The Missing Variable Analysis program within SPSS was

employed to impute replacement values for these missing data under the expectation-maximisation method. The imputation method of expectation-maximisation (EM) replaces by proxy any missing data with an 'expectation' regarding what the missing value should be (SPSS, 1999). The EM procedure estimates a distribution for partially missing data, upon which deductions of likelihood are founded. This is performed in a two-step process: the expectation stage (E) and the maximisation (M) step. Firstly, within the expectation stage, the procedure approximates the missing value based on the observed values and current estimates of the parameters. The missing values are replaced with these approximations, or expectations. Secondly, the maximisation step involves the computation of the maximum likelihood estimates of the parameters as if the missing values had been included. The EM technique presumes that the data follows a normal distribution and accounts for all missing values, while conserving the original sample size.

Principal components analysis (SPSS Inc., Version 13.0) was employed to identify the factor structure of the 30-item scale written to tap world beliefs (See Appendix C). Bartlett's Test of Sphericity was highly significant, χ^2 (df = 435) = 2769.96, $p < .001$, indicating that the correlation matrix contained significant correlations between variables.

Principal components analysis initially extracted six factors with eigen-values greater than 1.00. As show in Table 2, factor 1 accounted for 32.77% of the scale's variance; factor 2 accounted for 7.74% of the variance; factor 3 accounted for 6.67% of the variance; factor 4 accounted for 4.94% of the variance; factor 5 accounted for 3.89% of the variance; and factor 6 accounted

for 3.37% of the variance. These six factors cumulatively accounted for 59.38% of total variance (See Appendix C).

Table 2

Eigen-values and Percentage of Variance Accounted for by Six Extracted Factors

Factor	Eigenvalue	% of variance	Cumulative %
1	9.83	32.77	32.77
2	2.32	7.74	40.51
3	2.00	6.67	47.18
4	1.48	4.94	52.12
5	1.17	3.89	56.01
6	1.01	3.37	59.38

An examination of the scree plot and consideration of the meaningfulness of the factors (a number of which contained substantial item cross-correlations), however, suggest a two-factor solution. As such, principal components analysis with oblique rotation specifying the extraction of two factors was conducted. Oblique rotation converged in 12 iterations, yielding a two-factor structure comprising of 23 items with "significant" factor loadings (i.e., factor loadings greater than .40). Factor 1 accounted for 32.77% of the scale's variance, while factor 2 accounted for 7.74% of the total variance. These two factors cumulatively accounted for 40.51% of total variance (See Appendix C). While these two factors were conceptually meaningful, (with the first factor reflecting a positive view of a cohesive, benevolent world, and the second factor presenting a mirror but negative image of the first factor, or a negative view of a threatening, uncertain world), two items that loaded onto the second factor did not make conceptual sense. These two items were "The world is a safe place" (wb24), and "The world is a harmless place" (wb30). These two items were therefore

removed from subsequent analyses in order to improve the conceptual clarity of the second factor.

10.4 Reliability Analysis

The 21 items representing the two extracted world belief factors were subjected to reliability analyses in order to maximise the internal consistency of the items representing each factor (See Appendix D). Table 3 presents the two extracted factors, with the factor loadings and item-total correlations for the 21 items retained to represent the WBI.

Table 3

Factor Loadings and Item-Total Correlations for the World Beliefs Inventory

Factor	Factor loading	Item-total correlation
Positive world beliefs		
Wb9: The world is a purposeful place.	.80	. 59
Wb22: The world is a supportive place.	.77	.71
Wb20: The world is a cooperative place.	.74	.72
Wb5: The world is a meaningful place.	.74	.55
Wb7: The world is a responsive place.	.73	.51
Wb16: The world is a protective place.	.71	.70
Wb25: The world is a dependable place.	.60	.64
Wb17: The world is an orderly place.	.55	.59
Wb14: The world is a manageable place.	.54	.58
Wb19: The world is a just place.	.53	.51
Wb28: The world is a fair place.	.53	.59
Cronbach's Alpha Coefficient = .89		
Negative world beliefs		
Wb12: The world is an uncertain place.	.74	.61
Wb26: The world is an unpredictable place.	.74	.50
Wb2: The world is a threatening place.	.72	.57
Wb21: The world is an unsafe place.	.69	.65
Wb8: The world is an uncontrollable place.	.68	.57
Wb27: The world is a chaotic place.	.64	.61
Wb6: The world is a biased place.	.60	.56
Wb15: The world is an unjust place.	.56	.64
Wb18: The world is an incomprehensible place.	.48	.48
Wb13: The world is not an accommodating place.	.44	.50
Cronbach's Alpha Coefficient = .86		

As shown in Table 3, both the Positive World Beliefs and the Negative World Beliefs factors evidenced good internal reliability (Alpha coefficients = .89 and .86 respectively). In order to further maximise the internal consistency of the two factors, the items representing each factor were item analysed. The following procedures were employed to retain/delete items from the factors. First, an item was removed if its deletion resulted in a substantial increase in Cronbach's alpha. Second, an item was deleted if its I-T correlation was less than .33 (i.e., less than 10% of a factor's variance was accounted for by that item). Based on these two criteria, all 21 items were retained to represent the two World Beliefs factors.

10.5 Confirmatory Factor Analysis of the World Beliefs Inventory

Confirmatory factor analysis (CFA) was conducted to confirm the two-factor structure of the WBI identified via exploratory factor analysis. This was conducted on data from the remaining 205 Study 1 respondents (N = 205; male = 67, female = 136, gender details missing for 2 participants). The specific purpose of CFA was to test the goodness-of-fit of the derived factor structure, and in particular, the reliability of the factor loadings of the measurement items. The first step of structural equation modelling (SEM) is utilised to perform CFA. This step involves analysis of a *measurement model* representing the factor structure identified in the EFA. According to Ho (2006), the measurement model "specifies the rules governing how the latent variables are measured in terms of the observed variables, and it describes the measurement properties of the observed variables" (p. 155). The measurement model additionally assesses the reliability of the indicator items selected to represent the latent constructs. This

technique enables the assessment of a priori factors utilising fit indices and provides confirmation of item loadings on latent factors (Kline, 1998). Identifying a measurement model as providing a poor *fit* to the data shows that some measurement items are unreliable, and precludes the researcher from advancing to analysis of the structural model (Ho, 2006). The statistical program AMOS 5.0 (Arbuckle, 2003) was utilised to test the adequacy of the two-factor world beliefs model identified through the CFA.

10.5.1 Goodness-of-fit indices

In order to assess the fit of a hypothesised model to the data set, CFA via SEM produces a covariance matrix indicating the strength of the relationships between the model's measurement variables. Goodness-of-fit indices including absolute fit measures, incremental fit measures, and parsimonious fit measures indicate the fit of the posited model (Tabachnick & Fidell, 2001).

Absolute fit measures (AFMs) identify the extent to which the posited model predicts or fits the covariance matrix. Some of the measures of absolute fit that are regularly utilised include the Chi-square statistic (χ^2), the Goodness-of-Fit Index (GFI), and the Root Mean Square Error of Approximation (RMSEA; Browne & Cudeck, 1993). The sole fit index that currently provides a statistical criterion by which a model's fit can be judged is the Chi-square statistic. Researchers generally seek to obtain a high Chi-square value indicating that the difference between *expected* and *observed* is significant, which then allows for the null hypothesis of *no difference* to be rejected (i.e., $p < .05$). A different outcome is sought in SEM, however, as the researcher aims to identify smaller non-significant Chi-square values which allow for the null hypothesis of no difference to be accepted. In SEM, a non-significant Chi-square value is

indicative of a *good fit* between expected (or hypothesised) covariances in the proposed model and the covariances observed in the data. Large sample sizes, however, influence the Chi-square statistic, with values increasing as sample sizes increase. Consequently, the use of a sufficiently large sample will result in the rejection of any reasonable model when fit is assessed utilising the Chi-square statistic. This limitation has been addressed through the development of additional goodness-of-fit indices which can be used in conjunction with the Chi-square statistic to assess the fit of a model to a data set (Byrne, 2001; Tabachnick & Fidell, 2001).

The *Goodness-of-Fit Index* (GFI) represents the extent of model fit in comparison to no model at all, with values ranging from 0 (indicating a poor fit) to 1 (indicating a perfect fit). While higher GFI values are indicative of a better fit, no absolute threshold of an acceptable level has yet been specified (Hair, Anderson, Tatham, & Black, 1998).

The *Root Mean Square Error of Approximation* (RMSEA) takes into account the error of approximation within the population and assesses the discrepancy per degree of freedom. Byrne (2001) asserts that the RMSEA is considered to be "one of the most informative criteria in covariance structure modelling" (p. 84). While RMSEA values up to .08 are considered to indicate an adequate fit, values less than .05 indicate a good fit (Browne & Cudeck, 1993; Ho, 2006).

Incremental fit measures, which include the Comparative Fit Index (CFI), the Tucker-Lewis Index (TLI), the Incremental Fit Index (IFI), the Relative Fit Index (RFI), and the Normed Fit Index (NFI), provide a means of comparing the posited model to an independence or null model in which all measurement

variables are assumed to be uncorrelated (Tabachnick & Fidell, 2001). Possible values of these indices range from 0 to 1, where a value of 0 indicates that the fit of the hypothesised model is no better than the null model, and a value of 1 indicates a perfect fit (i.e., 100% improvement over the null model) (Ho, 2006). A value of .90 for incremental fit indices has been suggested as a standard indicating an acceptably good fit of the model to the data set (Bentler, 1990). Thus, with incremental fit indices of .90, the only possible improvement in the fit for the hypothesised model is approximately 10%.

Parsimonious fit measures (PFMs) relate to model parsimony and take into account the complexity of the structural model (that is, the number of parameters estimated) in the evaluation of model fit (Byrne, 2001). Parsimonious fit measures assess whether model fit has been achieved through 'overfitting' with excessive coefficients, and are used in model comparisons (Ho, 2006). The Parsimonious Normed Fit Index (PNFI) and the Akaike Information Criterion (AIC) are two of the PFMs.

The Parsimonious Normed Fit Index (PNFI), a variation of the NFI, considers the degree of freedom employed to achieve the level of fit. Parsimony involves attaining "higher degrees of fit per degree of freedom used" (Hair et al., 1998, p. 658). The primary purpose of the PNFI is to enable the comparison of models with different degrees of freedom. Higher PNFI values are sought. While no threshold of an acceptable PNFI value has been determined for use in the comparison of models, differences between .06 and .09 tend to be accepted as indicating the existence of substantial differences between models (Williams & Holahan, 1994).

Two types of models, non-nested and nested, can be compared. Non-nested models differ in conceptual design, tending to utilise varying latent constructs. Nested models, on the other hand, are characterised by the use of models in which the structure is identical but the parameters of one model are a subset of another model (Bentler & Chou, 1987; Bollen, 1989; Widaman & Thompson, 2003). While the *Akaike Information Criterion* (AIC) tends to be employed to evaluate and compare non-nested models, the Chi-square difference test tends to be used to identify the better fitting model among a set of nested models (Bollen & Stine, 1992; Byrne, 2001; Widaman & Thompson, 2003).

10.5.2 Multi-model analysis: (i) Two factors (positive and negative world beliefs); (ii) One factor (World Beliefs Inventory); and (iii) One factor (World Beliefs Inventory) with correlated errors among negatively worded items

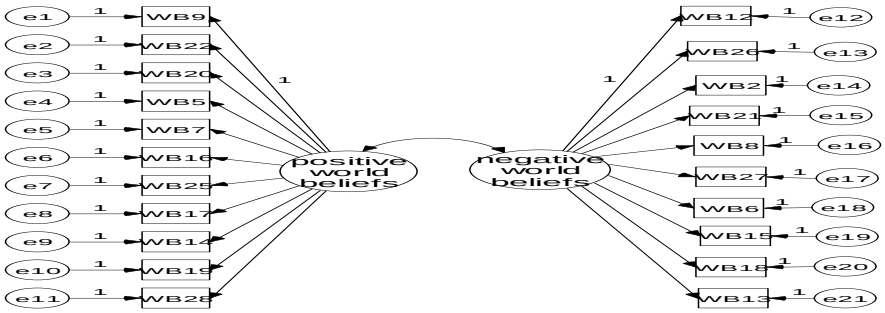
For this stage of the study, a series of CFA models were considered. First, based on the two-factor structure (positive world beliefs; negative world beliefs) identified through exploratory factor analysis, a two-factor model representing these two world belief factors (Model 1) was posited. For this model, all factor loadings were freed, items were allowed to load on one factor only, and the two factors were allowed to correlate.

Second, results obtained from exploratory factor analysis clearly indicated that the positive world beliefs factor accounted for the majority of the variance explained (32.77%), suggesting that a single dominant factor may underlie the World Beliefs Inventory. Based on this suggestion, a single-factor model (Model 2) comprising all 21 measurement items was posited. All factor loadings for the 21 positively and negatively worded items were freed.

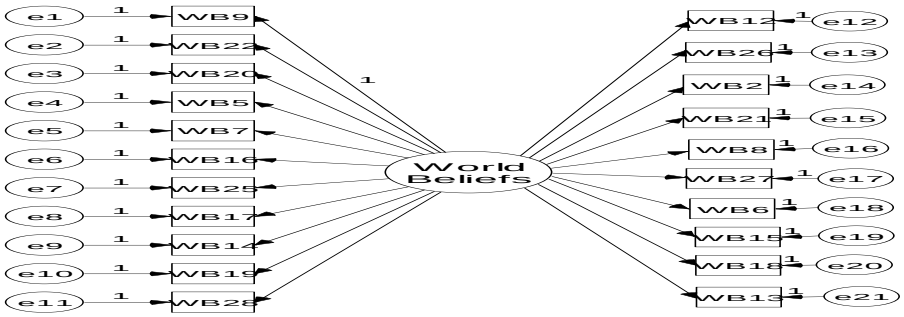
Third, there has been some controversy regarding the meaningfulness of participants' responses to scales containing positively and negatively worded items (Forsterlee & Ho, 1999). While measurement experts such as Pedhazur and Schmelkin (1991), and Spector (1992) have articulated the need for scales to contain both positively and negatively worded items in order to decrease response bias (e.g., acquiescence), evidence exists suggesting that some participants (especially younger participants) experience difficulty in providing appropriate responses to negatively worded items (Forsterlee & Ho, 1999; Marsh, 1986). For example, in a study of responses by preadolescent students, Marsh (1986) demonstrated that students who consistently responded "true" to positively worded items will sometimes give apparently inappropriate "true" responses to negatively worded items as well. Forsterlee and Ho (1999) contend that such inappropriate responses to negatively worded items constitute a "method artefact and may be responsible for the appearance of separate factors associated with positively and negatively worded items in the initial exploratory analysis" (p. 475). They further argued that this negative-item method effect may be responsible for some systematic residual covariances among responses to the negatively worded items that cannot be explained by the latent negative factor (Forsterlee & Ho, 1999). In order to assess whether the identification of a two-factor structure to represent world beliefs is due to a negative item effect, a single-factor model with correlated errors between the negatively worded items of the WBI (Model 3) was also posited. The use of correlated errors to represent a negative-item method effect is congruent with the correlated error model that has been commonly utilised in the multitrait-multimethod research (Marsh, 1986;

Marsh & Grayson, 1995). Figure 2 presents the three competing models to be assessed.

Model 1



Model 2



Model 3

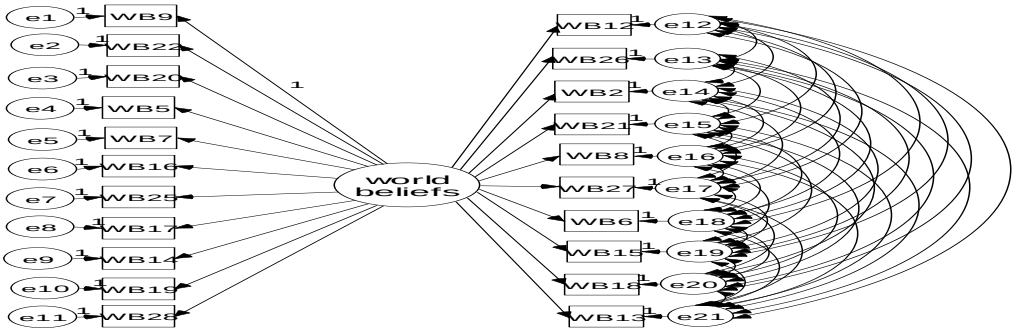


Figure 2. Model 1 = two factors, positive and negative world belief items; Model 2 = one factor, World Beliefs Inventory; Model 3 = one factor, World Beliefs Inventory, with correlated errors among negatively worded items.

The purpose of this phase of the study was to evaluate the three posited models of world beliefs (See Figure 2). Direct comparison of these three posited models was possible as all three models are nested. The overall fit of the three models was assessed in separate analyses, and the results are presented in Table 4.

Table 4

Fit Statistics for the Three Models

				Fit statistic					
Model/model Comparison	Chi-square $N = 205$	*df*	*p*	NFI	CFI	IFI	TLI	AIC	RMSEA
Null model	1672.69	210	< .001	.00	.00	.00	.00	1714.69	.19
Model 1	455.54	188	< .001	.73	.82	.82	.80	541.54	.08
Model 2	584.36	189	< .001	.65	.73	.73	.70	668.36	.10
Model 3	327.66	144	< .001	.80	.87	.88	.82	501.66	.08
Model comparisons									
1 versus 2	128.82	1	< .001	.08	.09	.09	.10	126.82	.02
1 versus 3	127.88	44	< .001	.07	.05	.06	.02	39.88	.00
2 versus 3	256.70	45	< .001	.15	.14	.15	.12	166.70	.02

Note. Entries under model comparisons are differences. NFI = Normed Fit Index, CFI = Comparative Fit Index, IFI = Incremental Fit Index, TLI = Tucker Lewis Index, AIC = Akaike Information Criterion, and RMSEA = Root Mean Square Error of Approximation.
Model 1 = two factors, positive and negative world belief items; Model 2 = one factor, World Beliefs Inventory; Model 3 = one factor World Beliefs Inventory, with correlated errors among negatively worded items.

Consistent with the exploratory factor analysis in which two factors were identified, the two-factor model, comprising the positively and negatively worded world belief items (Model 1) represented a better fit to the data than the single factor model (Model 2). However, Model 3, which comprises a single factor with correlated errors among the negatively worded items, was found to provide a significantly better fit to the data than the other two models (See Appendix E). This finding is consistent with the contention that a weak second

factor constituted by negatively worded items can be due to a negative-item method effect. This finding of substantial correlated errors among negatively worded items supports the conclusion that the world belief items reflect one substantially meaningful construct and substantively irrelevant method effects.

For Model 3, although the Chi-square goodness-of-fit test indicated that this single factor (with correlated errors among the negatively worded items) did not fit the data well, χ^2 ($N = 205$, $df = 144$) = 327.66, $p < .001$ (See Appendix E), the incremental fit indices of NFI, CFI, IFI, and the TLI ranged from .80 to .88, suggesting that this model represented a reasonably good fit to the data set. Possible improvement to the fit of this model ranged from 12% to 20%.

Maximum likelihood estimates indicated that all the measurement items' standardised regression weights are in the predicted direction and are significant by the Critical Ratio test ($p < .05$). The regression weights ranged from .27 to .75. The standardised residual and explained variances for the 21 measurement items, together with their standardised regression weights are presented in Table 5. The explained variances for the 21 measurement items ranged from 7% (wb6) to 56% (wb25). Residual variances, calculated as '1 subtract explained variance' ($1 – R^2$) were found to vary from 44% up to 91%. This shows that there are considerable residual variances in the measurement items that are not explained by this single factor correlated-errors model.

Table 5

Standardised Regression Weights, Explained and Residual Variances for the Single Factor Correlated Errors World Beliefs Model

Item	Standardised regression weight	Explained variance	Residual variance
Wb28	.69	.48	.52
Wb19	.59	.35	.65
Wb14	.43	.18	.82
Wb17	.68	.46	.54
Wb25	.75	.56	.44
Wb16	.62	.39	.61
Wb7	.52	.27	.73
Wb5	.56	.32	.68
Wb20	.69	.48	.52
Wb22	.71	.51	.49
Wb9	.63	.39	.61
Wb12	.43	.18	.82
Wb26	.33	.11	.89
Wb2	.30	.09	.91
Wb21	.44	.19	.81
Wb8	.32	.10	.90
Wb6	.27	.07	.93
Wb15	.43	.18	.82
Wb18	.37	.14	.86
Wb13	.54	.29	.71
Wb27	.31	.10	.90

10.6 Reliabilities of the CES-DS (Radloff, 1977), the GHQ-12 (Goldberg, 1972), and the RSE (Rosenberg, 1965)

Before assessing the concurrent validity of the WBI with the CES-DS (Radloff, 1977), the GHQ-12 (Goldberg, 1972), and the RSE scale (Rosenberg, 1965), it was necessary to assess whether these scales reliably measure the relevant constructs they were designed to represent. Cronbach's alphas for the CES-DS measuring depression, the GHQ-12 measuring general psychological health, and the RSE scale measuring self-esteem were .94, .85, and .89 respectively. These results indicate that these three scales are highly internally

consistent and reliably measure the constructs they are purported to represent (See Appendix F).

10.7 Item Parcelling - the WBI, the CES-DS (Radloff, 1977), the GHQ-12 (Goldberg, 1972), and the RSE (Rosenberg, 1965)

A major advantage of using multiple indicators in SEM is that they afford the study of relations among latent variables. The minimum number of indicators for a construct is one, and apart from the theoretical basis that should be used to select variables as indicators of a construct, there is no upper limit in terms of the number of indicators. As pointed out by Bentler (1980), however, in practice, too many indicators make it difficult if not impossible to fit a model to data. As a practical matter, three is the preferred minimum number of indicators, and in most cases, five to seven indicators should represent most constructs (Hair et al., 1998).

An alternative to representing latent variables with individual indicator variables is to create item parcels that sum scores on groups of items, thereby reducing the number of measurement variables for each latent construct (Ho, 2006). Parcel scores are then used to represent the latent variable in subsequent analyses (Ho, 2006). This technique involves summing responses to individual items and then using scores on these summed parcels in the latent variable analysis. For example, on the basis of a reliability analysis of the 11 items representing the latent factor of positive world beliefs, the items were divided into three parcels, and the items in each parcel were then summed to form three measured variables to operationalise the latent construct. Adapting the procedure

described by Russell, Kahn, Spoth, and Altmaier (1998), the development of these item parcels involved the following steps:

1. A reliability analysis on the 11 items assessing positive world beliefs was conducted.
2. The items were rank-ordered on the basis of their corrected item-total (I-T) correlation coefficients.
3. Items were assigned to parcels in a way that equated the average I-T coefficient of each parcel of items with the factor.

Specifically, items ranked 1, 2, 10, and 11 were assigned to parcel 1; items ranked 3, 4, 8, and 9 were assigned to parcel 2; and items ranked 5, 6, and 7 were assigned to parcel 3. This procedure ensured that the resulting item parcels reflected the underlying latent positive world beliefs to an equal degree.

The use of item parcels to represent measurement variables in structural equation modelling has several distinctive advantages. First, it reduces the likelihood of violating the assumption of multivariate normality, an assumption on which the maximum likelihood estimation procedure is based (a procedure that is commonly utilised in SEM analyses). Second, as item parcelling reduces the number of parameters to be estimated, the use of item parcelling reduces the sample size required to test the fit between the model and the data set. Third, the use of item parcels also decreases the possibility that results will be vulnerable to the vagaries of characteristics specific to any one individual item. Finally, the use of item parcels improves the fit of the model to the data set due to the decreased number of parameters requiring estimation (Ho, 2006).

Table 6

Measurement Item Parcels Representing the World Beliefs Inventory, the CES-DS, the GHQ-12, and the RSE

Item Parcels	Items
Positive world beliefs	
wb_pos1	wb20, wb22, wb28, wb19
wb_pos2	wb7, wb5, wb17, wb16
wb_pos3	wb25, wb9, wb14
Negative world beliefs	
wb_neg1	wb21, wb18, wb2
wb_neg2	wb15, wb13, wb27
wb_neg3	wb12, wb8, wb6, wb26
Depression	
Depress1	Depr6, Depr12, Depr8, Depr11, Depr15, Depr2, Depr17
Depress2	Depr18, Depr3, Depr13, Depr19, Depr1, Depr7, Depr20
Depress3	Depr9, Depr16, Depr4, Depr5, Depr10, Depr14
General Health	
Gen_H1	gh9, gh6, gh1, gh5
Gen_H2	gh3R, gh2, gh10, gh7R
Gen_H3	gh11, gh4R, gh12R, gh8R
Self-esteem	
Self_es1	se10, se2R, se9
Self_es2	se4R, se8, se7R
Self_es3	se5, se1R, se3, se6R

Item parcelling was employed in the present study to compute six item parcels as measurement variables for the WBI (three representing the positively worded items and three representing the negatively worded items), and three parcels for each of the CES-DS, the GHQ-12, and the Self-Esteem Scale (See Table 6).

10.8 Concurrent Validity of the World Beliefs Inventory

Concurrent validity of the WBI was assessed by correlating the WBI construct with the CES-DS, the GHQ-12, and Self-Esteem constructs. A four-factor correlation model posited to test the relationship between the WBI and the three criterion measures of depression, general health, and self-esteem is presented as Figure 3. Maximum likelihood was employed to estimate the fit of this correlation model and the strength and direction of the correlation coefficients between the WBI and the three constructs.

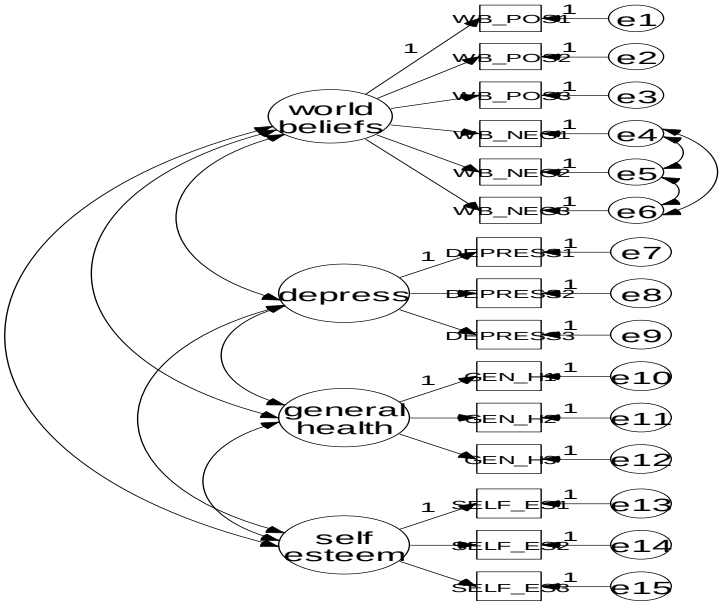


Figure 3. Concurrent model of the WBI.

Although the Chi-square value indicated that the measurement model did not fit the data well, χ^2 (N = 205, df = 81) = 139.64, p < .001 (See Appendix G), the incremental fit indices of NFI, RFI, IFI, TLI, and CFI indicated that the model fitted the data very well relative to the independence model (range: .91 to .97). Thus, the only possible improvement in fit of the model ranged from 3% to 9%. The standardised regression weights ranged from .47 (WB_NEG3) to .93

(GEN_H2) and were all significant by the Critical Ratio test ($p < .05$). Explained variances for the 15 measurement variables (item parcels) ranged from 22% (WB_NEG3) to 87% (GEN_H2). Unexplained variances therefore ranged from 13% to 78%. Results indicated that the computed indicator variables were well represented by their respective latent constructs. Table 7 presents the standardised regression weights and the explained and residual variances of the item parcel-indicator variables.

Table 7

Standardised Regression Weights, and the Explained and Residual Variances of Computed Indicator Variables Representing Positive and Negative World Beliefs, Depression, General Psychological Health, and Self-Esteem

Item	Standardised regression weight	Explained variance	Residual variance
World beliefs			
WB-POS1	.85	.72	.28
WB-POS2	.83	.69	.31
WB-POS3	.85	.73	.27
WB-NEG1	.52	.27	.73
WB-NEG2	.56	.32	.68
WB-NEG3	.47	.22	.78
Depression			
DEPRESS1	.92	.84	.16
DEPRESS2	.91	.83	.17
DEPRESS3	.89	.79	.21
General psychological health			
GEN-H1	.74	.55	.45
GEN-H2	.93	.87	.13
GEN-H3	.76	.58	.42
Self-esteem			
SELF-ES1	.84	.71	.29
SELF-ES2	.79	.63	.37
SELF-ES3	.86	.74	.26

Covariances between the latent constructs were all highly significant by the Critical Ratio test ($p < .001$), and were all in the expected direction (See Appendix G). As shown in Table 8, correlations between the latent variables of world beliefs, depression, general psychological health, and self-esteem ranged from .27 between world beliefs and self-esteem to -.69 between depression and self-esteem.

Table 8

Correlations between Measures of World Beliefs, Depression, General Psychological Health, and Self-Esteem

Scale	1	2	3	4
1. World beliefs	-	-.26***	.37***	.27***
2. Depression	-	-	-.49***	-.69***
3. General health	-	-	-	.45***
4. Self-esteem	-	-	-	-

Note. *** $p < .001$

It is clear from the covariance analyses that the WBI exhibited strong concurrent validity. Thus, the WBI is significantly and positively correlated with both the GHQ-12 ($r = .37$), and the RSE ($r = .27$), and is significantly and negatively correlated with the CES-DS ($r = -.26$) (See Appendix G). That is, the more individuals believe the world to be safe, supportive, meaningful, just, controllable, and predictable, the greater their level of general psychological health and the higher their level of self-esteem. On the other hand, the less individuals believe the world to be safe, supportive, meaningful, just,

controllable, and predictable, the higher the level of depression experienced. The strength of these associations indicate that while world beliefs share some overlap with depression, general psychological health, and self-esteem, the concept of world beliefs (measured using the WBI) is conceptually distinct from these other variables. Evidence of the positive associations between world beliefs and general psychological health and self-esteem, and the negative association between world beliefs and depression support the contention that world beliefs constitute an important concept associated with well-being, enhancing the utility of the WBI.

CHAPTER 11: STUDY 1 - DISCUSSION

Study 1 involved the development of the 21-item World Beliefs Inventory (WBI), with the concept of world beliefs based on a translation of Aerts et al.'s (1994) philosophical conceptualisation of world beliefs into common terminology. World beliefs were therefore posited to consist of the extent to which individuals perceive the world to be safe, just, controllable, predictable, meaningful, and supportive. Data from a sample of 410 voluntary participants from Central Queensland who filled in a five-section questionnaire containing demographic questions, the WBI, the CES-DS (Radloff, 1977), the GHQ (Goldberg, 1972), and the RSE (Rosenberg, 1965) was statistically analysed in Study 1. Exploratory factor analysis (EFA) of the 30 items written to tap into world beliefs, and considerations regarding conceptual clarity, resulted in the identification of a two-factor structure underlying the WBI (i.e., positive world beliefs and negative world beliefs), with reliability analysis further showing these factors to have good internal reliability.

Confirmatory factor analysis (CFA) of the WBI was conducted utilising SEM. Three competing measurement models were posited, analysed, and compared. The first model was based on the two-factor structure identified in the EFA (positive world beliefs and negative world beliefs); the second model was based on a single-factor structure (WBI) to reflect the finding that the positive world beliefs factor accounted for the majority of variance explained in the EFA; and the third model (a single-factor structure with correlated errors between negatively worded items) was based on the assumption that a two-factor structure

(positive world beliefs and negative world beliefs) was the result of a 'negative-item method effect'. Comparison of model-fit indices indicated that the third model (consisting of a single factor with correlated errors between negatively worded items) fitted the data best. Thus, it was concluded that the factor structure of the WBI reflects one substantially meaningful construct and substantively irrelevant negative item method effects.

A correlational measurement model was posited to test the concurrent validity of the WBI. Specifically, the model tested the strength of the relationships between the WBI and the CES-DS (Radloff, 1977), the GHQ-12 (Goldberg, 1972), and the RSE (Rosenberg, 1965). The obtained results showed good concurrent validity with the WBI found to be associated with decreased depression, and with increased general psychological health and self-esteem.

Results also support the utility of the theoretical approaches on which operationalisation of the world beliefs construct was based. Specifically, the results support the philosophical framework regarding the nature of world views or world beliefs presented by a multidisciplinary, multinational task force at the Center Leo Apostel at the Vrije Universiteit Brussel. Results from Study 1 also support Beck's (1976) contention that beliefs about the world (along with beliefs about the future and oneself) are significantly associated with aspects of well-being. More generally, the study's results support the identification of world beliefs or views as an important aspect of human functioning (Bowlby, 1969; Fletcher, n.d.; Heylighen, 2000; Janoff-Bulman, 1985; Leffel, 1994; Marris, 1975; Parkes, 1971; Simpson, 1993; Watzlawick et al., 1968). Results from Study 1 also support the argument that while belief in a controllable world (Walster, 1966) and belief in a just world (Heider, 1958; Lerner, 1965; Lerner &

Simmons, 1966; Lipkus, 1991; Lipkus et al., 1996; Rubin & Peplau, 1975) have already been identified as influencing human functioning, a broader cohesive taxonomy of world beliefs has been lacking.

The findings from Study 1 are expected to have practical applications in clinical settings, as previously mentioned. The newly developed WBI could be used to screen for early signs of psychological mal-adaptation. It could also be employed to assess the degree to which psychological interventions have successfully changed maladaptive world beliefs (by comparing world beliefs post-treatment to world beliefs pre-treatment).

The development of the WBI also has implications for psychological research. The fact that world beliefs can now be assessed utilising a psychometrically sound WBI means that the world beliefs construct can be included in investigations of the processes via which environmental factors affect well-being. For example, Study 2 in the present research will incorporate the world beliefs construct (assessed utilising the 21-item WBI) into a path model in order to investigate the direct and indirect influences of gender role schema and the experience of childhood trauma on the satisfaction of the basic psychological needs for autonomy, competence, and relatedness; beliefs about the world, oneself, and the future; the self-regulation of withholding negative emotions; somatic amplification; and psychological, physical, and social well-being. The development of the WBI to operationalise the construct of world beliefs is therefore expected to have theoretical, clinical, and research implications and applications.

CHAPTER 12: STUDY 2 – THE PSYCHOSOCIAL COGNITIVE MODEL OF WELL-BEING

12.1 Study 2 Introduction

The primary aim of Study 2 is to investigate the relationships between gender role schema and the experience of childhood trauma with well-being in adulthood, in response to (1) the failure of biological explanations to adequately explain gender differences in health and well-being, (2) the need for well-being to be investigated from an eudaimonic perspective, and (3) the need to redress the failure of much research investigating health and well-being in adulthood to include childhood trauma as a contributing variable. Previous research has shown adherence to gender role to be a primary determinant of gender differences in health outcomes, and together with the contention that experiencing childhood trauma impacts negatively on well-being in adulthood, suggests that investigation of the processes by which these factors influence well-being is necessary. Self-Determination Theory (SDT) relates to the development of personality and motivation. Little et al. (2002) pointed out that until recently only limited research attention had been directed at SDT in relation to development. The recent reconceptualisation of health and well-being from an eudaimonic perspective, the current positive psychological emphasis on psychosocial and cognitive factors contributing to optimal functioning, and recent clarification of the means by which psychological states influence physiological processes, suggest that utilising SDT to examine the influences of gender role schema and the experience of childhood trauma on psychological,

physical, and social well-being may assist in the identification of the means by which well-being in adulthood can be adversely affected. This identification may, in turn, contribute to the development of appropriate intervention strategies.

This study has been designed to investigate, in a hierarchical manner the direct and indirect influences of gender role schema and the experience of childhood trauma on psychological, physical, and social well-being, being mediated by (a) the satisfaction of the basic psychological needs for autonomy, competence, and relatedness; (b) beliefs about the world, oneself, and the future (to be measured by the World Beliefs Inventory developed in Study 1); (c) the self-regulation of withholding negative emotions; and (d) somatic amplification. Structural equation modelling (SEM) will be employed to assess the explanatory efficacy of five nested hierarchical theoretical models that posit both the direct and indirect influences gender role schema and the experience of childhood trauma have on well-being. The sequential ordering of the exogenous, endogenous, and mediator variables within the fully identified psychosocial cognitive model is presented in Figure 1 (See page 80).

The pattern of structural relationships hypothesised in the psychosocial cognitive model of well-being is underpinned by Basic Needs Theory, Organismic Integration Theory (University of Rochester, 2004), Gender Role Theory (Antill et al., 1981; Bem, 1974), and Beck's (1976) cognitive triad model. While this eclectic approach has resulted in the combined use of a range of seemingly disparate theories, the common thread that weaves through these theories is that they all relate to the concept of *control* or *self-determination*. Self Determination Theory posits that environmental events that do not satisfy the basic needs of autonomy, competence, and relatedness adversely impact on

development, and fail to support the self-regulation/self-determination of cultural practices (Ryan & Deci, 2000; Ryan & Frederick, 1997; University of Rochester, 2004). All of these needs must therefore be satisfied if an individual is to achieve a sense of personal control or self-determination. Beck (1976) additionally contends that failure to control maladaptive thinking that occurs in response to experiencing adverse events can cause individuals to suffer maladaptive emotional responses, negatively impacting well-being (Kim et al., 2002). Self-Determination Theory's concept of the SRWNE asserts that internalising the regulation of the withholding of negative emotions indicates that the regulation has become self-determined rather than an externally controlled regulation, and will therefore contribute to well-being rather than conflict and decreased well-being. The concept of somatic amplification also relates to the concept of control, in that it appears to be those without control in society at large who report the highest levels of somatic amplification (Feuerstein et al., 1986). This eclectic approach utilising these diverse theories allows for an integrated assessment of the ways in which gender role orientation and the experience of childhood trauma impact psychological, physical, and social well-being, with perceived control or self-determination as the common theme underlying the investigation.

12.2 Method

12.2.1 Participants

A random sample of 7,000 participants from the general population of Central Queensland (Rockhampton, Gladstone, and Yeppoon), in the state of Queensland, Australia, was identified through the Central Queensland University

Population Research Laboratory. Out of the 7,000 questionnaires distributed to Central Queensland residents, a total of 605 (8.64%) were returned. Of the 605 respondents, 190 (31.4%) were males and 415 (68.6%) were females. Table 9 shows the age group, education level attained, marital status, income level, and occupational categories of participants (See Appendix H).

Table 9

Demographic Data of Participants in Study 2

Demographic variable		%	*n*
Age	18-24 years	5.3	32
	25-44 years	34.2	207
	45-64 years	48.4	293
	65 years and over	12.1	73
Gender	Males	31.4	190
	Females	68.6	415
Education	Primary school	3.8	23
	1 or 2 years of secondary school	10.9	66
	3 or 4 years of secondary school	22.3	135
	5 or 6 years of secondary school	13.2	80
	Technical/trade	13.6	82
	Tertiary	36.2	219
Marital status	Single	11.9	72
	Married	55.7	337
	De facto	9.3	56
	Separated	5.0	30
	Divorced	12.9	78
	Widowed	5.3	32
Income	Less than $10,000 per year	13.1	79
	$10,001 to $20,000 per year	22.0	133
	$20,001 to $30,000 per year	15.7	95
	$30,001 to $40,000 per year	12.6	76
	$40,001 to $50,000 per year	7.8	47
	$50,001 to $60,000 per year	10.9	66
	More than $60,000 per year	18.0	109
Occupation	Employer of more than 10; executive in an organisation greater than 100; senior public servant	3.0	18
	Professional (with degree, diploma, or society)	23.6	143
	Small business employer or self-employed; non-executive administrator in large company; middle level public servant	12.7	77
	Clerical; low level administration; low salary skilled white-collar worker	10.2	62
	Skilled blue-collar worker with apprenticeship or similar training	7.8	47
	Unskilled or semiskilled worker (e.g., driver, labourer, shop assistant; typist but not secretary)	11.9	72
	Unemployed; pensioner; student; home duties	30.7	186

The majority of participants (N = 293 or 48.4%), as shown in Table 9, were between the ages of 45 and 64 years. Statistics from the ABS (2001) indicated that 40.2% of Central Queensland residents (or those residing in the Fitzroy Statistical Division) who were at least 18 years of age, were between the ages of 25 and 44 years. Thus, the age group of 45 to 64 years is overrepresented in this sample. There were more females (N = 415; 68.6%) than males (N = 190; 31.4%) in the sample. As ABS (2001) data indicated that 50.66% of adult Central Queensland residents were males, males are underrepresented in this sample. In terms of level of education, the majority of participants reported achieving tertiary level (N = 219; 36.2%). Statistics from the ABS (2001) showed that 28.69% of Central Queensland residents over the age of 15 years had completed further education. The majority of participants were married (N = 337; 55.7%), which is quite comparable to the 53.28% reported by the ABS (2001). With regard to income level, the majority of the participants (N = 133; 22%) reported annual income in the $10,001 to $20,000 range. The ABS (2001) statistics similarly indicated that 24.48% of Central Queensland residents aged 15 years and older had an income between $160 and $299 per week. In terms of occupational status, the majority of participants (N = 143; 23.6%) reported that they were in the professional category. An additional 186 participants (30.7%) indicated that they are not employed (i.e., they are unemployed, students, homemakers, or retirees). As this sample is not truly representative of the population from which it was drawn, care should be taken when extrapolating the study's findings to the general population.

12.2.2 Materials

A questionnaire comprising of 12 sections was employed in this study (See Appendix I). Section 1 required participants to provide demographic data regarding age, gender, education level attained, marital status, income level, and occupational status.

Section 2 contained an adapted (and abbreviated) version of the Childhood Traumatic Events Scale (Pennebaker & Susman, 1988). This scale requests that respondents indicate, by circling 'yes' or 'no', whether before the age of 17 years they had experienced: (1) the death of a close friend or family member, (2) major upheaval between their parents, (3) a traumatic sexual experience, (4) non-sexual violence, or (5) an extreme illness or injury. An additional question asked whether they experienced any other major upheaval, and if yes, what that event was. For each type of trauma experienced (i.e., answered 'yes'), respondents were further asked to indicate the extent to which as an adult they have been traumatised by that event, ranging from 1 = not at all traumatised, 2 = slightly traumatised, 3 = somewhat traumatised, 4 = moderately traumatised, 5 = badly traumatised, to 6 = unbearably traumatised.

Section 3 consisted of the 50-item Personal Description Questionnaire (A) (Antill et al., 1981) developed to measure adherence to gender role orientation (masculinity/femininity) in Australian samples. Respondents were asked to decide the extent to which these items describe themselves, by rating each item on a 7-point Likert scale ranging from 1 = never or almost never true, 2 = usually not true, 3 = sometimes but infrequently true, 4 = occasionally true, 5 = often true, 6 = usually true, to 7 = always or almost always true. Of the 50 items, 10 items assessed Social Desirability, with the remaining 40 items

measuring Masculine Positive characteristics (M+; 10 items), Masculine Negative characteristics (M-; 10 items), Feminine Positive characteristics (F+; 10 items), and Feminine Negative characteristics (F-; 10 items). Only the 10 items constituting the Masculine Positive subscale (firm, confident, competitive, casual, forceful, skilled in business, strong, carefree, outspoken, and pleasure-seeking) and the 10 items constituting the Feminine Positive subscale (loves children, patient, appreciative, sensitive to the needs of others, grateful, responsible, emotional, devotes self to others, loyal, and gentle) were utilised in analyses, aligning with the research's positive psychological approach. Higher scores indicated greater adherence to the positive aspects of the masculine and feminine gender roles.

Section 4 consisted of the 21-item Basic Need Satisfaction in General Scale (University of Rochester, 2004), which measures the degree to which an individual's needs for autonomy, competence, and relatedness have been satisfied. Respondents were asked to indicate the extent of their disagreement or agreement with each item by rating a 7-point Likert scale ranging from 1 = not at all true, 4 = somewhat true, to 7 = very true. Of the 21 items, 9 were reverse-scored (items 3, 4, 7, 11, 15, 16, 18, 19, and 20), with high scores indicating greater satisfaction of basic psychological needs. The following item is an example of items constituting the Autonomy subscale of the Need Satisfaction in General Scale: "I feel like I am free to decide for myself how to live my life."

Section 5 consisted of the 21-item World Belief Inventory developed in Study 1. This scale was designed to assess the beliefs of individuals regarding the nature of the world. Respondents were required to indicate the degree of their disagreement or agreement with scale items on a 6-point Likert scale

ranging from 1 = strongly disagree to 6 = strongly agree. Ten items were reverse scored (items 1, 3, 5, 7, 8, 10, 13, 16, 19, and 20).

Section 6 consisted of the 8-item Perceived Control Scale (Ross, 1991). Respondents were asked to indicate the extent of their disagreement or agreement with each item by rating the item on a 6-point Likert scale ranging from 1 = strongly disagree to 6 = strongly agree. Of the eight items, four were reverse scored (items 5, 6, 7, and 8), with high scores indicating high perceptions of personal control. The following item is an example of items constituting the Perceived Control Scale; "I am responsible for my own successes."

Section 7 consisted of the 10-item Life Orientation Test – Revised (LOT – R) (Scheier, Carver, & Bridges, 1994), which was written to assess dispositional optimism. Respondents were requested to rate their level of agreement with each item on a 6-point Likert scale ranging from 1 = strongly disagree to 6 = strongly agree. Of the 10 items, 4 were filler items (items 2, 5, 6, and 8), and 3 items were reverse scored (items 3, 7, and 9). High scores indicated high optimism. The following item is an example of items constituting the Lot – R: "Overall, I expect more good things to happen to me than bad."

Section 8 consisted of the Self-Regulation of Withholding Negative Emotions (SRWNE) Questionnaire (Kim et al., 2002). The SRWNE Questionnaire consists of 13 statements of possible reasons why individuals do not express their negative emotions to others, and 15 statements of possible reasons why individuals, even though they are upset, act like everything is all right. Respondents are asked to indicate the extent of their disagreement or agreement with each statement by rating on a 6-point Likert scale ranging from

1 = strongly disagree to 6 = strongly agree. The following item is an example of items constituting the SRWNE questionnaire: "I would feel guilty if I let my bad feelings come out."

Section 9 consisted of the 5-item Somatic Amplification Scale (Barsky et al., 1988), which measures the degree to which individuals are aware of their own physiological sensations. Respondents were requested to rate how true each item is in regard to themselves on a 7-point Likert scale ranging from 1 = not at all true, 4 = somewhat true, to 7 = very true, with high scores indicating high somatosensory awareness. The following is an example of items constituting the Somatic Amplification Scale: "I am quick to sense hunger contractions in my stomach."

Section 10 consisted of the 18-item Psychological Well-Being Scale (Ryff & Keyes, 1995). These 18 items yield the six subscales of Autonomy, Positive Relations with Others, Purpose in Life, Self-Acceptance, Environmental Mastery, and Personal Growth, with each subscale consisting of three items. Respondents are asked to indicate their level of disagreement or agreement with each item by rating that item on a 7-point Likert scale ranging from 1 = strongly disagree to 6 = strongly agree. Of the 18 items, 8 were reverse scored (items d, e, f, g j, n, o, and p), with high scores indicating high psychological well-being. The following item is an example of items constituting the Autonomy subscale of the Psychological Well-Being Scale. "I have confidence in my own opinions, even if they are different from the way most other people think."

Section 11 consisted of the Subjective Vitality Scale (individual difference version) (Ryan & Frederick, 1997). This scale consists of seven items, with individuals requested to rate the degree to which each item is true on

a 7-point Likert scale ranging from 1 = not at all true, 4 = somewhat true, to 7 = very true. Of the seven items, one was reverse scored (item 2), with high scores indicating greater subjective vitality. The following item is an example of items constituting the Subjective Vitality Scale: "Sometimes I feel so alive I just want to burst."

Section 12 consisted of the 15-item Social Well-Being Scale (Keyes, 1998). The 15 items yield the subscales of Social Coherence, Social Integration, Social Acceptance, Social Contribution, and Social Actualisation, with each subscale represented by three items. Respondents were asked to rate their level of agreement/disagreement with each of the 15 items on a 7-point Likert scale ranging from 1 = strongly disagree to 6 = strongly agree. Of the 15 items, 8 were reverse scored (items a, b, g, h, i, j, m, and o), with high scores indicating greater social well-being. The following item is an example of items constituting the Social Contribution subscale of the Social Well-being Scale: "I have nothing important to contribute to society."

12.2.3 Procedure

Questionnaires were distributed via post in April 2006, to prospective respondents in Central Queensland. Each questionnaire had an information sheet, a consent form, and two addressed postage-paid envelopes attached to it. Participants were informed on the information sheet that the study aimed to investigate well-being in adulthood, with information collected to be used for research purposes only. The information sheet also indicated that only individuals 18 years or older were eligible to participate, and that they had the right to withdraw from participating in the study at any time. Participants were assured of their anonymity and the confidentiality of their responses. In order to

cover the possibility that some individuals would seek further information regarding the study, contact details of the researcher and her research supervisor were provided. The contact details of Lifeline, Anglicare, and Centacare were also provided, so that participants experiencing negative sequelae could access counselling. Prospective respondents were instructed to place the consent form (and the tear-off section of the information sheet for those who wished to receive a summary of the study's results) in one envelope, and to post the questionnaire in the other envelope for return to the researcher.

CHAPTER 13: STUDY 2 – RESULTS

13.1 Introduction

Study 2 was designed to investigate whether gender role schema (conceptualised as consisting of the positive aspects of masculinity [masc_pos] and the positive aspects of femininity [fem_pos]), and the experience of childhood trauma are related to psychological well-being, physical well-being (i.e., subjective vitality), and social well-being directly and/or indirectly, being mediated by (1) satisfaction of the needs for autonomy, competence, and relatedness; (2) beliefs about the world (i.e., world beliefs), oneself (i.e., perceived control), and the future (i.e., dispositional optimism); (3) the self-regulation of withholding negative emotions (SRWNE); and (4) somatic amplification. Data from 605 respondents were utilised to test five nested hierarchical path models of well-being that were developed based on Basic Needs Theory, Organismic Integration Theory (University of Rochester, 2004), Gender Role Theory (Antill et al., 1981; Bem, 1974), Beck's (1976) cognitive triad theory, and the research findings outlined in previous chapters. Nested models are models which have the same structure, but where one or more models are a subset of another model/models (Bentler & Chou, 1987; Bollen, 1989; Widaman & Thompson, 2003). As each of these models has different degrees of freedom (*df*), direct comparison of models is possible utilising a range of goodness-of-fit indices. This chapter (1) reviews methods of comparing hierarchical SEM models, (2) presents five posited models of well-being, (3)

reports results of preliminary analyses, and (4) presents the results of the hierarchical SEM analyses.

13.2 Methods of Comparing Hierarchical SEM Models

The relative fit of nested SEM models can be assessed in a variety of ways.

The *Chi-square Difference Test* is the most commonly used statistic for comparing the fit of nested models. If models are nested (models are subsets of each other), the Chi-square Difference Test can be used to compare the relative fit of any two models by subtracting the χ^2 value for the larger model from the χ^2 value for the smaller nested model. The difference, also a χ^2 value, is evaluated with degrees of freedom equal to the difference between the degrees of freedom in the two models. If the obtained 'difference χ^2 value' is statistically significant for the 'obtained difference in degrees of freedom', then the model with the smaller χ^2 value (and smaller degrees of freedom) is said to be a significantly better fitting model.

The *Root Mean Square Error of Approximation* (RMSEA; Browne & Cudeck, 1993) is another common method for comparing the fit of competing models by assessing their 'error of approximation'. This statistic estimates the lack of fit in a model compared to a perfect (saturated) model. The greater the model mis-specification, the larger is the RMSEA value. Values of .06 or less indicate a good fitting model relative to the model's degrees of freedom. Values larger than .10 are indicative of poor fitting models.

Several indices have been developed that take into account the degree of parsimony in and between models. The *Parsimony Normed Fit Index (PNFI)*

takes into account the number of degrees of freedom used to achieve a level of fit. Parsimony is defined as achieving higher degrees of fit per degree of freedom used (one degree of freedom per estimated coefficient). Higher values of PNFI are better, and its principal use is for the comparison of models with differing degrees of freedom. When comparing between models, differences of .06 and .09 are proposed to be indicative of substantial model differences (Williams & Holahan, 1994).

The *Akaike Information Criterion (AIC)* is a comparative measure between models with differing numbers of constructs. AIC values closer to zero indicate better fit and greater parsimony. A small AIC generally occurs when small Chi-square values are achieved with fewer estimated coefficients. This shows not only a good fit of observed versus predicted covariances, but also a model not prone to "overfitting". In applying this measure to the comparison decision problem, one estimates all models, ranks them according to the AIC criterion, and chooses the model with the smallest value.

The explanatory power of nested models can also be compared. The *Squared Multiple Correlations* for a model's endogenous variables indicate the amount of variance accounted for in each model. Comparing the amount of variance in criterion variables explained in a set of nested models provides an additional means of comparing the efficacy of competing models.

13.3 Proposed Models

Five posited nested models of well-being are presented hierarchically, with each successive model expanding on the preceding model. The

hypothesised sequential ordering of the variables in the five models is nested within the fully identified fifth model.

13.3.1 Stage 1 model

A number of factors support the need for an investigation of the influences of gender role schema (operationalised by the measurement variables 'masc_pos' and 'fem_pos') and the experience of childhood trauma (operationalised by the measurement variable 'trauma') on psychological, physical, and social well-being in adulthood. First, past research has shown that well-being in adulthood differs as a function of one's sex, and is influenced by trauma experienced during childhood. However, biological differences between the sexes have failed to adequately explain health differentials between males and females, and it is suggested that gender role schema may be better able to explain such sex-based health differences in well-being. Second, while childhood trauma is known to have long-term effects on health and well-being, a great deal of research has failed to include this as a variable in the development and testing of causal models predicting well-being. Finally, conceptualising well-being as consisting of *psychological* well-being, *physical* well-being (i.e., subjective vitality), and *social* well-being provides a more holistic approach to the conceptualisation of well-being than has tended to be utilised previously, enabling a more comprehensive assessment of the influences of gender role schema and the experience of childhood trauma on well-being in adulthood. The posited stage 1 model (See Figure 4) was developed in response to these considerations, and hypothesises that relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with reported psychological, physical, and social well-being in adulthood are direct, such that:

- masculinity is hypothesised to be directly and positively associated with psychological well-being, and directly and negatively associated with both physical and social well-being;
- femininity is predicted to be directly and negatively associated with psychological well-being, and directly and positively associated with physical and social well-being; and
- the experience of childhood trauma is expected to be directly and negatively associated with psychological, physical, and social well-being.

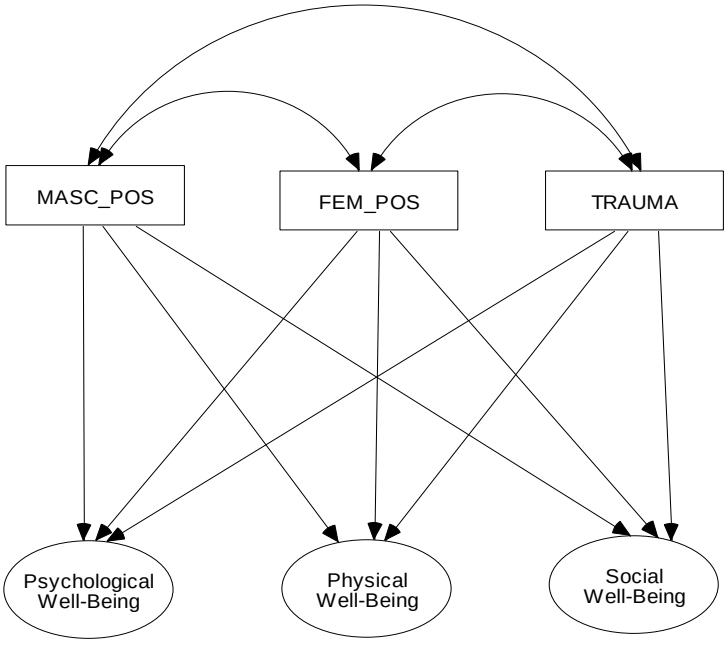


Figure 4. Stage 1 model of the direct relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with psychological, physical, and social well-being.

13.3.2 Stage 2 model

While the stage 1 model allows for an assessment of the direct relationships between gender role schema (masc_pos and fem_pos) and the

experience of childhood trauma with psychological, physical, and social well-being in adulthood, Basic Needs Theory (University of Rochester, 2004) contends that environmental factors influence well-being according to whether they thwart or support the satisfaction of the basic psychological needs for autonomy, competence, and relatedness. The stage 2 model (See Figure 5) includes the satisfaction of the basic psychological needs for autonomy, competence, and relatedness as variables mediating the relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with psychological, physical, and social well-being.

That is, the stage 2 model hypothesises that:

- masculinity will be positively associated with satisfaction of the needs for autonomy and competence, but negatively associated with satisfaction of the need for relatedness. Autonomy and competence are each then expected to be positively associated with psychological, physical, and social well-being, while decreased relatedness is predicted to be associated with decreased psychological, physical, and social well-being.
- femininity will be negatively associated with the satisfaction of the basic psychological needs for autonomy and competence, and positively associated with satisfaction of the need for relatedness. Decreased satisfaction of the needs for autonomy and competence are each then expected to be associated with decreased psychological, physical, and social well-being, while greater satisfaction of the need for relatedness is expected to be associated with increased psychological, physical, and social well-being;

- the experience of childhood trauma will be negatively associated with satisfaction of the needs for autonomy, competence, and relatedness, with decreased satisfaction of each of these needs then expected to be associated with decreased psychological, physical, and social well-being.

This approach allows for the testing of Basic Needs Theory. Comparison of the fit of the stage 1 and stage 2 models to the data set will indicate whether inclusion of the satisfaction of the basic psychological needs for autonomy, competence, and relatedness in the stage 2 model significantly increases its goodness-of-fit and its explanatory power above and beyond that provided by the direct model (i.e., the stage 1 model).

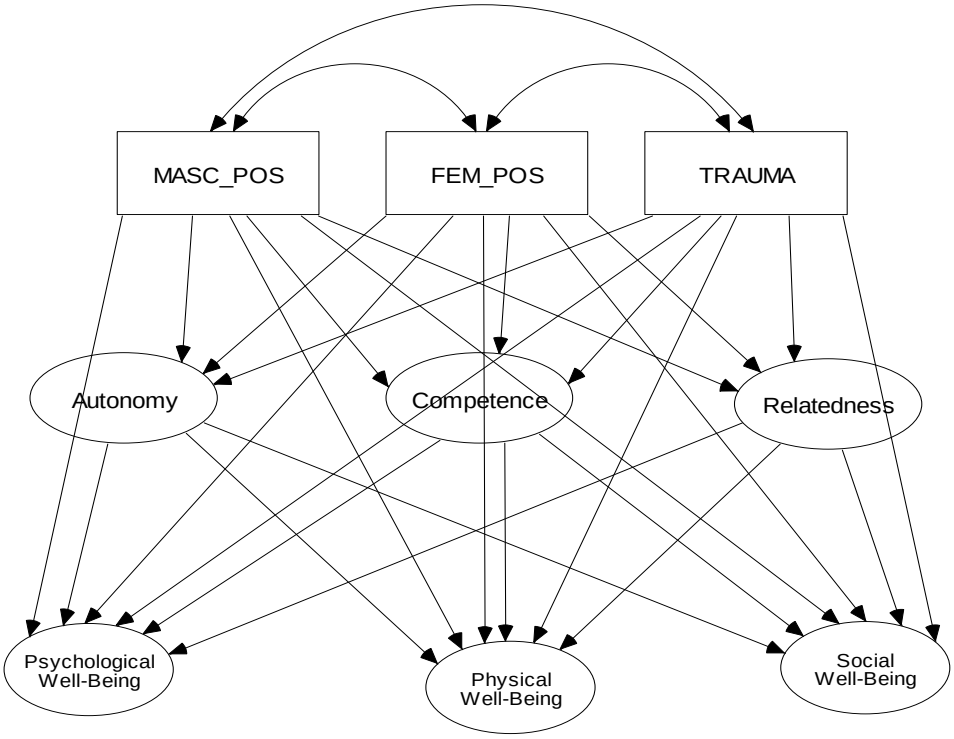


Figure 5. Stage 2 model of the direct and indirect relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with psychological, physical, and social well-being, being mediated by satisfaction of the basic psychological needs.

13.3.3 Stage 3 model

While the stage 1 and stage 2 models allow for an investigation of the direct and indirect relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with psychological, physical, and social well-being (being mediated by satisfaction of the needs for autonomy, competence, and relatedness in the stage 2 model), these two models do not to take into account the way in which people's premises regarding the nature of the world, themselves, and the future are shaped by factors in the environment, and subsequently influence their well-being. Beck (1976) argued that beliefs about the world, oneself, and the future (constituting a cognitive triad) mediate the influence of environmental factors on individuals' lives. In his view, the events that happen to people are less important than their cognitive responses to those events. Inclusion of world beliefs (assessed by the World Beliefs Inventory developed in Study 1), perceived control (assessing beliefs about oneself), and dispositional optimism (assessing beliefs about the future), in the stage 3 model (See Figure 6) allows for the testing of Beck's (1976) cognitive triad theory.

The stage 3 model suggests that some of the influence of gender role schema and the experience of childhood trauma on psychological, physical, and social well-being will be mediated by world beliefs, perceived control, and dispositional optimism, with each of these belief components then expected to be associated with psychological, physical, and social well-being. It is also expected that some of the influence of masculinity on world beliefs, perceived control, and dispositional optimism will be indirect, being mediated by satisfaction of the needs for autonomy, competence, and relatedness.

Specifically, it is hypothesised that:

- masculinity will be directly and positively related to world beliefs, perceived control, and dispositional optimism, with each of these belief components then expected to be associated with greater psychological, physical, and social well-being. Also, it is hypothesised that masculinity will be positively associated with satisfaction of the needs for autonomy and competence, which are each then expected to be associated with increased world beliefs, perceived control, and dispositional optimism. Each of these belief components is then expected to be associated with greater psychological, physical, and social well-being. On the other hand, masculinity is predicted to be associated with decreased satisfaction of the need for relatedness, with decreased relatedness in turn expected to be associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components is subsequently expected to be associated with decreased psychological, physical, and social well-being;
- femininity will be directly and positively associated with world beliefs and dispositional optimism, with each of these belief components then associated with increased psychological, physical, and social well-being. On the other hand, it is predicted that femininity will be directly and negatively associated with perceived control, with decreased perceived control then expected to be associated with decreased psychological, physical, and social well-being. Femininity is also expected to be associated with decreased satisfaction of the needs for autonomy and competence, with decreased satisfaction of each of these needs then

expected to be associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components are subsequently expected to be associated with decreased psychological, physical, and social well-being. On the other hand, femininity is hypothesised to have a positive association with satisfaction of the need for relatedness, with greater relatedness in turn associated with greater world beliefs, perceived control, and dispositional optimism. Each of these belief components is expected to be subsequently associated with greater psychological, physical, and social well-being.

- the experience of childhood trauma will be directly associated with decreased world beliefs, perceived control, and dispositional optimism, with each of these belief components subsequently associated with decreased psychological, physical, and social well-being. It is also expected that the experience of childhood trauma will be negatively related to satisfaction of the needs for autonomy, competence, and relatedness, with decreased satisfaction of each of these needs then predicted to be associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components is then expected to be associated with decreased psychological, physical, and social well-being.

Comparing the stage 3 model to the stage 2 model will allow determination of whether inclusion of these variables increases the model's goodness-of-fit and its explanatory power above and beyond that provided by the stage 2 model.

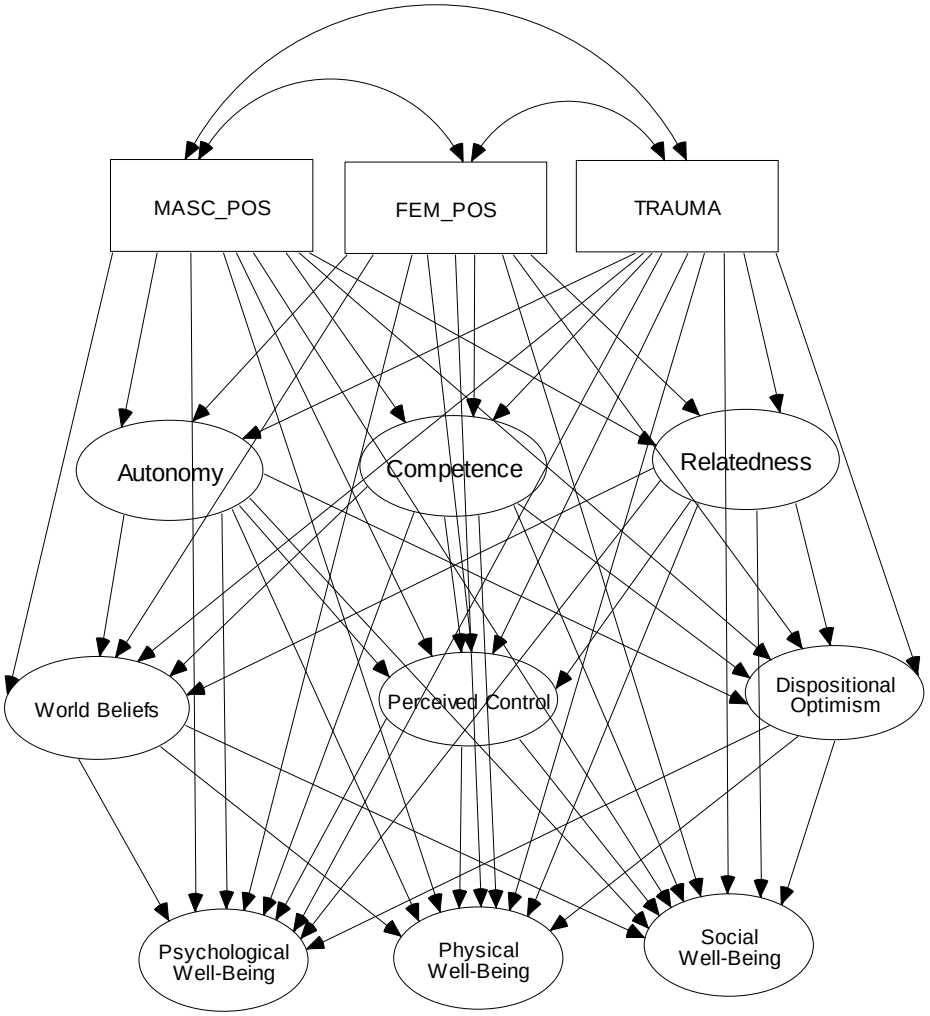


Figure 6. Stage 3 model of the direct and indirect relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with psychological, physical, and social well-being, being mediated by satisfaction of basic psychological needs, and beliefs.

13.3.4 Stage 4 model

While the previous three models allow an investigation of the direct relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with psychological, physical, and social well-

being (stage 1 model), and indirect relationships, being mediated by satisfaction of the needs for autonomy, competence, and relatedness (stage 2 model), and by beliefs about the world (world beliefs), oneself (perceived control), and the future (dispositional optimism) (stage 3 model), these models do not account for individual differences in the extent to which individuals have internalised the regulation of the withholding of negative emotional states. The regulation of emotion appears to play an important role in the mind-body connection. Kim et al. (2002) developed the concept of the self-regulation of withholding negative emotions (SRWNE) based on Organismic Integration Theory (a sub-theory of Self-Determination Theory), which posits internalisation to be the process via which external regulations become internalised (University of Rochester, 2004). Kim et al. (2002) contended that the extent to which the regulation of negative emotions transforms from a culturally valued regulation to an internalised regulation that is integrated with one's inner self, is indicative of healthy development, and should result in healthy outcomes. The inclusion of the SRWNE in the stage 4 model (See Figure 7), therefore allows for the testing of Organismic Integration Theory (University of Rochester, 2004) as applied specifically to the internalisation of the regulation of the withholding of negative emotions. The stage 4 model suggests that some of the influence of gender role schema and the experience of childhood trauma on psychological, physical, and social well-being will be mediated by the SRWNE.

Thus, it is hypothesised that:

- masculinity will be directly and positively associated with the SRWNE, with the SRWNE in turn expected to be associated with increased psychological, physical, and social well-being. Masculinity is also

expected to be positively associated with satisfaction of the needs for autonomy and competence, which are then expected to be associated with increased world beliefs, perceived control, and dispositional optimism. These belief components are then each expected to be associated with increased SRWNE, which is subsequently expected to be associated with increased psychological, physical, and social well-being. On the other hand, it is hypothesised that masculinity will have a negative association with satisfaction of the need for relatedness, with decreased relatedness in turn expected to be associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components is then predicted to have a negative relationship with the SRWNE, with decreased SRWNE then predicted to be associated with decreased psychological, physical, and social well-being;

- femininity will be directly and negatively related to the SRWNE, with decreased SRWNE then expected to be associated with decreased psychological, physical, and social well-being. Femininity is also expected to have a negative association with satisfaction of the needs for autonomy and competence, with decreased satisfaction of each of these needs then predicted to be associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components is then expected to be associated with decreased SRWNE, which is subsequently expected to be associated with decreased psychological, physical, and social well-being. On the other hand, femininity is expected to have a positive relationship with satisfaction of the need for relatedness, with relatedness then expected to be associated

with higher world beliefs, perceived control, and dispositional optimism. Each of these belief components is then expected to be associated with increased SRWNE, which is subsequently predicted to be associated with better psychological, physical, and social well-being;

- the experience of childhood trauma will be directly and negatively associated with the SRWNE, with decreased SRWNE then expected to be related to decreased psychological, physical, and social well-being. It is also expected that the experience of childhood trauma will have a negative relationship with satisfaction of the needs for autonomy, competence, and relatedness. Decreased satisfaction of each of these needs is then predicted to be associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components is in turn predicted to be associated with decreased SRWNE, with decreased SRWNE then hypothesised to be associated with decreased psychological, physical, and social well-being.

Comparing the stage 4 model to the stage 3 model will enable a determination of whether inclusion of the SRWNE concept in this model increases its goodness-of-fit and its explanatory power beyond that provided by the stage 3 model.

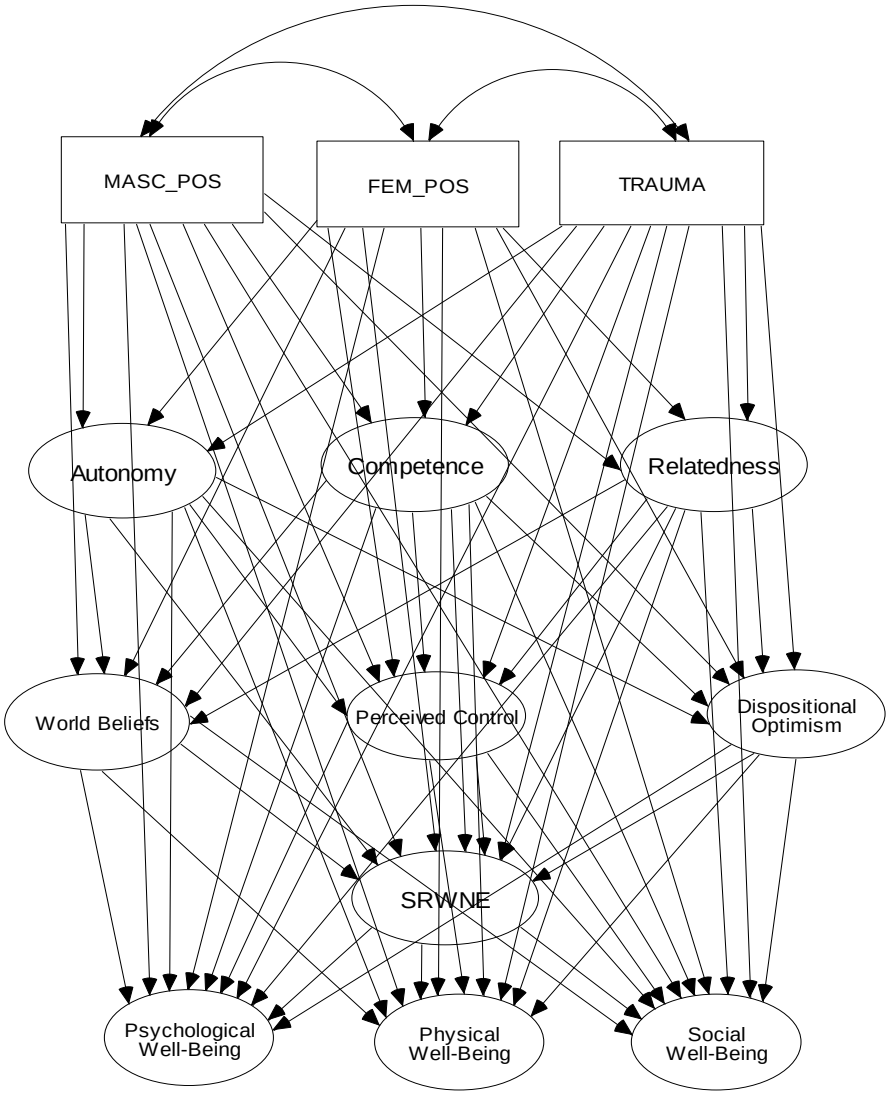


Figure 7. Stage 4 model of the direct and indirect relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with psychological, physical, and social well-being, being mediated by satisfaction of basic psychological needs, beliefs, and the SRWNE.

13.3.5 Stage 5 model

While the above four models (stages 1 to 4) allow for the investigation of the direct relationships between gender role schema (masc_pos and fem_pos) and

the experience of childhood trauma, with psychological, physical, and social well-being (stage 1 model), and indirect relationships being mediated by satisfaction of the needs for autonomy, competence, and relatedness (stage 2 model); beliefs about the world, oneself, and the future (stage 3 model), and the SRWNE (stage 4 model), these models do not take into consideration sociophysiological and psychophysiological explanations of the ways in which environmental events influence human subjective experience of physiological sensations and symptoms. In order to redress this problem, the concept of somatic amplification has been included in the stage 5 model (See Figure 8) as a mediating variable. The fact that it is those lacking in control or self-determination (e.g., black, unmarried, female, lower SES individuals, and those abused as children) who report a greater number of somatic symptoms or increased sensitivity to physiological sensation points to the need to include this variable in the current investigation of the direct and indirect influences of gender role schema (masc_pos and fem_pos) and the experience of childhood trauma on psychological, physical, and social well-being. Although the construct of somatic amplification was only recently conceptualised (Sayar & Ismail, 2001), and its utility has not yet been extensively assessed in research, its inclusion in the current research (based on the mind-body connection) will allow the utility of this construct to be assessed. The stage 5 model suggests that some of the influence of gender role schema and the experience of childhood trauma on psychological, physical, and social well-being will be mediated by somatic amplification.

Specifically, it is hypothesised that:

- masculinity will be directly and negatively related to somatic amplification, with decreased somatic amplification in turn associated with greater psychological, physical, and social well-being. It is also expected that masculinity will be positively related to satisfaction of the needs for autonomy and competence, with greater satisfaction of each of these needs in turn associated with greater world beliefs, perceived control, and dispositional optimism. Each of these belief components is then expected to be associated with greater SRWNE. Greater SRWNE is then predicted to be associated with decreased somatic amplification, which is subsequently expected to be associated with greater psychological, physical, and social well-being. On the other hand, it is hypothesised that masculinity will have a negative association with satisfaction of the need for relatedness, with decreased relatedness then expected to be associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components is then predicted to be associated with decreased SRWNE, with decreased SRWNE then hypothesised to be associated with increased somatic amplification. Higher somatic amplification is subsequently expected to be associated with decreased psychological, physical, and social well-being;
- femininity will be directly and positively associated with somatic amplification, with increased somatic amplification then expected to be related to decreased psychological, physical, and social well-being. It is also expected that femininity will have negative associations with both

satisfaction of the need for autonomy and competence, with decreased satisfaction of each of these needs in turn associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components is then expected to be associated with decreased SRWNE, with decreased SRWNE in turn associated with greater somatic amplification. Increased somatic amplification is in turn subsequently expected to be associated with decreased psychological, physical, and social well-being. On the other hand, femininity is expected to have a positive association with satisfaction of the need for relatedness, with greater relatedness in turn expected to be associated with increased world beliefs, perceived control, and dispositional optimism. Each of these belief components is then expected to be associated with greater SRWNE, when is then expected to be associated with decreased somatic amplification. Decreased somatic amplification is subsequently expected to be associated with better psychological, physical, and social well-being;

- the experience of childhood trauma will have a positive association with somatic amplification, with somatic amplification then expected to be related to decreased psychological, physical, and social well-being. It is also hypothesised that the experience of childhood trauma will be negatively related to satisfaction of the needs for autonomy, competence, and relatedness, with decreased satisfaction of each of these needs then expected to be associated with decreased world beliefs, perceived control, and dispositional optimism. Each of these belief components is then expected to be associated with decreased SRWNE, with decreased

SRWNE in turn predicted to be associated with increased somatic amplification. Finally, somatic amplification is subsequently expected to be associated with decreased psychological, physical, and social well-being.

Inclusion of the concept of somatic amplification in model 5 will also enable assessment of whether inclusion of somatic amplification increases its goodness-of-fit and explanatory power above and beyond that provided by the stage 4 model.

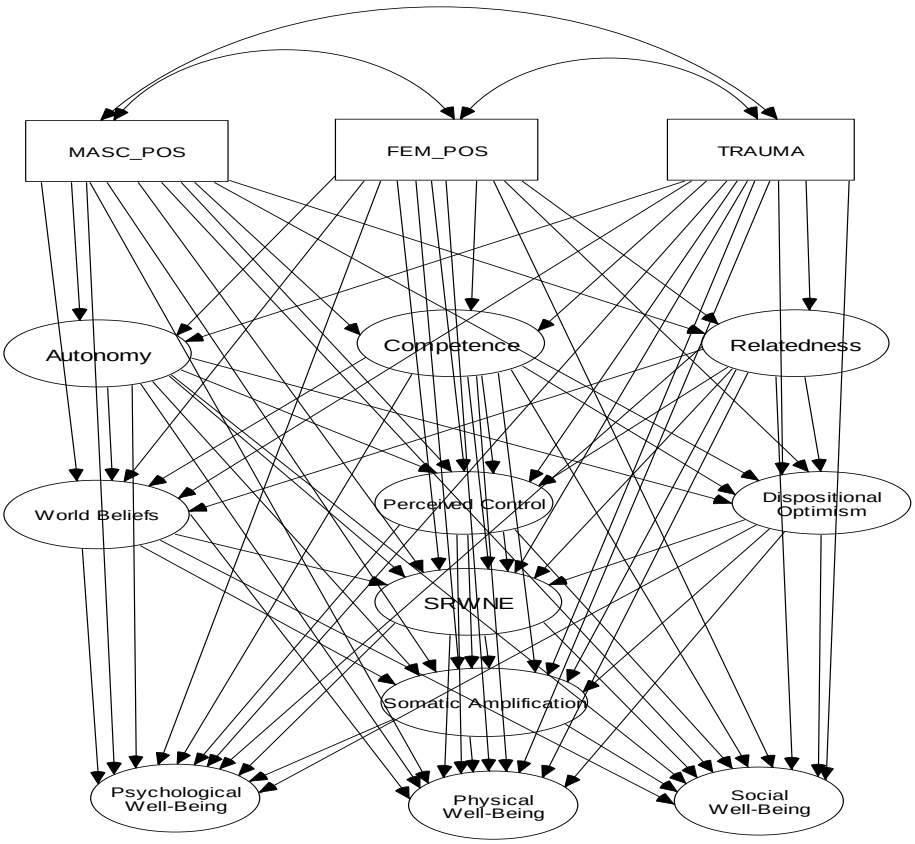


Figure 8. Stage 5 model of the direct and indirect relationships between gender role schema (masc_pos and fem_pos) and the experience of childhood trauma with psychological, physical, and social well-being, being mediated by satisfaction of basic psychological needs, beliefs, the SRWNE, and somatic amplification.

13.4 Preliminary Procedures

Preliminary procedures employed in Study 2 included using the Expectation-Maximisation method of handling missing data; reliability analysis; the computation of item parcels to represent the latent constructs of satisfaction of the need for autonomy, satisfaction of the need for competence, satisfaction of the need for relatedness, world beliefs, perceived control, dispositional optimism, and physical well-being; and the computation of subscales to represent the latent constructs of SRWNE, psychological well-being, and social well-being .

13.4.1 Handling of missing data

An inspection of the data set revealed a small amount of missing data. While possible methods of dealing with missing data include pair-wise deletion, list-wise deletion, and insertion of a variable's mean, such approaches tend to be ad hoc, and lacking in adequate theoretical justification (Wothke, 2000). Additionally, consideration needs to be given to retaining the necessarily large sample sizes required for SEM analyses. As previously described in Study 1, the Expectation-Maximisation (EM) method is a method of dealing with missing data that preserves sample size by replacing data with expectations of missing values (SPSS Inc., 1999). It has the advantage of being appropriate for use even when patterns of missing data are not restricted to a small number of distinct patterns, and its use is not technically challenging (Little et al., 2000). The Missing Variable Analysis program within SPSS was therefore employed to impute replacement values for the small amount of missing data in Study 2.

13.4.2 Reliability analysis

The internal consistency for all the scales employed in Study 2 was assessed (See Appendix J).

- As Study 2 employed a different sample from Study 1, it was deemed necessary to test again the reliability of the World Beliefs Inventory (WBI) developed in Study 1. Results of the reliability analysis revealed that, similar to the findings from Study 1, the WBI again evidenced high internal consistency (Cronbach's Alpha = .88). However, item wb4 was found to have a low I-T correlation coefficient (I-T = .30), and was therefore excluded from further analyses. Together, these results support the WBI as a reliable measurement tool across different samples.
- Cronbach's alpha was found to be fair (.65) for the 6-item adapted version of the Childhood Traumatic Events Scale (Pennebaker & Susman, 1988).
- Antill et al.'s (1981) Gender Role Scale, which was employed to assess the positive aspects of masculinity and femininity, was found to have acceptable levels of reliability. Cronbach's alphas were .69 for the Masculine Positive subscale, and .76 for the Feminine Positive subscale.
- Subscales of the Basic Need Satisfaction in General Scale (University of Rochester, 2004) were found to have acceptable levels of reliability. Cronbach's alphas were .70 for the Autonomy subscale, .68 for the Competence subscale, and .77 for the Relatedness subscale.
- Reliability of the 8-item Perceived Control Scale (Ross, 1991) was found to be adequate (Cronbach's alpha = .72). However, item control3 was found to have a low I-T correlation coefficient (I-T = .20) and was therefore removed from further analyses.
- Cronbach's alpha for the 10-item Life Orientation Test – Revised (Lot-R: Scheier et al., 1994), which assessed Dispositional Optimism, was found

to be adequate (.75). However, item opt6 was found to have a low I-T correlation coefficient (I-T = .02) and was therefore removed from further analyses.

- While reliability analysis of the subscales of the SRWNE Scale (Kim et al., 2002) showed all four subscales to have adequate levels of reliability (.82 for the External Regulation subscale, .86 for the Introjected Regulation subscale, .75 for the Identified Regulation subscale, and .74 for the Integrated Regulation subscale), item srwne5 was removed from the Identified Regulation subscale due to its poor I-T correlation coefficient (.15). Additionally, the Integrated Regulation subscale was not utilised in further analyses as reliability analysis of the SRWNE, using subscale totals as scale items, showed its inclusion reduced scale reliability substantially (from .88 to .83).
- Reliability of the 5-item Somatic Amplification Scale (Barsky et al., 1988) showed its Cronbach's alpha to be .57, which is fair considering its limited number of items. Due to poor I-T correlations for items somatic1 (I-T = .15) and somatic5 (I-T = .21), these items were excluded from further analyses.
- Reliabilities for the subscales of the Psychological Well-Being Scale (Ryff & Keyes, 1995) were found to be: .59 for Autonomy, .60 for Environmental Mastery, .59 for Positive Relations with Others, .59 for Personal Growth, .37 for Purpose in Life, and .68 for Self-Acceptance. These reliabilities are fair in light of the fact that each subscale contained only three items. Some individual items from these subscales were, however, found to have poor I-T correlations and were therefore excluded

from further analyses. Item psychwb15 (I-T = .28) was excluded from the Autonomy subscale; item psychwb13 (I-T = .22) was excluded from the Positive Relations with Others subscale; and item psychwb10 (I-T = .15) was excluded from the Purpose in Life subscale. Item psychwb14 was also excluded from the Personal Growth subscale because analysis showed that its removal would increase reliability of the subscale (from .59 to .66). Reliability for the overall Psychological Well-Being Scale utilising the subscale totals as measurement items, was found to be higher than those of the subscales, with a Cronbach's alpha of .75.

- Reliability for the 7- item Subjective Vitality Scale (Ryan & Frederick, 1997) returned a very high Cronbach's alpha of .92. I-T correlations for all items were found to be very high, ranging from .61 to .87. This scale constituted section 11 of the questionnaire, assessing physical well-being.
- Individual subscales of the Social Well-Being Scale (Keyes, 1998) were subjected to reliability analysis. Cronbach's alphas were .42 for the Social Coherence subscale, .78 for the Social Integration subscale, .42 for the Social Acceptance subscale, .75 for the Social Contribution subscale, and .67 for the Social Actualisation subscale. Cronbach's alpha for the Social Well-Being Scale, with subscale totals constituting scale items, was good (.82).

13.4.3 Item parcelling

As previously mentioned in Study 1, item parcelling to form measurement items has the advantages of reducing the likelihood of violating the assumption of multivariate normality, reducing the sample size needed to assess the fit of a model to the data set, decreasing the chance that results will be

skewed by the characteristics of any one specific item, and improving the fit of the model to the data set by decreasing the number of parameters to be estimated (Ho, 2006). Item parcelling was therefore employed to compute 22 item parcels as measurement variables to represent the following scales:

- The Autonomy subscale of the Basic Need Satisfaction in General Scale (University of Rochester, 2004) - 3 parcels;
- The Competence subscale of the Basic Need Satisfaction in General Scale (University of Rochester, 2004) - 3 parcels;
- The Relatedness subscale of the Basic Need Satisfaction in General Scale (University of Rochester, 2004) - 3 parcels;
- The World Beliefs Inventory - 4 parcels;
- The Perceived Control Scale (Ross, 1991) - 3 parcels;
- The Life Orientation Test - Revised (Scheier et al., 1994) assessing dispositional optimism - 3 parcels; and
- The Subjective Vitality Scale (Ryan & Frederick, 1997) - 3 parcels. The computed item parcels and their representative scale items are presented in Table 10.

Table 10

Measurement Item Parcels Representing the Basic Need Satisfaction in General Scale, the World Beliefs Inventory, the Perceived Control Scale, and the Life Orientation Test – Revised

Item parcels	Items
Satisfaction of need for autonomy	
SAT1	satneed17, satneed11
SAT2	satneed20, satneed4
SAT3	satneed1, satneed8, satneed14
Satisfaction of need for competence	
SAT4	satneed13, satneed10
SAT5	satneed19, satneed5
SAT6	satneed15, satneed3
Satisfaction of need for relatedness	
SAT7	satneed18, satneed6
SAT8	satneed2, satneed12, satneed7
SAT9	satneed9, satneed16, satneed21
World beliefs	
WORLD1	wb21, wb14, wb6, wb17, wb15
WORLD2	wb13, wb20, wb3, wb18, wb2
WORLD3	wb10, wb19, wb1, wb8, wb12
WORLD4	wb7, wb9, wb5, wb11, wb16
Perceived control	
CONTR1	control8, control4
CONTR2	control7, control1
CONTR3	control6, control2, control5
Dispositional optimism	
OPTIM1	opt7, opt5, opt8
OPTIM2	opt4, opt10, opt1
OPTIM3	opt9, opt2, opt3
Physical well-being (subjective vitality)	
VITAL1	subvit7, subvit2
VITAL2	subvit4, subvit3
VITAL3	subvit1, subvit5, subvit6

13.4.4 Computation of subscales for the SRWNE Scale, the Psychological Well-Being Scale, and the Social Well-Being Scale

The items from the SRWNE Questionnaire (Kim et al., 2002), the Psychological Well-Being Scale (Ryff & Keyes, 1995), and the Social Well-Being Scale (Keyes, 1998) were summed across their respective subscales and their means calculated. Table 11 presents the names of these subscales and their Cronbach's alphas.

Table 11

Subscales Representing the Latent Factors of the SRWNE, Psychological Well-Being, and Social Well-Being together with their Cronbach Alpha Correlation Coefficients

Factor	Subscale	Cronbach's alpha
SRWNE	External regulation (extreg)	.82
	Introjected regulation (introreg)	.86
	Identified regulation (identreg)	.75
Psychological well-being	Autonomy (auton)	.59
	Environmental mastery (mastery)	.60
	Positive relations with others (posrelats)	.59
	Personal growth (pgrowth)	.59
	Purpose in life (purpose)	.37
	Self-acceptance (selfaccept)	.68
Social well-being	Social coherence (socoh)	.42
	Social integration (socinteg)	.78
	Social acceptance (socaccep)	.42
	Social contribution (soccontr)	.75
	Social actualisation (socact)	.67

13.5 Results of SEM Analyses

13.5.1 Confirmatory Factor Analysis (CFA)

Prior to assessing the fit of the five competing path models (nested within the fully identified Stage 5 model) posited to investigate the direct and indirect relationships between gender role schema and the experience of childhood trauma with psychological, physical, and social well-being, it was necessary to ensure that the measurement variables chosen to represent the models' latent constructs did so in a reliable manner. The measurement model containing 11 latent variables and 39 measurement variables is represented in Figure 9. Confirmatory Factor Analysis (CFA) was employed to assess the adequacy of this measurement model as well as the reliability of the measurement items chosen to represent the models' latent constructs. For this measurement model, all factor loadings were estimated, items were allowed to load on a single construct only, and latent constructs were permitted to correlate (similar to oblique rotation).

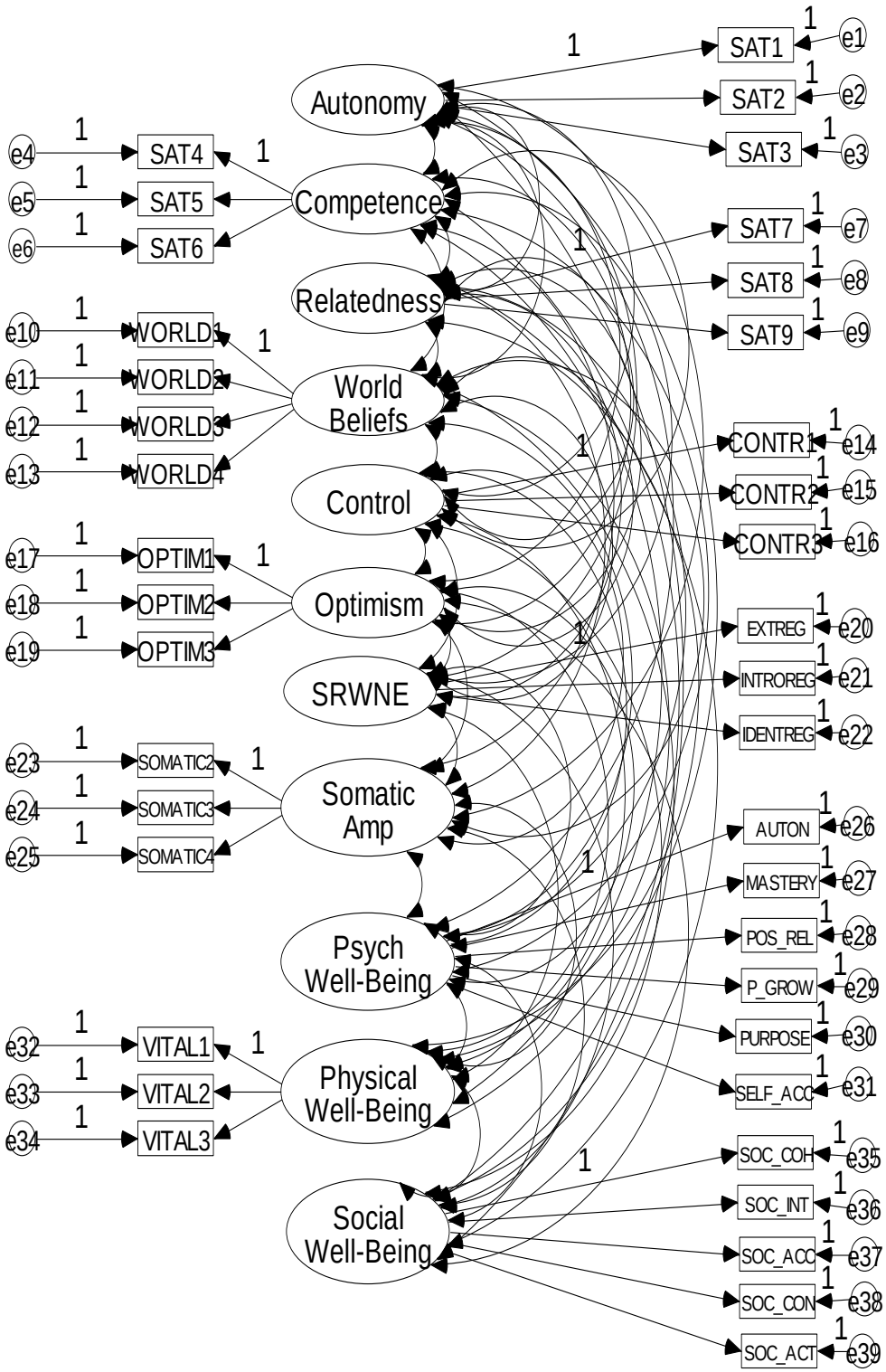


Figure 9. Measurement model for the psychosocial cognitive model of well-being.

The Chi-square value was significant, indicating that the measurement model did not offer a good fit to the data set, χ^2 (N = 605, df = 647) = 2212.23, $p < .001$ (See Appendix K). Nevertheless, the incremental fit indices of NFI, IFI, TLI, and CFI ranged from .83 to .87, which is close to the standard of .90 suggested by Bentler (1990). Together, these indices suggested that the measurement model offers an acceptable fit relative to the null or independence model. Indeed, the possible improvement in fit for this model ranged from only 13% to 17%.

The Critical Ratio test ($> \pm$ 1.96) showed that all regression weights are significant ($p < .001$), and ranged from .44 (AUTON) to .96 (INTROREG). These findings indicate that each measurement variable is adequately related to the latent construct it was hypothesised to measure. Explained variances ranged from .20 (AUTON) to .93 (INTROREG), and residual variances ranged from .07 (INTROREG) to .80 (AUTON). Table 12 presents the standardised regression weights, and the residual and explained variances for the 11 factor measurement model.

Table 12

Standardised Regression Weights, Residual Variances, and Explained Variances for latent factors in the Psychosocial Cognitive Model of Well-Being

Variable	Standardised regression weight	Residual variances	Explained variances
Autonomy			
SAT1	.59	.66	.34
SAT2	.64	.59	.41
SAT3	.70	.51	.49
Competence			
SAT4	.59	.65	.35
SAT5	.69	.53	.47
SAT6	.65	.58	.42
Relatedness			
SAT7	.66	.57	.43
SAT8	.81	.35	.65
SAT9	.82	.33	.67
World beliefs			
WORLD1	.65	.57	.43
WORLD2	.86	.25	.75
WORLD3	.84	.29	.71
WORLD4	.81	.35	.65
Perceived control			
CONTR1	.60	.64	.36
CONTR2	.72	.48	.52
CONTR3	.79	.37	.63
Dispositional optimism			
OPTIM1	.77	.41	.59
OPTIM2	.67	.55	.45
OPTIM3	.78	.39	.61
Self-regulation of withholding negative emotions (SRWNE)			
EXTREG	.86	.26	.74
INTROREG	.96	.07	.93
IDENTREG	.71	.50	.50
Somatic amplification			
SOMATIC2	.58	.66	.34
SOMATIC3	.76	.42	.58
SOMATIC4	.49	.76	.24
Psychological well-being			
AUTON	.44	.80	.20
MASTERY	.76	.43	.57
POS_RELATS	.53	.72	.28
P_GROW	.52	.73	.27
PURPOSE	.55	.70	.30
SELF_ACC	.79	.38	.62
Physical well-being (subjective vitality)			
VITAL1	.86	.27	.73
VITAL2	.82	.33	.67
VITAL3	.92	.15	.85
Social well-being			
SOC_COH	.67	.55	.45
SOC_INT	.69	.52	.48
SOC_ACC	.67	.55	.45
SOC_CON	.68	.53	.47
SOC_ACT	.79	.37	.63

Note. SAT = satisfaction of needs; WORLD = world beliefs; CONTR = control; OPTIM = dispositional optimism; EXTREG = external regulation; INTROREG = introjected regulation; IDENTREG = identified regulation; SOMTIC = somatic amplification; AUTON = autonomy; MASTERY = environmental mastery; POS_RELATS = positive relations with others; P_GROW = personal growth; PURPOSE = purpose in life; SELF_ACC = self acceptance; VITAL = subjective vitality; SOC_COH = social coherence; SOC_INT = social integration; SOC_ACC = social acceptance; SOC_CON = social contribution; SOC_ACT = social actualisation.

13.5.2 Path analysis: Evaluation and comparison of five hierarchical structural models of psychological, physical, and social well-being

The three types of well-being – psychological, physical, and social well-being - were assessed independently. This procedure allowed determination of whether the exogenous variables of masculinity (masc_pos), femininity (fem_pos), and the experience of childhood trauma (trauma), and the endogenous variables of satisfaction of the need for autonomy, satisfaction of the need for competence, satisfaction of the need for relatedness, world beliefs, perceived control, dispositional optimism, the SRWNE, and somatic amplification related in a similar or different manner to psychological, physical, and social well-being. Thus, the analysis involved analysing five hierarchical structural models for each of psychological, physical, and social well-being.

13.5.2.1 Path analysis: Model of psychological well-being

The proposed model shown in Figure 10 contains five hierarchical models:

- *The fully identified stage 5 model* of psychological well-being incorporates all identified paths linking masculinity, femininity, and the experience of childhood trauma to psychological well-being, being mediated by (i) satisfaction of the need for autonomy, satisfaction of the need for competence, satisfaction of the need for relatedness, (ii) beliefs about the world (world beliefs), beliefs about oneself (perceived control), and beliefs about the future (dispositional optimism), (iii) the SRWNE, and (iv) somatic amplification;
- *The stage 4 model* consisted of the stage 5 model minus the variable of somatic amplification and its associated paths;

- *The stage 3 model* constituted by the stage 4 model minus the variable of the SRWNE and its associated paths;
- *The stage 2 model* consisted of the stage 3 model minus the variables of world beliefs, perceived control, and dispositional optimism, and their associated paths, and
- *The stage 1 model* consisted of the simplest model in which masculinity, femininity, and the experience of childhood trauma are directly related to psychological well-being.

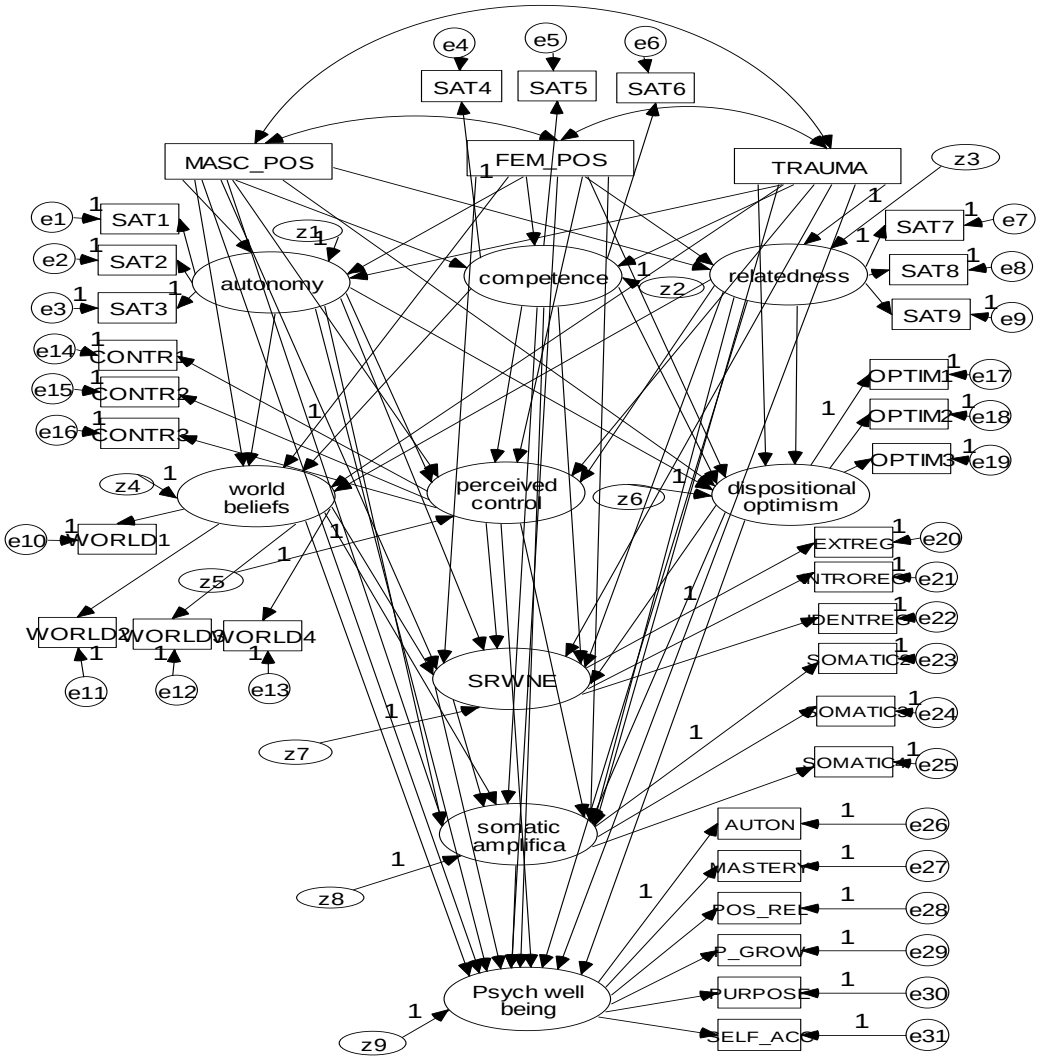


Figure 10. Five nested models of psychological well-being.

Hierarchical path analysis of the five models involved setting paths not estimated in subsequent models to zero. The goodness-of-fit indices for the five nested psychosocial cognitive models of psychological well-being are presented in Table 13.

An examination of the Chi-square statistic for the stage 1 model (i.e., the simple direct model in which masculinity, femininity, and the experience of childhood trauma were posited to be directly associated with psychological well-being) was significant, χ^2 (N = 605, df = 524) = 3726.66, p < .001. This indicated that there was a significant difference between the expected and observed covariance matrices, and that the model was not a good fit to the data set. This was also indicated by the incremental fit indices (ranging from .61 to .64), which fell short of the standard of .90 suggested to indicate acceptable model fit (Bentler, 1990). The RMSEA of .10 also exceeded the suggested standard of $\leq$ .08 posited to indicate acceptable model fit (Browne & Cudeck, 1993; Ho, 2006).

Table 13
Chi-Square Goodness-of-Fit Values, Incremental Fit Indices (NFI, IFI, TLI, CFI), RMSEA, and AIC Values of Models for Stages 1, 2, 3, 4, and 5 of Psychological Well-Being

Model/model comparisons	X^2 (N = 605)	df	p	NFI	CFI	IFI	TLI	AIC	RMSEA
Stage 1	3726.66	524	< .001	.61	.64	.64	.61	3868.66	.10
Stage 2	3024.81	512	< .001	.68	.72	.72	.69	3190.81	.09
Stage 3	2188.46	491	< .001	.77	.81	.81	.78	2396.46	.08
Stage 4	2036.11	481	< .001	.78	.83	.83	.80	2264.11	.07
Stage 5	1970.63	470	< .001	.79	.83	.83	.80	2220.63	.07
Model comparisons									
5 versus 4	65.48	11	< .001	.01	.00	.01	.00	43.48	.00
5 versus 3	217.83	21	< .001	.02	.02	.02	.02	175.83	.01
5 versus 2	1054.18	42	< .001	.11	.11	.12	.11	970.18	.02
5 versus 1	1756.03	54	< .001	.18	.19	.20	.19	1648.03	.03
4 versus 3	152.35	10	< .001	.02	.02	.02	.01	132.35	.01
4 versus 2	988.70	31	< .001	.11	.11	.11	.11	926.70	.02
4 versus 1	1690.55	43	< .001	.18	.19	.19	.18	1604.55	.03
3 versus 2	836.35	21	< .001	.09	.09	.09	.09	794.35	.01
3 versus 1	1538.20	33	< .001	.16	.17	.17	.17	1472.20	.02
2 versus 1	701.85	12	< .001	.07	.08	.08	.08	677.85	.01

Note. Entries under model comparisons are differences. NFI = Normed Fit Index, CFI = Comparative Fit Index, IFI = Incremental Fit Index, TLI = Tucker Lewis Index, AIC = Akaike Information Criterion, and RMSEA = Root Mean Square Error of Approximation.

Table 14 presents the proportion of variance in psychological well-being accounted for in each of the five models (See Appendix K). As shown in Table 14, the stage 1 model accounted for only 30.7% of variance in psychological well-being.

Table 14

Variance in Psychological Well-Being explained in the Stage 1, 2, 3, 4, and 5 Models

Model	Variance explained	Residual variance
Stage 1	30.7%	69.3%
Stage 2	78.9%	21.1%
Stage 3	89.1%	10.9%
Stage 4	89.0%	11.0%
Stage 5	89.0%	11.0%

The Chi-square goodness-of-fit statistic for the stage 2 model (constituted by the stage 1 model plus the mediating variables of satisfaction of the need for autonomy, satisfaction of the need for competence, and satisfaction of the need for relatedness) was significant, χ^2 (N = 605, df = 512) = 3024.81, $p < .001$. This suggested that the stage 2 model did not fit well to the data set. This contention was supported by the incremental fit indices (ranging from .68 to .72) and the RMSEA of .09. As can be seen in Table 14, the stage 2 model accounted for 78.9% of the variance in psychological well-being.

The stage 3 model was constituted by the stage 2 model plus additional pathways hypothesising that some of the influence of gender role schema

(masculinity and femininity) and the experience of childhood trauma on psychological well-being would be mediated by beliefs about the world (world beliefs), beliefs about oneself (perceived control), and beliefs about the future (dispositional optimism). An examination of the Chi-square statistic for the stage 3 model of psychological well-being suggested that this model was not a good fit to the data set, χ^2 (N = 605, df = 491) = 2188.46, p < .001. Incremental fit indices for the stage 3 model ranged from .77 to .81. The AIC was 2396.46 and the RMSEA was .08.

The stage 4 model was constituted by the stage 3 model plus additional pathways positing that some of the influence of masculinity, femininity, and the experience of childhood trauma on psychological well-being would be mediated by the SRWNE. The Chi-square statistic for the stage 4 model was significant, χ^2 (N = 605, df = 481) = 2036.11, p < .001. Incremental fit indices for the stage 4 model ranged from .78 to .83, thereby approaching the standard of .90 and are indicative of reasonable fit relative to the null model. Possible improvement in model fit therefore ranged from 17% to 22%. The AIC was 2264.11. The RMSEA was .07.

The stage 5 model was constituted by the stage 4 model plus pathways hypothesising that some of the influence of masculinity, femininity, and the experience of childhood trauma on psychological well-being would be mediated by somatic amplification. The Chi-square goodness-of-fit statistic for the stage 5 model was significant, χ^2 (N = 605, df = 470) = 1970.63, p < .001. Incremental fit indices for the stage 5 model ranged from .79 to .83 indicating adequate fit relative to the null model, with possible improvement in model fit ranging from 17% to 21%. The AIC was 2220.63. The RMSEA was .07, also indicating

adequate fit. The stage 5 model of psychological well-being also accounted for 23.2% of variance in autonomy, 35.4% of variance in competence, 26.4% of variance in relatedness, 26.4% of variance in world beliefs, 52.5% of variance in perceived control, 69.0% of variance in dispositional optimism, 22.4% of variance in the SRWNE, and 17.0% of variance in somatic amplification.

Model comparisons

The stage 1 and stage 2 models' goodness-of-fit were compared, as shown in Table 13. The Chi-square difference statistic was significant, χ^2 (N = 605, df = 12) = 701.85, $p < .001$, indicating that the stage 2 model was a significantly better fitting model than the direct stage 1 model. The increase in incremental fit indices (with increases ranging from .07 to .08), the increase in the amount of variance in psychological well-being explained by the model (an increase of 48.2%), the decrease in the AIC (by 677.85), and the decrease in the RMSEA (by .01) supported this conclusion. The stage 2 model positing that masculinity, femininity, and the experience of childhood trauma would influence psychological well-being both directly and indirectly, being mediated by the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, was shown to provide a better representation of the process via which psychological well-being in adulthood develops, than the stage 1 model positing that masculinity, femininity, and the experience of childhood trauma would be directly associated with psychological well-being.

In comparing the goodness-of-fit of the stage 2 and stage 3 models, the Chi-square difference test revealed that the stage 3 model was a significantly better fitting model than the stage 2 model, χ^2 (N = 605, df = 21), 836.35, $p <$ .001. The increase in incremental fit indices (of .09 for the NFI, CFI, IFI, and the

TLI), the decrease in the AIC (of 794.35), the decrease in the RMSEA (by .01), and the increase in the amount of variance in psychological well-being accounted for (by 10.2% to 89.1% as shown in Table 14) support this conclusion.

In comparing the goodness-of-fit of the stage 3 and stage 4 models, the Chi-square difference test showed that the stage 4 model incorporating the concept of the SRWNE was a significantly better fitting model than the stage 3 model, χ^2 (N = 605, df = 10) = 152.35, $p < .001$. This conclusion is supported by the increase in the incremental fit indices (with increases ranging from .01 to .02), the decrease in the AIC (of 132.35), and the decrease in the RMSEA (of .01). The amount of variance in psychological well-being explained, however, remained relatively stable and high at 89%, as shown in Table 14.

In comparing the goodness-of-fit of the stage 4 and stage 5 models, the Chi-square difference test statistic indicated that the stage 5 model incorporating the concept of somatic amplification was a significantly better fitting model than the stage 4 model, χ^2 (N = 605, df = 11) = 65.48, $p < .001$. Increases of .01 for the NFI and the IFI, and the decrease in the AIC (of 43.48) support this assertion, regardless of the unchanged RMSEA (at .07) and the unchanged amount of variance explained in psychological well-being (89%).

The overall results from the model comparisons therefore indicate that the most inclusive psychosocial cognitive model of psychological well-being (the stage 5 model) provides the best representation of the pathways via which psychological well-being in adulthood is influenced by gender role schema (masculinity and femininity) and the experience of childhood trauma. More specifically, this model posits that gender role schema (masculinity and femininity) and the experience of childhood trauma are directly and indirectly

associated with psychological well-being, being mediated by (i) the satisfaction of the basic psychological needs for autonomy, competence, and relatedness; (ii) beliefs about the world (world beliefs), beliefs about oneself (perceived control), and beliefs about the future (dispositional optimism); (iii) the SRWNE, and (iv) somatic amplification. The significant paths between the model's variables are presented in Figure 11. For ease of interpretation, only paths that are statistically significant ($p < .05$) have been included in the model.

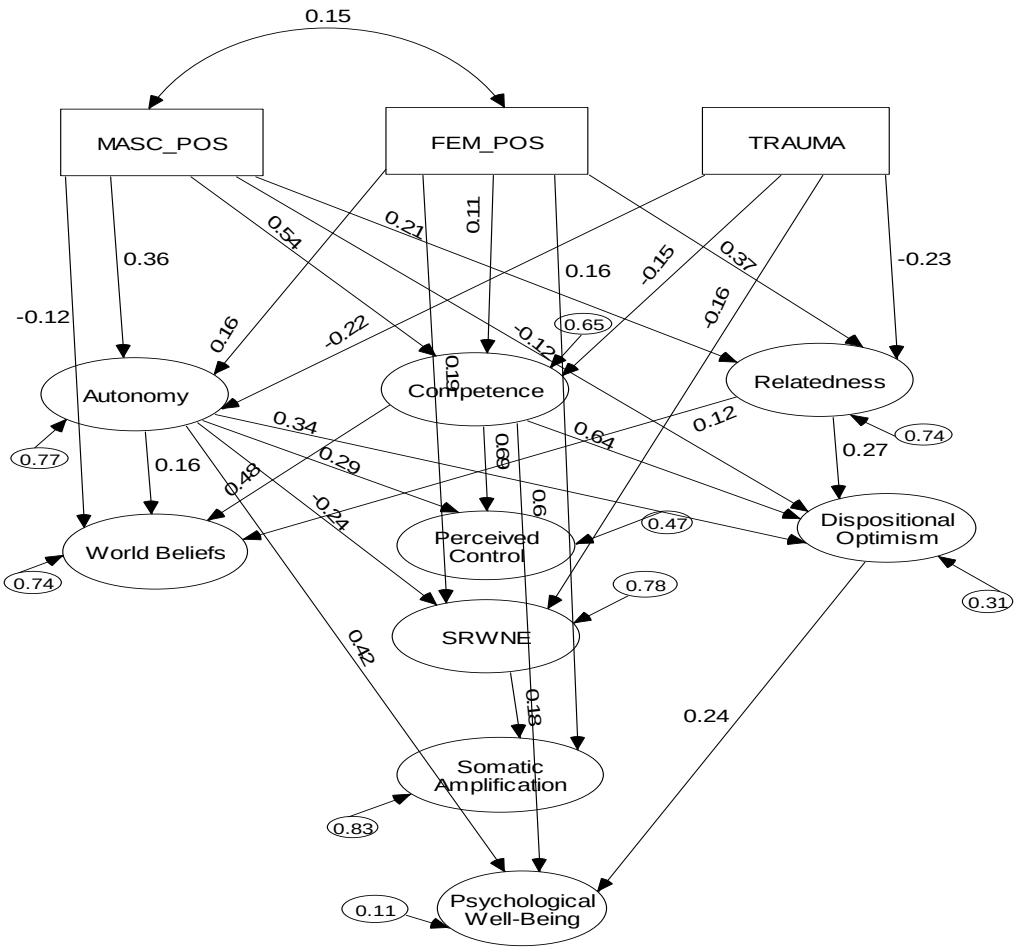


Figure 11. Model of the significant direct and indirect relationships between masculinity, femininity, and the experience of childhood trauma with psychological well-being.

Standardised regression weights

Masculinity - The findings indicated that the exogenous variable of masculinity was not directly related to the criterion variable of psychological well-being. Its influence was primarily indirect, being mediated by the model's mediator variables. Specifically, masculinity was found to be positively associated with satisfaction of the need for autonomy (β = .36). Greater satisfaction of the need for autonomy was then both directly (β = .42) and indirectly associated with greater psychological well-being, being mediated by dispositional optimism. More specifically, greater autonomy resulting from higher masculinity was associated with greater dispositional optimism (β = .34), with dispositional optimism subsequently associated with greater psychological well-being (β = .24). While the positive association between masculinity and autonomy was also associated with (i) greater world beliefs (β = .16), (ii) greater perceived control (β = .29), and (iii) decreased SRWNE (β = -.24), which led to decreased somatic amplification (β = .18), these variables failed to exert any influence on psychological well-being ($p > .05$).

As predicted, masculinity was found to be positively associated with satisfaction of the need for competence (β = .54). Greater satisfaction of the need for competence was then found to be associated both directly (β = .60) and indirectly with psychological well-being, being mediated by dispositional optimism (β = .64). Dispositional optimism was subsequently found to be directly associated with greater psychological well-being (β = .24). While the positive association between masculinity and competence (β = .54) was also associated with greater world beliefs (β = .48) and greater perceived control (β =

.69), neither of these belief components exerted any significant influences on psychological well-being ($p > .05$).

Contrary to the expectation that masculinity would have a negative association with satisfaction of the need for relatedness, a positive association was identified (β = .21). Greater relatedness was then found to be associated with increased dispositional optimism (β = .27), which was subsequently found to be associated with greater psychological well-being (β = .24). While the positive association between masculinity and relatedness was also in turn associated with greater world beliefs (β = .12), this belief component failed to exert any significant influence on psychological well-being ($p > .05$).

In contrast to the positive direct association hypothesised to exist between masculinity and world beliefs, a direct negative association was identified (β = -.12). Thus, the more the participants adhered to a positive masculine gender role, the lower were their world beliefs. Similarly, while a direct positive association had been predicted between masculinity and dispositional optimism, a negative relationship was found (β = -.12), with decreased dispositional optimism in turn associated with decreased psychological well-being (β = .24).

Femininity - Femininity was found to have a positive association with satisfaction of the need for autonomy (β = .16). Greater autonomy resulting from higher femininity was then found to be both directly (and positively) (β = .42) and indirectly associated with greater psychological well-being, being mediated by dispositional optimism. More specifically, greater autonomy resulting from higher femininity was in turn found to be associated with greater dispositional optimism (β = .34), which was subsequently associated with greater psychological well-being (β = .24). Although the positive association between

femininity and autonomy was also significantly associated with (i) greater world beliefs (β = .16), (ii) increased perceptions of control (β = .29), and (iii) decreased SRWNE (β = -.24), which was then associated with decreased somatic amplification (β = .18), these variables failed to exert any influence on psychological well-being ($p > .05$).

Contrary to expectation, femininity was also found to have a positive association with satisfaction of the need for competence (β = .11). Greater competence was then found to be directly (and positively) (β = .60) and indirectly associated with greater psychological well-being. More specifically, the positive association between femininity and competence was found to be associated with greater dispositional optimism (β = .64), which was subsequently found to be associated with greater psychological well-being (β = .24). While the positive association between femininity and competence was also found to be associated with greater world beliefs (β = .48) and greater perceived control (β = .69), these belief components failed to exert any significant influence on psychological well-being ($p > .05$).

As hypothesised, femininity was found to have a positive association with satisfaction of the need for relatedness (β = .37). Higher satisfaction of the need for relatedness was in turn found to be associated with greater dispositional optimism (β = .27), with dispositional optimism then found to be directly associated with greater psychological well-being (β = .24). Although the positive association between femininity and relatedness was found to be associated with greater world beliefs (β = .12), world beliefs failed to exert any significant influence on psychological well-being ($p > .05$). While femininity was also found to be positively related to the SRWNE (β = .19), with the SRWNE in turn

found to be associated with increased somatic amplification (β = .18), somatic amplification was not found to have exerted any significant influence on psychological well-being ($p > .05$).

The Experience of Childhood Trauma - As predicted, the experience of childhood trauma was found to be negatively associated with satisfaction of the need for autonomy (β = -.22). Autonomy was subsequently found to be directly (and positively) (β = .42) and indirectly associated with psychological well-being, with the indirect influence being mediated by dispositional optimism. More specifically, the negative association between trauma and autonomy (β = -.22) was found to be associated with decreased dispositional optimism (β = .34), which in turn was found to be associated with decreased psychological well-being (β = .24). While the negative association between childhood trauma and autonomy was also found to be significantly associated with (i) decreased world beliefs (β = .16), (ii) decreased perceptions of control (β = .29), and (iii) greater SRWNE (β = -.24), which was subsequently found to be associated with greater somatic amplification (β = .18), these variables failed to exert any significant influence on psychological well-being ($p > .05$).

As hypothesised, the experience of childhood trauma was found to have a negative relationship with satisfaction of the need for competence (β = -.15). Competence was then found to be both directly (and positively) (β = .60), and indirectly associated with psychological well-being. More specifically, the negative association between trauma and competence was in turn found to be associated with decreased dispositional optimism (β = .64), with decreased dispositional optimism subsequently and directly associated with decreased psychological well-being (β = .24). The negative relationship between trauma

and competence was also found to be associated with decreased world beliefs (β = .48) and decreased perceived control (β = .69), although neither of these belief components was found to have exerted any significant influence on psychological well-being ($p > .05$).

As hypothesised, the experience of childhood trauma was found to have a negative association with satisfaction of the need for relatedness (β = -.23). Decreased relatedness was then found to be associated with decreased dispositional optimism (β = .27), which in turn was subsequently found to be associated with decreased psychological well-being (β = .24). Although the negative association between trauma and relatedness was in turn associated with decreased world beliefs (β = .12), world beliefs was not found to be associated with psychological well-being ($p > .05$).

As predicted, the experience of childhood trauma was also found to have a direct negative association with the SRWNE (β = -.16). The SRWNE was then found to be associated with decreased somatic amplification (β = .18), although somatic amplification was not found to have exerted any significant influence on psychological well-being ($p > .05$).

In conclusion, the variables identified as playing a role in the process via which masculinity, femininity, and the experience of childhood trauma influence psychological well-being are: (1) satisfaction of the basic psychological needs for autonomy, competence, and relatedness; and (2) dispositional optimism (beliefs about the future). Results from the path analysis therefore tend to support the contention of Basic Needs Theory (University of Rochester, 2004) that environmental circumstances influence psychological well-being via the extent to which they thwart or support the satisfaction of the basic psychological needs for

autonomy, competence, and relatedness. Partial support is also provided for Beck's (1976) cognitive triad model which proposes that it is the individual's cognitive responses to environmental events (i.e., beliefs about the world, themselves, and the future) that determines the impact of events on psychological well-being. Dispositional optimism (beliefs about the future) has been identified in this analysis as playing a significant role in the process via which gender role (masculinity and femininity) and the experience of childhood trauma influence psychological well-being, in particular.

13.5.2.2 Path analysis: Model of physical well-being

The proposed model shown in Figure 12 contains five models:

- *The stage 5 model* of physical well-being incorporates all identified paths linking masculinity, femininity, and the experience of childhood trauma to physical well-being, being mediated by (i) satisfaction of the need for autonomy, satisfaction of the need for competence, satisfaction of the need for relatedness, (ii) beliefs about the world (world beliefs), beliefs about oneself (perceived control), and beliefs about the future (dispositional optimism), (iii) the SRWNE, and (iv) somatic amplification;
- *The stage 4 model* which consists of the stage 5 model minus the variable of somatic amplification and its associated paths;
- *The stage 3 model* constituted by the stage 4 model minus the variable of the SRWNE and its associated paths;
- *The stage 2 model* consisting of the stage 3 model minus the variables of world beliefs, perceived control, and dispositional optimism, and their associated paths, and

- *The stage 1 model* consisting of the simplest model in which masculinity, femininity, and the experience of childhood trauma are directly related to physical well-being.

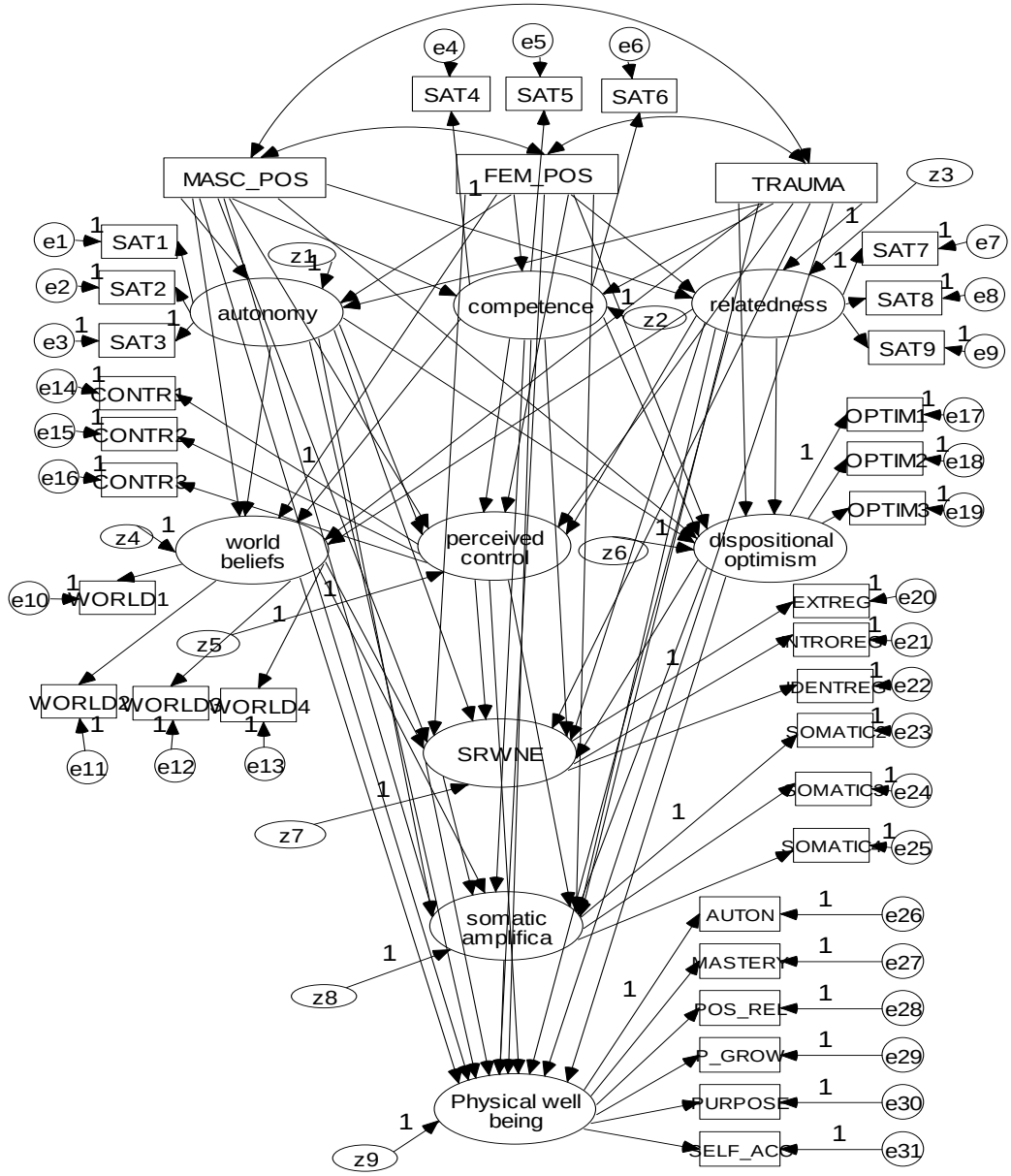


Figure 12. Five nested models of physical well-being.

Similar to the previous analysis, five hierarchical models of physical well-being were evaluated and compared via multi-model analysis. Paths not

estimated were constrained to zero. The goodness-of-fit indices for the five nested psychosocial cognitive models of physical well-being are presented in Table 15.

An examination of the Chi-square statistic for the stage 1 model (i.e., the simple direct model in which masculinity, femininity, and the experience of childhood trauma were posited to be directly associated with physical well-being) was significant, χ^2 (N = 605, df = 431) = 3612.03, p < .001. This indicated that there was a significant difference between the expected and observed covariance matrices, and that the model was not a good fit to the data set. This was also indicated by the incremental fit indices (ranging from .66 to .69), which fell short of the standard of .90 suggested to indicate acceptable model fit (Bentler, 1990). The RMSEA of .10 also exceeded the suggested standard of $\leq$ .08 posited to indicate acceptable model fit (Browne & Cudeck, 1993; Ho, 2006).

Table 15
Chi-Square Goodness-of-Fit Values, Incremental Fit Indices (NFI, IFI, TLI, CFI), RMSEA, and AIC Values of Models for Stages 1, 2, 3, 4, and 5 of Physical Well-Being

Model/model comparisons	χ^2 (N = 605)	df	p	NFI	CFI	IFI	TLI	AIC	RMSEA
Stage 1	3162.03	431	< .001	.66	.69	.69	.66	3292.03	.10
Stage 2	2595.79	419	< .001	.72	.75	.75	.72	2749.79	.09
Stage 3	1819.16	398	< .001	.80	.84	.84	.81	2015.16	.08
Stage 4	1657.05	388	< .001	.82	.85	.86	.83	1873.05	.07
Stage 5	1591.11	377	< .001	.83	.86	.86	.83	1829.11	.07
Model comparisons									
5 versus 4	65.95	11	< .001	.01	.01	.01	.00	43.94	.00
5 versus 3	228.05	21	< .001	.03	.02	.03	.02	186.05	.01
5 versus 2	1004.69	42	< .001	.11	.11	.11	.11	920.68	.02
5 versus 1	1570.93	54	< .001	.17	.17	.18	.17	1462.92	.03
4 versus 3	162.11	10	< .001	.02	.01	.02	.02	142.11	.01
4 versus 2	938.74	31	< .001	.10	.10	.11	.10	876.74	.02
4 versus 1	1504.98	43	< .001	.16	.16	.17	.16	1418.98	.03
3 versus 2	776.64	21	< .001	.09	.11	.09	.09	734.63	.01
3 versus 1	1342.88	33	< .001	.15	.15	.15	.15	1276.87	.02
2 versus 1	566.24	12	< .001	.06	.06	.07	.06	542.24	.01

Note. Entries under model comparisons are differences. NFI = Normed Fit Index, CFI = Comparative Fit Index, IFI = Incremental Fit Index, TLI = Tucker Lewis Index, AIC = Akaike Information Criterion, and RMSEA = Root Mean Square Error of Approximation.

Table 16 presents the proportion of variance in physical well-being accounted for in each of the five models (See Appendix K). As shown in Table 16, the stage 1 model accounted for only 26.5% of variance in physical well-being.

Table 16

Variance in Physical Well-Being explained in the Stage 1, 2, 3, 4, and 5 Models

Model	Variance explained	Residual variance
Stage 1	26.5%	73.5%
Stage 2	48.6%	51.4%
Stage 3	57.0%	43.0%
Stage 4	59.0%	41.0%
Stage 5	59.0%	41.0%

The Chi-square goodness-of-fit statistic for the stage 2 model (constituted by the stage 1 model plus the mediating variables of satisfaction of the need for autonomy, satisfaction of the need for competence, and satisfaction of the need for relatedness) was significant, χ^2 (N = 605, df = 419) = 2595.79, $p < .001$. This suggested that the stage 2 model did not fit well to the data set. This contention was supported by the incremental fit indices (ranging from .72 to .75) and the RMSEA of .09. As can be seen in Table 16, the stage 2 model accounted for 48.6% of the variance in physical well-being.

The stage 3 model was constituted by the stage 2 model plus additional pathways hypothesising that some of the influence of gender role schema

(masculinity and femininity) and the experience of childhood trauma on physical well-being would be mediated by beliefs about the world (world beliefs), beliefs about oneself (perceived control), and beliefs about the future (dispositional optimism). An examination of the Chi-square statistic for the stage 3 model of physical well-being suggested that this model was not a good fit to the data set, χ^2 (N = 605, df = 398) = 1819.16, p < .001. Incremental fit indices for the stage 3 model ranged from .80 to .84. The AIC was 2015.16 and the RMSEA was .08.

The stage 4 model was constituted by the stage 3 model plus additional paths hypothesising that some of the influence of masculinity, femininity, and the experience of childhood trauma on physical well-being would be mediated by the SRWNE. The Chi-square statistic for the stage 4 model was significant, χ^2 (N = 605, df = 388) = 1657.05, p < .001. Incremental fit indices for the stage 4 model ranged from .82 to .86, thereby approaching the standard of .90 and are indicative of reasonable fit relative to the null model. Possible improvement in model fit therefore ranged from 14% to 18%. The AIC was 1873.05. The RMSEA was .07.

The stage 5 model was constituted by the stage 4 model plus pathways hypothesising that some of the influence of masculinity, femininity, and the experience of childhood trauma on physical well-being would be mediated by somatic amplification. The Chi-square goodness-of-fit statistic for the stage 5 model was significant, χ^2 (N = 605, df = 377) = 1591.11, p < .001. Incremental fit indices for the stage 5 model ranged from .83 to .86 indicating adequate fit relative to the null model, with possible improvement in model fit ranging from 14% to 17%. The AIC was 1829.11. The RMSEA was .07, which also indicates adequate fit. The stage 5 model of physical well-being also accounted for 23.3%

of variance in autonomy, 35.2% of variance in competence, 26.4% of variance in relatedness, 26.2% of variance in world beliefs, 52.2% of variance in perceived control, 68.9% of variance in dispositional optimism, 22.5% of variance in the SRWNE, 17.0% of variance in somatic amplification, and 59.0% of variance in physical well-being.

Model comparisons

The stage 1 and stage 2 models' goodness-of-fit indices were compared, as shown in Table 15. The Chi-square difference statistic was significant, χ^2 (N = 605, df = 12) = 566.24, $p < .001$, indicating that the stage 2 model was a significantly better fitting model than the direct stage 1 model. The increase in incremental fit indices (with increases ranging from .06 to .07), the increase in the amount of variance in physical well-being explained by the model (to 48.6%), and the decrease in the RMSEA (of .01) supported this conclusion. The stage 2 model positing that masculinity, femininity, and the experience of childhood trauma would influence physical well-being both directly and indirectly, being mediated by the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, was shown to provide a better representation of the process via which physical well-being in adulthood develops, than the stage 1 model positing that masculinity, femininity, and the experience of childhood trauma would be directly associated with physical well-being.

In comparing the goodness-of-fit of the stage 2 and stage 3 models, the Chi-square difference test revealed that the stage 3 model was a significantly better fitting model than the stage 2 model, χ^2 (N = 605, df = 21) = 776.64, $p <$ .001. The increase in incremental fit indices of .09 to .11 for the NFI, CFI, IFI,

and the TLI), the decrease in the AIC (of 734.63), the decrease in the RMSEA (by .01), and the increase in the amount of variance in physical well-being accounted for (by 8.4% to 57.0%, as shown in Table 16) support this conclusion.

In comparing the goodness-of-fit of the stage 3 and stage 4 models, the Chi-square difference test showed that the stage 4 model incorporating the concept of the SRWNE was a significantly better fitting model than the stage 3 model, χ^2 (N = 605, df = 10) = 162.11, p < .001. This conclusion is supported by the increase in the incremental fit indices (with increases ranging from .01 to .02), the decrease in the AIC (of 142.11), the decrease in the RMSEA (of .01), and the increase in the amount of variance in physical well-being explained (to 59.0%, as shown in Table 16).

In comparing the goodness-of-fit of the stage 4 and stage 5 models, the Chi-square difference test statistic indicated that the stage 5 model incorporating the concept of somatic amplification was a significantly better fitting model than the stage 4 model, χ^2 (N = 605, df = 11) = 65.95, p < .001. Increases of .01 for the NFI, the CFI, and the IFI, and the decrease in the AIC (of 43.94) support this assertion, regardless of the unchanged RMSEA (at .07) and the unchanged amount of variance explained in physical well-being (59.0%).

The overall results from the model comparisons therefore indicate that the most inclusive psychosocial cognitive model of physical well-being (the stage 5 model) provides the best representation of the pathways via which physical well-being in adulthood is influenced by gender role schema (masculinity and femininity) and the experience of childhood trauma. More specifically, this model posits that gender role schema (masculinity and femininity) and the experience of childhood trauma are directly and indirectly associated with

physical well-being, being mediated by (i) the satisfaction of the basic psychological needs for autonomy, competence, and relatedness (ii) beliefs about the world (world beliefs), beliefs about oneself (perceived control), and beliefs about the future (dispositional optimism), (iii) the SRWNE, and (iv) somatic amplification. The significant paths between the model's variables are presented in Figure 13. For ease of interpretation, only paths that are statistically significant ($p < .05$) have been included in the model.

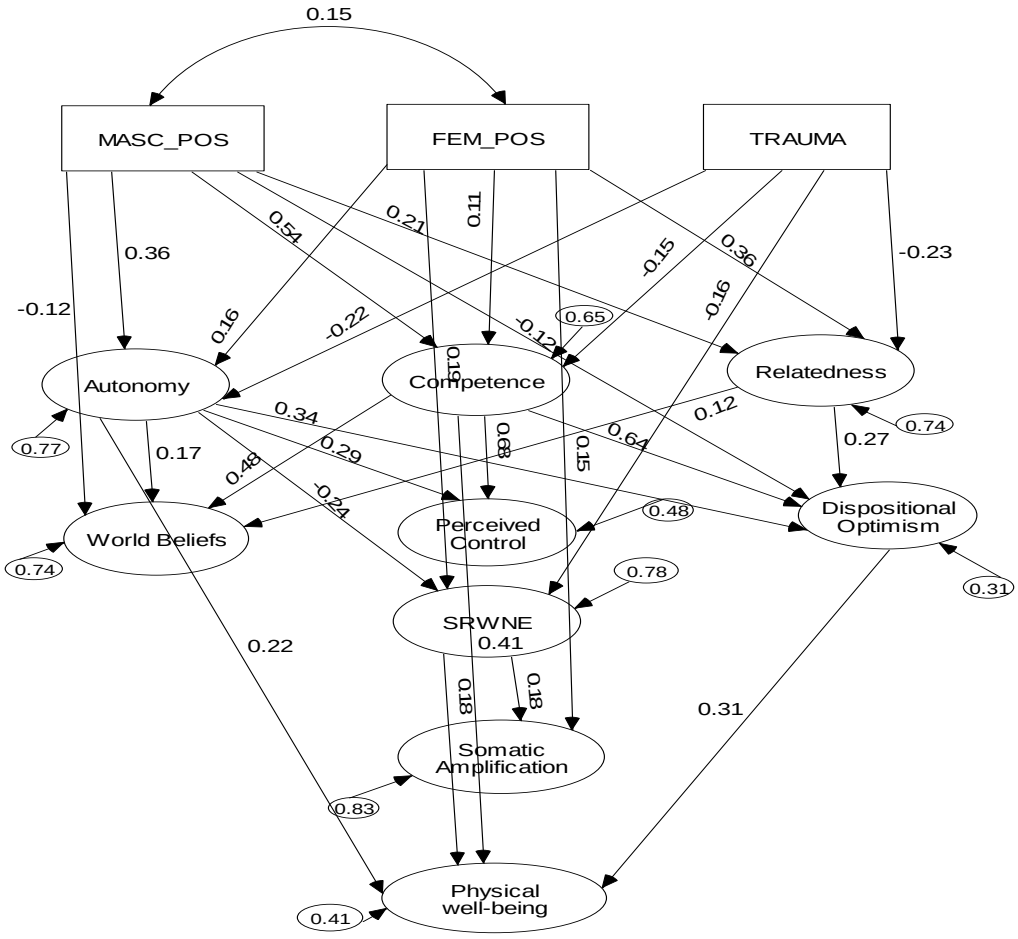


Figure 13. Model of the significant direct and indirect relationships between masculinity, femininity, and the experience of childhood trauma with physical well-being.

Standardised regression weights

Masculinity – As hypothesised, a positive association was identified between masculinity and satisfaction of the need for autonomy (β = .36). Autonomy was then in turn found to be both directly (and positively) (β = .22) and indirectly associated with greater physical well-being, being mediated by both dispositional optimism and the SRWNE. More specifically, the positive association between masculinity and autonomy was in turn found to be associated with greater dispositional optimism (β = .34), with dispositional optimism then found to be directly associated with greater physical well-being (β = .31). The positive association between masculinity and autonomy was also found to be associated with decreased SRWNE (β = -.24), with low SRWNE in turn found to be associated with decreased physical well-being (β = .18). While the positive association between masculinity and autonomy also led to (i) greater world beliefs (β = .17), (ii) greater perceived control (β = .29), and (iii) decreased SRWNE (β = -.24), which was in turn associated with decreased somatic amplification (β = .18), these variables failed to exert any significant influences on physical well-being ($p > .05$).

As predicted, masculinity was found to have a positive association with satisfaction of the need for competence (β = .54). Competence was in turn found to be directly (and positively) (β = .41) and indirectly associated with physical well-being, being mediated by dispositional optimism. More specifically, masculinity was found to be positively related to competence, with greater competence then found to be associated with increased dispositional optimism (β = .64). Greater dispositional optimism was then found to be associated with better physical well-being (β = .31). The positive association between

masculinity and competence was also found to be associated with greater world beliefs (β = .48) and greater perceived control (β = .68), although neither of these belief components were then found to have a significant influence on physical well-being ($p > .05$).

Unexpectedly, a positive association was found between masculinity and satisfaction of the need for relatedness (β = .21). Relatedness was in turn found to be associated with greater dispositional optimism (β = .27), with dispositional optimism subsequently being directly associated with greater physical well-being (β = .31). The positive association between masculinity and relatedness was also in turn found to be associated with greater world beliefs (β = .12), although world beliefs failed to exert any significant influence on physical well-being ($p > .05$). Contrary to expectations, masculinity was found to have a direct negative association with world beliefs (β = -.12), although world beliefs were not then shown to have any significant influence on physical well-being ($p > .05$). Also contrary to expectation, masculinity was found to be directly associated with decreased dispositional optimism (β = -.12), which was subsequently and directly associated with decreased physical well-being (β = .31).

Femininity - Femininity was found to have a positive relationship with satisfaction of the need for autonomy (β = .16). Autonomy was then found to be both directly (and positively) (β = .22) and indirectly associated with physical well-being, being mediated by the SRWNE and dispositional optimism. More specifically, the positive relationship between femininity and autonomy was in turn found to be associated with decreased SRWNE (β = -.24), with low SRWNE subsequently found to be associated with decreased physical well-being (β = .18). The positive association between femininity and autonomy was also found

to be associated with increased dispositional optimism (β = .34), with dispositional optimism subsequently found to be associated with better physical well-being (β = .31). While the positive association between femininity and satisfaction of the need for autonomy was also found to be associated with (i) increased world beliefs (β = .17), (ii) increased perceptions of control (β = .29), and (iii) decreased SRWNE (β = -.24), which then led to decreased somatic amplification (β = .18), none of these variables exerted a significant influence on physical well-being ($p > .05$).

Contrary to expectation, a positive association was identified between femininity and satisfaction of the need for competence (β = .11). Competence was then found to be directly (and positively) (β = .41) and indirectly associated with physical well-being, being mediated by dispositional optimism. More specifically, femininity was found to be associated with high satisfaction of the need for competence, with competence then found to be associated with greater dispositional optimism (β = .64). Dispositional optimism was subsequently found to be associated with greater physical well-being (β = .31). The positive association between femininity and competence was also in turn found to be associated with both greater world beliefs (β = .48) and greater perceptions of control (β = .68), although neither of these belief components exerted any significant influence on physical well-being ($p > .05$).

As expected, femininity was found to be positively associated with satisfaction of the need for relatedness (β = .36). Relatedness was subsequently found to be associated with greater dispositional optimism (β = .27), with dispositional optimism then associated with better physical well-being (β = .31). Femininity's positive association with satisfaction of the need for relatedness was

also in turn found to be associated with greater world beliefs (β = .12), although world beliefs was not found to have exerted any significant influence on physical well-being ($p > .05$).

Femininity was also found to be directly and positively related to the SRWNE (β = .19) and with increased somatic amplification (β = .15). While greater SRWNE led to better physical well-being (β = .18), somatic amplification failed to exert any significant influence on physical well-being ($p > .05$). While the greater SRWNE resulting from high femininity also led to increased somatic amplification (β = .18), somatic amplification (as mentioned above) was not found to have exerted any significant influence on physical well-being.

The Experience of Childhood Trauma - As expected, the experience of childhood trauma was found to be negatively associated with satisfaction of the need for autonomy (β = -.22). Autonomy was then subsequently found to be directly (and positively) (β = .22) and indirectly associated with physical well-being, being mediated by both dispositional optimism and the SRWNE. More specifically, the negative association between trauma and autonomy was in turn found to be associated with decreased dispositional optimism (β = .34), with decreased dispositional optimism then found to be directly associated with decreased physical well-being (β = .31). The negative association between trauma and autonomy was also found to be associated with increased SRWNE (β = -.24), with increased SRWNE subsequently associated with increased physical well-being (β = .18). While the negative association between trauma and autonomy (β = -.22) was also found to be associated with (i) decreased world beliefs (β = .17), (ii) decreased perceived control (β = .29), and (iii) increased SRWNE (β = -.24), which was then found to be associated with increased

somatic amplification (β = .18), none of these variables exerted any significant influence on physical well-being ($p > .05$).

As hypothesised, the experience of childhood trauma was found to be associated with decreased satisfaction of the need for competence (β = -.15). Competence was then found to be both directly (and positively) (β = .41) and indirectly associated with physical well-being, being mediated by dispositional optimism. More specifically, childhood trauma was related to decreased satisfaction of the need for competence, with competence in turn found to be associated with decreased dispositional optimism (β = .64). Decreased dispositional optimism was then found to be associated with decreased physical well-being (β = .31). The negative association between the experience of childhood trauma and the satisfaction of the need for competence was also found to be associated with decreased world beliefs (β = .48) and decreased perceived control (β = .68), although neither world beliefs nor perceived control was significantly associated with physical well-being ($p > .05$).

In line with predictions, the experience of childhood trauma was also found to have a negative association with satisfaction of the need for relatedness (β = -.23). Decreased relatedness was then found to be associated with decreased dispositional optimism (β = .27), and decreased dispositional optimism was subsequently found to be associated with decreased physical well-being (β = .31). The negative association between trauma and relatedness was also found to be associated with decreased world beliefs (β = .12), although world beliefs did not significantly influence physical well-being in the model ($p > .05$).

As hypothesised, the experience of childhood trauma was also found to be directly and negatively associated with the SRWNE (β = -.16), with decreased

SRWNE then found to be directly associated with decreased physical well-being (β = .18). While the negative association between trauma and the SRWNE was also found to be associated with decreased somatic amplification (β = .18), somatic amplification was not found to have significantly influenced physical well-being ($p > .05$).

In summary, the above results obtained for the full psychosocial cognitive model of physical well-being indicate that satisfaction of the basic psychological needs for autonomy, competence, and relatedness, dispositional optimism, and the SRWNE play important roles in the process via which masculinity, femininity, and the experience of childhood trauma influence physical well-being in adulthood. These results therefore provide support for the Basic Needs Theory (University of Rochester, 2004), especially in relation to physical well-being. They also provide partial support for Beck's (1976) cognitive triad theory. Additionally, they support the importance of the concept of the SRWNE (a relatively nascent concept developed from SDT) (Kim et al., 2004) to physical well-being.

13.5.2.3 Path analysis: Model of social well-being

The proposed model shown in Figure 14 contains five models:

- *The fully identified stage 5 model* of social well-being which incorporates all identified paths linking masculinity, femininity, and the experience of childhood trauma to social well-being, being mediated by (i) satisfaction of the need for autonomy, satisfaction of the need for competence, satisfaction of the need for relatedness, (ii) beliefs about the world (world beliefs), beliefs about oneself

(perceived control), and beliefs about the future (dispositional optimism), (iii) the SRWNE, and (iv) somatic amplification;

- *The stage 4 model* consisted of the stage 5 model minus the variable of somatic amplification and its associated paths;
- *The stage 3 model* constituted by the stage 4 model minus the variable of the SRWNE and its associated paths;
- *The stage 2 model* consisted of the stage 3 model minus the variables of world beliefs, perceived control, and dispositional optimism, and their associated paths, and
- *The stage 1 model* consisted of the simplest model in which masculinity, femininity, and the experience of childhood trauma are directly related to social well-being.

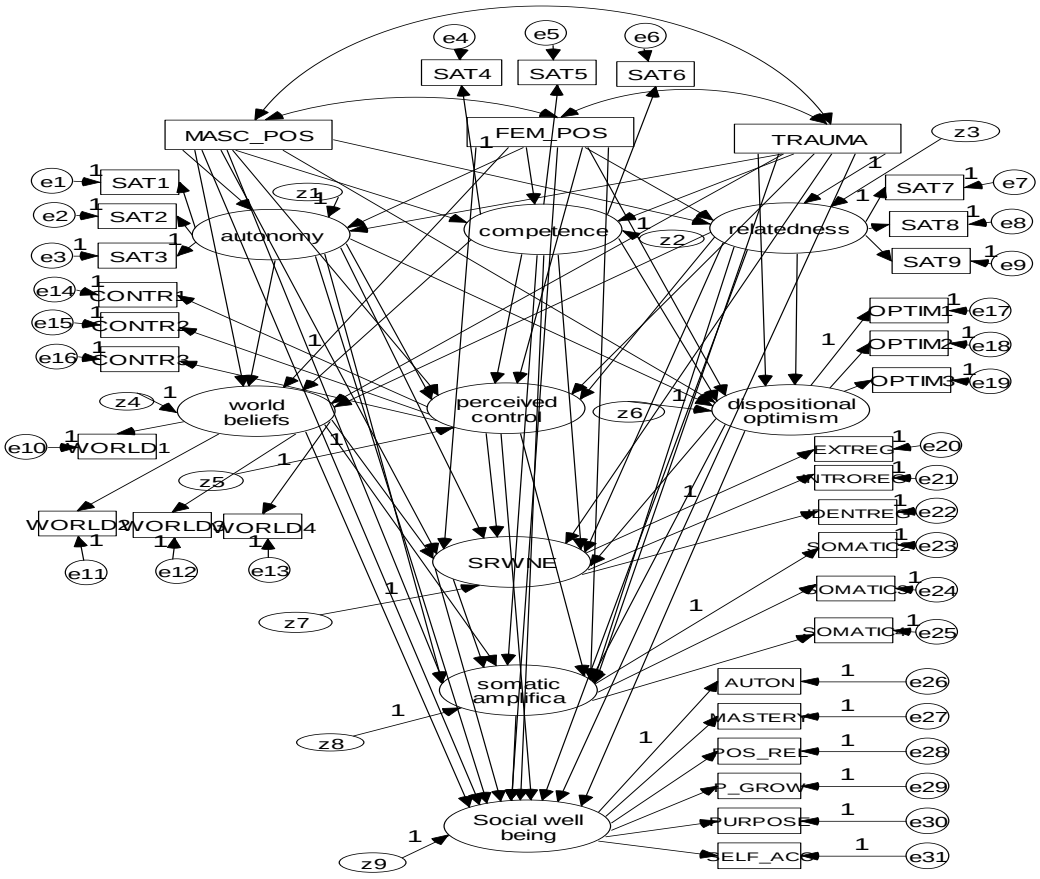


Figure 14. Five nested models of social well-being.

Similar to the previous two analyses, five hierarchical models of social well-being were evaluated and compared via multi-model analysis. Paths not estimated were constrained to zero. The goodness-of-fit indices for the five nested models of social well-being are presented in Table 17.

An examination of the Chi-square statistic for the stage 1 model (i.e., the simple direct model in which masculinity, femininity, and the experience of childhood trauma were posited to be directly associated with social well-being) was significant, χ^2 (N = 605, df = 492) = 3692.65, p < .001. This indicated that there was a significant difference between the expected and observed covariance matrices, and that the model was not a good fit to the data set. This was also indicated by the incremental fit indices (ranging from .61 to .64), which fell short of the standard of .90 suggested to indicate acceptable model fit (Bentler, 1990). The RMSEA of .10 also exceeded the suggested standard of $\leq$ .08 posited to indicate acceptable model fit (Browne & Cudeck, 1993; Ho, 2006).

Table 17

Chi-Square Goodness-of-Fit Values, Incremental Fit Indices (NFI, IFI, TLI, CFI), RMSEA, and AIC Values of Models for Stages 1, 2, 3, 4, and 5 of Social Well-Being

Model/model comparisons	χ^2 (N = 605)	df	p	NFI	CFI	IFI	TLI	AIC	RMSEA
Stage 1	3692.65	492	< .001	.61	.64	.64	.62	3830.65	.10
Stage 2	3107.43	480	< .001	.67	.71	.71	.68	3269.43	.10
Stage 3	2145.18	459	< .001	.77	.81	.81	.78	2349.18	.08
Stage 4	1991.50	449	< .001	.79	.83	.83	.80	2215.50	.08
Stage 5	1925.54	438	< .001	.80	.83	.84	.80	2171.54	.08
Model comparisons									
5 versus 4	65.97	11	< .001	.01	.00	.01	.00	43.96	.00
5 versus 3	219.64	21	< .001	.02	.02	.02	.02	177.64	.00
5 versus 2	1181.89	42	< .001	.13	.12	.13	.12	1097.89	.02
5 versus 1	1767.11	54	< .001	.19	.19	.20	.18	1659.11	.02
4 versus 3	153.68	10	< .001	.02	.02	.02	.02	133.68	.00
4 versus 2	1115.93	31	< .001	.12	.12	.12	.12	1053.93	.02
4 versus 1	1701.15	43	< .001	.18	.19	.19	.18	1615.15	.02
3 versus 2	962.25	21	< .001	.10	.10	.11	.11	920.25	.02
3 versus 1	1547.47	33	< .001	.16	.17	.17	.17	1481.47	.02
2 versus 1	585.22	12	< .001	.06	.07	.07	.06	561.22	.00

Note. Entries under model comparisons are differences. NFI = Normed Fit Index, CFI = Comparative Fit Index, IFI = Incremental Fit Index, TLI = Tucker Lewis Index, AIC = Akaike Information Criterion, and RMSEA = Root Mean Square Error of Approximation.

Table 18 presents the proportion in social well-being accounted for in each of the five models (See Appendix K). As shown in Table 18, the stage 1 model accounted for only 13.4% of variance in social well-being.

Table 18

Variance in Social Well-Being explained in the Stage 1, 2, 3, 4, and 5 Models

Model	Variance explained	Residual variance
Stage 1	13.4%	86.6%
Stage 2	47.6%	52.4%
Stage 3	72.8%	27.2%
Stage 4	72.7%	27.3%
Stage 5	72.8%	27.2%

The Chi-square goodness-of-fit statistic for the stage 2 model (constituted by the stage 1 model plus the mediating variables of the satisfaction of the need for autonomy, satisfaction of the need for competence, and satisfaction of the need for relatedness) was significant, χ^2 (N = 605, df = 480) = 3107.43, $p < .001$. This suggested that the stage 2 model did not fit well to the data set. This contention was supported by the incremental fit indices (ranging from .67 to .71) and the RMSEA of .10. As can be seen in Table 18, the stage 2 model accounted for 47.6% of the variance in social well-being.

The stage 3 model was constituted by the stage 2 model plus additional pathways hypothesising that some of the influence of gender role schema (masculinity and femininity) and the experience of childhood trauma on social

well-being would be mediated by beliefs about the world (world beliefs), beliefs about oneself (perceived control), and beliefs about the future (dispositional optimism). An examination of the Chi-square statistic for the stage 3 model of social well-being suggested that this model was not a good fit to the data set, χ^2 (N = 605, df = 459) = 2145.18, p < .001. Incremental fit indices for the stage 3 model ranged from .77 to .81. The AIC was 2349.18 and the RMSEA was .08.

The stage 4 model was constituted by the stage 3 model plus additional pathways positing that some of the influence of masculinity, femininity, and the experience of childhood trauma on social well-being would be mediated by the SRWNE. The Chi-square statistic for the stage 4 model was significant, χ^2 (N = 605, df = 449) = 1991.50, p < .001. Incremental fit indices for the stage 4 model ranged from .79 to .83, thereby approaching the standard of .90 and are indicative of reasonable fit relative to the null model. Possible improvement in model fit therefore ranged from 17% to 21%. The AIC was 2215.50 and the RMSEA was .08.

The stage 5 model was constituted by the stage 4 model plus pathways hypothesising that some of the influence of masculinity, femininity, and the experience of childhood trauma on social well-being would be mediated by somatic amplification. The Chi-square goodness-of-fit statistic for the stage 5 model was significant, χ^2 (N = 605, df = 438) = 1925.54, p < .001. Incremental fit indices for the stage 5 model ranged from .80 to .84 indicating adequate fit relative to the null model, with possible improvement in model fit ranging from 16% to 20%. The AIC was 2171.54. The RMSEA was .08, also indicating adequate fit. The stage 5 model of social well-being also accounted for 23.5% of variance in autonomy, 34.9% of variance in competence, 26.4% of variance in

relatedness, 26.1% of variance in world beliefs, 52.3% of variance in perceived control, 68.7% of variance in dispositional optimism, 22.6% of variance in the SRWNE, and 17.0% of variance in somatic amplification.

Model comparisons

The stage 1 and stage 2 models' goodness-of-fit indices were compared, as shown in Table 17. The Chi-square difference statistic was significant, χ^2 (N = 605, df = 12) = 585.22, $p < .001$, indicating that the stage 2 model was a significantly better fitting model than the direct stage 1 model. The increase in incremental fit indices (with increases ranging from .06 to .07), the increase in the amount of variance in social well-being explained by the model (to 47.6%), and the decrease in the AIC (of 561.22) supported this conclusion, regardless of the unchanged RMSEA (.10). The stage 2 model positing that masculinity, femininity, and the experience of childhood trauma would influence social well-being both directly and indirectly, being mediated by satisfaction of the basic psychological needs for autonomy, competence, and relatedness, was shown to provide a better representation of the process via which psychological well-being in adulthood develops than the stage 1 model positing that masculinity, femininity, and the experience of childhood trauma would be directly associated with social well-being.

In comparing the goodness-of-fit of the stage 2 and stage 3 models, the Chi-square difference test revealed that the stage 3 model was a significantly better fitting model than the stage 2 model, χ^2 (N = 605, df = 21) = 962.25, $p <$ .001. The increase in the incremental fit indices (of .10 to .11), the decrease in the AIC (of 920.25), the decrease in the RMSEA (by .02), and the increase in the

amount of variance in social well-being accounted for (by 25.2% to 72.8%, as shown in Table 18) support this conclusion.

In comparing the goodness-of-fit of the stage 3 and stage 4 models, the Chi-square difference test showed that the stage 4 model incorporating the concept of the SRWNE was a significantly better fitting model than the stage 3 model, χ^2 (N = 605, df = 10) = 153.68, $p < .001$. Although the RMSEA (at .08) and the amount of variance in social well-being explained remained stable (at 72.7%, as shown in Table 18), the increase in the incremental fit indices (with increases ranging from .01 to .02), and the decrease in the AIC (of 133.68) supported the conclusion.

In comparing the goodness-of-fit of the stage 4 and stage 5 models, the Chi-square difference test statistic indicated that the stage 5 model incorporating the concept of somatic amplification was a significantly better fitting model than the stage 4 model, χ^2 (N = 605, df = 11) = 65.97, $p < .001$. Increases of .01 for the NFI and the IFI, and the decrease in the AIC (of 43.96) support this assertion, regardless of the unchanged RMSEA (at .08) and the unchanged amount of variance explained in social well-being (72.8%).

The overall results from the model comparisons therefore indicate that the most inclusive psychosocial cognitive model of social well-being (the stage 5 model) provides the best representation of the pathways via which social well-being in adulthood is influenced by gender role schema (masculinity and femininity) and the experience of childhood trauma. More specifically, this model posits that gender role schema (masculinity and femininity) and the experience of childhood trauma are directly and indirectly associated with social well-being, being mediated by (i) the satisfaction of the basic psychological

needs for autonomy, competence, and relatedness; (ii) beliefs about the world (world beliefs), beliefs about oneself (perceived control), and beliefs about the future (dispositional optimism); (iii) the SRWNE; and (iv) somatic amplification. The significant paths between the model's variables are presented in Figure 15. For ease of interpretation, only paths that are statistically significant ($p < .05$) have been included in the model.

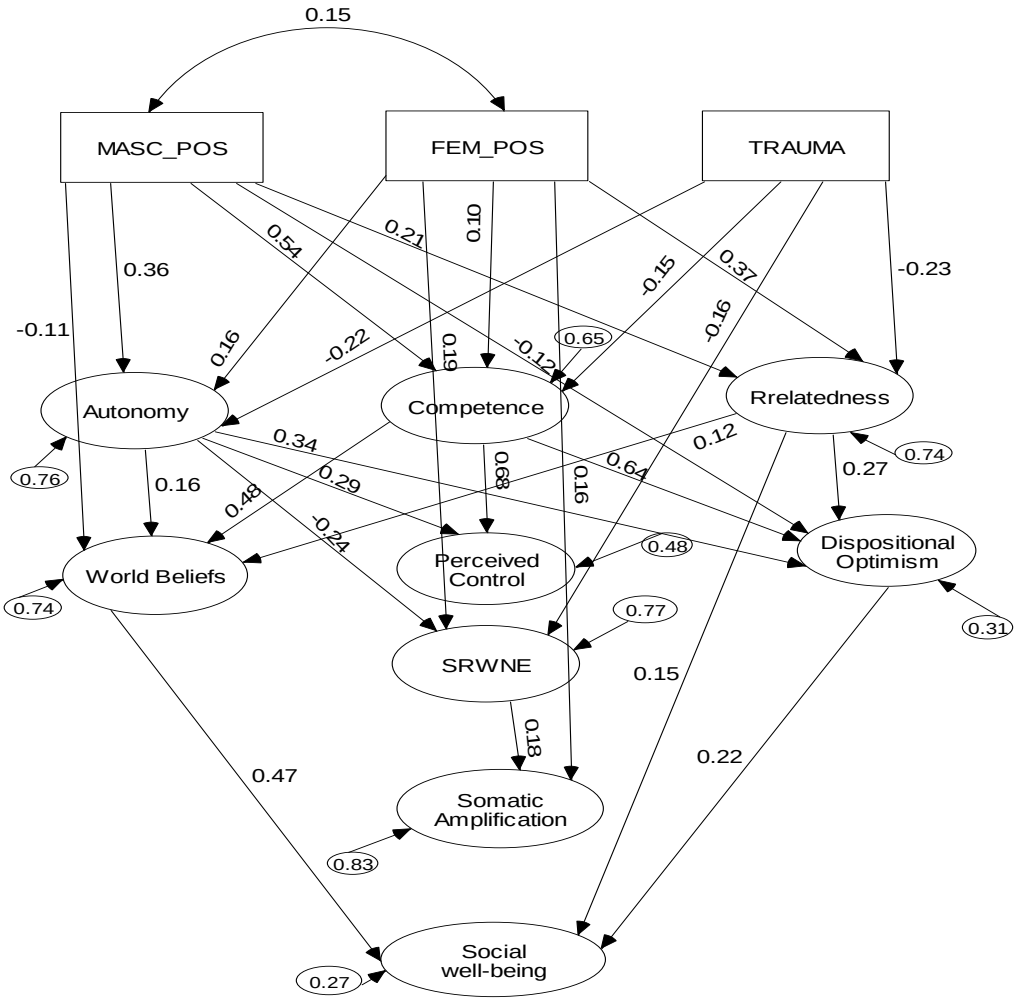


Figure 15. Model of the significant direct and indirect relationships between masculinity, femininity, and the experience of childhood trauma with social well-being.

Standardised regression weights

Masculinity – As predicted, a positive association was identified between masculinity and satisfaction of the need for autonomy (β = .36). Autonomy was in turn found to be indirectly associated with social well-being via both world beliefs and dispositional optimism. More specifically, the positive association between masculinity and autonomy led to greater world beliefs (β = .16), with world beliefs then directly associated with greater social well-being (β = .47). The positive association between masculinity and autonomy (β = .36) was also found to be significantly associated with increased dispositional optimism (β = .34), with increased dispositional optimism then found to be directly associated with greater social well-being (β = .22). While the association between masculinity and increased autonomy was also found to be associated with (i) greater perceived control (β = .29), and (ii) decreased SRWNE (β = -.24), with decreased SRWNE subsequently associated with decreased somatic amplification (β = .18), these variables failed to exert any significant influence on social well-being ($p > .05$).

In line with predictions, a positive association was found between masculinity and satisfaction of the need for competence (β = .54). Competence was then found to be indirectly associated with social well-being, being mediated by (i) world beliefs, and (ii) dispositional optimism. More specifically, higher masculinity was associated with greater competence. Greater competence was then associated with greater world beliefs (β = .48), with world beliefs then found to be associated with greater social well-being (β = .47). The positive association between masculinity and competence was also found to be associated with greater dispositional optimism (β = .64), with greater dispositional optimism

then being associated with greater social well-being (β = .22). The positive association between masculinity and competence was also found to be associated with greater perceived control (β = .68), although perceived control was not shown to have any significant influence on social well-being ($p > .05$).

Contrary to expectation, a positive association was found between masculinity and satisfaction of the need for relatedness (β = .21). Relatedness was then found to be directly (and positively) (β = .15) and indirectly associated with social well-being, being mediated by world beliefs and dispositional optimism. More specifically, the positive association between masculinity and relatedness was in turn found to be associated with greater world beliefs (β = .12), with greater world beliefs then found to be associated with better social well-being (β = .47). The positive association between masculinity and relatedness was also in turn found to be associated with greater dispositional optimism (β = .27), with greater dispositional optimism then being directly associated with greater social well-being (β = .22).

Also contrary to expectations, masculinity was found to have negative associations with world beliefs (β = -.11) and dispositional optimism (β = -.12), with decreased world beliefs and decreased dispositional optimism then found to be directly associated with decreased social well-being (β = .47 and β = .22 respectively).

Femininity – Contrary to expectation, a positive association was found between femininity and satisfaction of the need for autonomy (β = .16). Autonomy was then found to be indirectly associated with social well-being, being mediated by world beliefs and dispositional optimism. More specifically, the positive association between femininity and autonomy was in turn found to

be associated with greater world beliefs (β = .16), with world beliefs found to be subsequently and directly associated with greater social well-being (β = .47). The positive association between femininity and autonomy was also found to be subsequently associated with greater dispositional optimism (β = .34), with greater dispositional optimism then found to be directly associated with improved social well-being (β = .22). While the positive association between femininity and autonomy (β = .16) was also found to be subsequently related to (i) greater perceived control (β = .29) and (ii) decreased SRWNE (β = -.24), with decreased SRWNE then found to be associated with decreased somatic amplification (β = .18), these variables did not exert any significant influences on social well-being ($p > .05$).

Unexpectedly, femininity was also found to have a positive association with satisfaction of the need for competence (β = .10). Competence was then found to be indirectly associated with social well-being via (i) world beliefs, and (ii) dispositional optimism. More specifically, greater adherence to the feminine gender role was associated with greater competence, with greater competence then found to be associated with greater world beliefs (β = .48). World beliefs in turn were found to be directly associated with greater social well-being (β = .47). The positive association between femininity and competence was also found to be subsequently associated with greater dispositional optimism (β = .64), with greater dispositional optimism subsequently found to be directly associated with greater social well-being (β = .22). The positive association between femininity and competence was also in turn found to be positively associated with perceived control (β = .68), although perceived control did not exert any significant influence on social well-being ($p > .05$).

As hypothesised, a positive association was identified between femininity and the satisfaction of the need for relatedness (β = .36). Relatedness was then found to be directly (and positively) (β = .15), and indirectly associated with social well-being, being mediated by world beliefs and dispositional optimism. More specifically, the association between femininity and the satisfaction of the need for relatedness (β = .36) was found to be subsequently associated with greater world beliefs (β = .12), and greater world beliefs was found to be associated with improved social well-being (β = .47). Femininity's positive association with relatedness was also in turn found to be associated with greater dispositional optimism (β = .27), with greater dispositional optimism then being directly associated with greater social well-being (β = .22).

Contrary to expectation, femininity was found to be directly associated with increased SRWNE (β = .19), with increased SRWNE then found to be associated with greater somatic amplification (β = .18). Femininity was also found to be directly and positively associated with somatic amplification (β = .16). However, somatic amplification failed to exert any significant influence on social well-being ($p > .05$).

The Experience of Childhood Trauma - As expected, the experience of childhood trauma was found to be negatively associated with satisfaction of the need for autonomy (β = -.22). Autonomy was then found to be indirectly associated with social well-being, being mediated by world beliefs and dispositional optimism. More specifically, the negative association between childhood trauma and autonomy was subsequently found to be associated with decreased world beliefs (β = .16), with decreased world beliefs being subsequently related to decreased social well-being (β = .47). Trauma's negative

association with autonomy was also in turn found to be associated with decreased dispositional optimism (β = .34), with decreased dispositional optimism then found to be related to decreased social well-being (β = .22). Although the negative association between trauma and autonomy was in turn found to be associated with (i) decreased perceived control (β = .29), and (ii) increased SRWNE (β = -.24), with increased SRWNE then being related to increased somatic amplification (β = .18), these variables did not exert significant influences on social well-being ($p > .05$).

As hypothesised, the experience of childhood trauma was found to have a negative association with satisfaction of the need for competence (β = -.15). Competence was then found to be indirectly associated with social well-being via (i) world beliefs, and (ii) dispositional optimism. More specifically, childhood trauma was associated with decreased competence, with decreased competence in turn being associated with decreased world beliefs (β = .48), and decreased world beliefs in turn being associated with decreased social well-being (β = .47). The negative association between trauma and competence was also found to be subsequently associated with decreased dispositional optimism (β = .64), with decreased dispositional optimism then being associated with decreased social well-being (β = .47). While trauma's negative association with competence was in turn associated with decreased perceptions of control (β = .68), perceived control did not exert any significant influence on social well-being ($p > .05$).

As expected, a negative association was identified between the experience of childhood trauma and satisfaction of the need for relatedness (β = -.23). Decreased relatedness was then found to be directly associated with decreased social well-being (β = .15), and indirectly associated with social well-

being via (i) world beliefs, and (ii) dispositional optimism. More specifically, the negative association between childhood trauma and relatedness was found to be subsequently associated with decreased world beliefs (β = .12), with decreased world beliefs then found to be associated with decreased social well-being (β = .47). The association between trauma and relatedness was also in turn found to be associated with decreased dispositional optimism (β = .27), with decreased dispositional optimism in turn being associated with decreased social well-being (β = .22).

As hypothesised, trauma was also found to be directly associated with decreased SRWNE (β = -.16), with decreased SRWNE then found to be associated with decreased somatic amplification (β = .18). However, somatic amplification was not found to be significantly associated with social well-being ($p > .05$).

In summary, the results obtained for the model of social well-being indicate that the variables involved in the process via which masculinity, femininity, and the experience of childhood trauma influence social well-being include satisfaction of the need for autonomy, satisfaction of the need for competence, satisfaction of the need for relatedness, world beliefs, and dispositional optimism. The findings support Basic Needs Theory (University of Rochester, 2004), and provide partial support for Beck's (1976) cognitive triad theory in that, while beliefs about the world (world beliefs) and beliefs about the future (dispositional optimism) were found to play significant roles in the process via which masculinity, femininity, and the experience of childhood trauma influence social well-being, beliefs about oneself (perceived control) were not.

Summary of results for SEM analyses of psychological, physical, and social well-being models

In comparing the results obtained for the psychological, physical, and social well-being models, it is clear that some commonalities and differences exist in the processes via which gender role schema and the experience of childhood trauma influence psychological, physical, and social well-being. The variables identified as playing important roles in such processes include: (1) satisfaction of the basic psychological need for autonomy, (2) satisfaction of the basic psychological need for competence, (3) satisfaction of the basic psychological need for relatedness, and (4) dispositional optimism. World beliefs additionally played an important role in the process via which social well-being (but not psychological or physical well-being) was influenced by gender role schema and the experience of childhood trauma. The SRWNE additionally played an important role in the process via which masculinity, femininity, and the experience of childhood trauma influence physical well-being (but not psychological or social well-being).

The theories and constructs on which the structural psychosocial cognitive models of well-being were based were supported to varying degrees. Results of the hierarchical analyses supported the contention of Basic Needs Theory (University of Rochester, 2004) that environmental events influence well-being via the extent to which those events thwart or support the satisfaction of the basic psychological needs for autonomy, competence, and relatedness. This was found for all three psychological, physical, and social well-being models. Results also provided partial support for Beck's (1976) cognitive triad model which posits that individuals' cognitive responses to environmental events

(posited to take the form of beliefs about the world, beliefs about oneself, and the future) mediate the influence of environmental events on well-being, particularly psychological well-being. Results showed that while perceived control (i.e., beliefs about oneself) was not found to be significantly related to any of the three forms of well-being, dispositional optimism (i.e., beliefs about the future) played a role in the development of psychological, physical, and social well-being. World beliefs (i.e., beliefs about the world) were additionally found to play a significant role in the development of social well-being. Results also provided partial support for the utility of the SRWNE construct (Kim et al., 2002), which was developed based on Organismic Theory's (University of Rochester, 2004) application of the process of internalisation (the process via which an external regulation becomes internalised and self-determined rather than externally controlled) to the process of the regulation of the withholding of negative emotions. While the SRWNE was not found to be important for the development of psychological or social well-being, it was shown to play a role in the process via which gender role schema and the experience of childhood trauma influence physical well-being. The concept of somatic amplification (Barsky & Borus, 1999; Sayar & Ismail, 2001) was not found to have any significant utility in identifying the process via which gender role schema and the experience of childhood trauma influenced psychological, physical, and social well-being. That is, while variables preceding it in the posited models were significantly related to somatic amplification, somatic amplification was not then significantly associated with any of the three forms of well-being. While the three forms of well-being shared some common significant relationships between variables, major differences found in the models' pathways support the use of a

multidimensional conceptualisation of well-being (consisting of psychological, physical, and social well-being), as proposed in this study.

CHAPTER 14: STUDY 2 – DISCUSSION

14.1 Overview

The primary aim of study 2 was to assess the efficacy of a range of psychosocial and cognitive variables in mediating hypothesised relationships between gender role schema (masculinity and femininity) and the experience of childhood trauma with psychological, physical, and social well-being. In order to achieve this, the study evaluated and compared the efficacy of five hierarchical path models for each of the three types of well-being (psychological, physical, and social well-being) posited to represent the processes via which these forms of well-being were hypothesised to be influenced by gender role schema and the experience of childhood trauma. The development of these models was based on a range of theories and concepts related to the concept of *control* or *self-determination*.

The major theoretical framework employed in this research was derived from Self-Determination Theory (SDT), which emphasises the extent to which human behaviour is self-determined, personally controlled, or chosen (University of Rochester, 2004). This theory allowed exploration of the way in which well-being is influenced by the dialectic of development, or the extent to which individuals are able to integrate environmental events, such as socialisation, into a particular gender role and the experience of childhood trauma, and to assimilate these experiences into their core "self" or personality, in order to achieve a sense of agency in relation to them.

Gender Role Theory (Antill et al., 1981; Bem, 1983, 1985), Basic Needs Theory - a sub-theory of SDT (University of Rochester, 2004), Beck's (1976) cognitive triad, the concept of the SRWNE developed on the basis of Organismic Integration Theory – another sub-theory of SDT (University of Rochester, 2004), and the concept of somatic amplification, served as the theoretical basis for this study. Gender Role Theory posits that the independent masculine and feminine gender roles guide the way in which individuals filter, process, and interpret events in the environment, shaping their beliefs, emotions, and behaviours, and thus influencing well-being differentially (Antill et al., 1981; Bem, 1983, 1985). In the current research, masculinity was conceptualised as the positive aspects of masculinity; that is, the extent to which individuals perceive themselves to be firm, confident, competitive, casual, forceful, skilled in business, strong, carefree, outspoken, and pleasure seeking. Femininity was conceptualised as the positive aspects of femininity; that is, the extent to which individuals perceive themselves to be patient, appreciative, sensitive to the needs of others, grateful, responsible, emotional, loyal, gentle, and devoted to others (Antill et al., 1981). Basic Needs Theory argues that self-determination and well-being are dependent on the extent to which the basic psychological needs for autonomy, competence, and relatedness are satisfied by environmental events (Ryan & Deci, 2000; Ryan & Frederick, 1997; University of Rochester, 2004). Beck's (1976) cognitive triad suggests that it is maladaptive cognitive responses to environmental events in the form of beliefs about the world, oneself, and the future that affect well-being, rather than the events themselves. The concept of the SRWNE was developed from Organismic Integration Theory, which contends that the internalisation of regulations such as the withholding of negative emotions can

have healthy outcomes only if such regulations become self-determined or self-controlled (Kim et al., 2002). Finally, the concept of somatic amplification was utilised in an attempt to explicate the mind-body connection, as lack of control or self-determination appears to be associated with increased physiological sensitivity and increased reporting of somatic symptoms (Feuerstein et al., 1986; Gavrilovic et al., 2001; Righter & Sansone, 1999; WHO, 2005). Based on this eclectic theoretical framework, the five hypothesised structural path models for each of the three specific forms of well-being were employed to test the theories and the utility of the concepts posited to underlie the hypothesised direct and indirect relationships presented in the models.

Results from the analyses indicated that the most complex and inclusive models of psychological, physical, and social well-being provided the best representations of the processes via which these forms of well-being were directly and indirectly influenced by masculinity, femininity, and the experience of childhood trauma. Apart from evaluating the goodness-of-fit of these hierarchical models, significant pathways linking the exogenous variables of masculinity, femininity, and the experience of childhood trauma to the endogenous variables of psychological, physical, and social well-being were identified.

14.2 Psychological Well-Being

Following the eudaimonic conceptualisation of psychological well-being developed by Ryff (1989) and Ryff and Keyes (1995), psychological well-being was represented in this research by the psychological challenges that individuals face in seeking self-actualisation (i.e., the attainment of self-acceptance, purpose

in life, personal growth, positive relations with others, environmental mastery, and autonomy). The psychological well-being model hypothesised that masculinity, femininity, and the experience of childhood trauma would be directly and indirectly associated with psychological well-being, being mediated by (i) satisfaction of the basic psychological needs for autonomy, competence, and relatedness, (ii) beliefs about the world (world beliefs), oneself (perceived control), and the future (dispositional optimism), (iii) the SRWNE, and (iv) somatic amplification.

14.2.1 Gender role schema (masculinity and femininity) and the experience of childhood trauma

14.2.1.1 Masculinity

Masculinity was found to be associated with high psychological well-being via its positive relationships with satisfaction of the basic psychological needs for autonomy, competence, and relatedness, with high satisfaction of each of these needs in turn, being associated with high dispositional optimism, and dispositional optimism being subsequently associated with greater psychological well-being. Masculinity was additionally found to be associated with psychological well-being via three other paths. The associations between masculinity and greater satisfaction of the needs for autonomy and competence were each in turn also directly associated with high psychological well-being. This indicates that while optimism contributes to the perception of greater psychological well-being, it is not essential, as it can be attained through other means (the direct influence of the satisfaction of the needs for autonomy and competence). While the finding that masculinity's association with high psychological well-being was through its association with satisfaction of the

needs for autonomy and competence supports the literature positing that masculinity is characterised by instrumentality and agency (characteristics rewarded in Western societies), the positive association between masculinity and satisfaction of the need for relatedness calls into question the assertion that masculinity is associated with a reluctance to develop close associations with others (Helgeson, 1994).

Results also showed that masculinity was directly associated with *decreased* dispositional optimism, with decreased dispositional optimism being subsequently related to decreased psychological well-being. This finding is in contrast to the hypothesis that masculinity would be directly and positively associated with dispositional optimism, which was based on the argument that patriarchy provides empowerment in Western societies to those with masculine characteristics such as instrumentality (Annandale & Hunt, 1990). This was the only pathway via which masculinity was associated with decreased psychological well-being. This indicates that in order for highly masculine individuals to be optimistic about the future, the basic psychological needs must be adequately satisfied. The literature indicates that low optimism is associated with increased depression, anger (Pennebaker, 1995), and negative affect (Aspinall & Taylor, 1992; Carver et al., 1993; Scheier & Carver, 1992; Stanton & Snider, 1993), low levels of positive affect (Peterson, 2000), and the use of inefficient coping strategies (Aspinall & Taylor, 1992). These results suggest that the disproportionate rates of drug dependence, psychopathology, antisocial disorder, alcohol dependence (WHO, 2005), mania, delusional aggression, and psychopathology (Gomez, 1991), and the statistically high level of suicide in males (Rosenfeld, 1997; Royal Australian College of General Practitioners,

2001) may result from failure to have the basic psychological needs satisfied. This then may have resulted in the lack of development of what Walker (2001) calls the "unrealistic optimism" (p. 25), which characterises psychologically normal individuals and contributes to psychological well-being.

The pattern of significant associations between masculinity and self-reported psychological well-being supports the assertion of Gender Role Theory that gender role schema influences well-being (Antill et al., 1981; Bem, 1983, 1985). It also supports Basic Needs Theory (University of Rochester, 2004), and the work of theorists who have also identified the importance of these needs to well-being (Adler, 1956; Berkman, 1984; Bowlby, 1988; Durkheim, 1951; Elliott et al., 2002; Lewis, 1999; Murray, 1938; Rhodes & Lakey, 1999; Spangler, 1992). The significant findings also partially support Beck's (1976) cognitive triad model, in that they indicate that beliefs about the future, but not beliefs about the world (world beliefs) or oneself (perceived control) mediate the influence of environmental experiences on psychological well-being.

14.2.1.2 Femininity

Results from the analysis of the model of psychological well-being indicated that, in contrast to the negative associations hypothesised between femininity and satisfaction of the needs for autonomy and competence, and the positive association hypothesised between femininity and satisfaction of the need for relatedness, femininity was found to be associated with increased psychological well-being via its positive associations with the satisfaction of all three of the basic psychological needs, and their associations with increased dispositional optimism. Femininity was also found to be related to greater psychological well-being via its associations with greater satisfaction of the

needs for autonomy and competence, with higher satisfaction of each of these needs then, in turn, being directly associated with greater psychological well-being. These findings contrast with the negative associations hypothesised to exist between femininity and satisfaction of the needs for autonomy and competence, which were based on the argument that women continue to face barriers to self-actualisation, such as being designated to be the primary carers of children (Worell & Remer, 1992). They do, however, support the expectation that femininity would be positively associated with satisfaction of the need for relatedness, reflecting the feminine emphasis on expressivity or communion (Helgeson, 1994). It appears that while women may have faced barriers to the satisfaction of the basic psychological needs for autonomy and competence in the past, resulting in decreased psychological well-being, the situation has changed, so that socialisation into the feminine gender role now provides opportunity for these needs to be met.

These findings are in line with the argument of Basic Needs Theory (University of Rochester, 2004) that satisfaction of each of the basic psychological needs plays an important role in the process via which environmental experiences such as socialisation into the feminine gender role influence psychological well-being. Dispositional optimism is also important in this process, mediating *some* of the influence of increased autonomy and competence, and *all* of the influence of increased relatedness (resulting from high femininity) on psychological well-being. These findings offer partial support for Beck's (1976) cognitive triad, which argues that beliefs about the future mediate the impact of environmental events on psychological well-being. They also suggest that satisfaction of the needs for autonomy and competence may be more

important contributors to psychological well-being than satisfaction of the need for relatedness, having both direct and indirect associations with psychological well-being.

The finding that femininity is consistently associated with high levels of psychological well-being contrasts with the literature which indicates that women disproportionately experience psychological disorders including depression (Nolen-Hoeksema, 1987), bulimia (Worell & Remer, 1992), somatic complaints, anxiety (WHO, 2005), psychological distress, and mood disorders (Gomez, 1991). This tends to suggest that the internalisation of the feminine gender role as it is now socially constructed results in greater psychological well-being in women than has occurred in the past.

14.2.1.3 The experience of childhood trauma

In line with the study's hypotheses, findings indicated that the experience of childhood trauma was related to low levels of psychological well-being via decreased satisfaction of all three of the basic psychological needs. Decreased satisfaction, in turn, was associated with decreased dispositional optimism, which resulted in decreased psychological well-being. The experience of childhood trauma was also related to low levels of reported psychological well-being via two additional paths. The negative associations between the experience of childhood trauma and satisfaction of the needs for autonomy and competence were each subsequently directly associated with decreased psychological well-being. Results support the literature which indicates that the experience of childhood trauma is associated with increased perceptions of helplessness (Brown & Harris, 1978; Seligman, 1975, 1990, 1995), decreased attachment (Gomez, 1991), and decreased optimism (Hjelle et al., 1996). They also support

the assertion that experiencing trauma makes untenable the positive views that people tend to hold regarding the future (Langer, 1983; Luminet et al., 2000; Pennebaker, 1993; Taylor & Brown, 1988).

These results suggest that individuals who experience childhood trauma may be unable to have their basic psychological needs adequately satisfied. Consequently, the process of psychological development may not be completed, leaving individuals unable to develop an optimistic view of the future. These findings are in line with Basic Needs Theory (University of Rochester, 2004) and Beck's (1976) assertion that beliefs about the future mediate the impact of environmental events on psychological well-being. The findings also indicate, as hypothesised, that childhood trauma consistently has maladaptive outcomes, and suggest, based on Basic Needs Theory, that victims of childhood trauma are unable to develop self-determination, or a coherent, integrated personality, which impedes the normal pursuit of self-actualisation. The current findings therefore elucidate how the experience of childhood trauma may come to be associated with increased anxiety, depression, psychoticism, paranoia, psychological disorder (Gavrilovic et al., 2001; Maitra, 1996, Schnurr, 1994), comorbidity of psychological disorders (WHO, 2005), PTSD, panic attacks, and increased suicidal tendencies and self-harming behaviours (Gladstone et al., 2004). It appears that an inability to integrate experiences of childhood trauma into one's personality, and to achieve a sense of agency in relation to them, consistently results in decreased psychological well-being.

14.2.2 Satisfaction of the basic psychological needs

Results from the psychosocial cognitive model of psychological well-being indicated that higher endorsement of the masculine and feminine gender

roles and lower reported experiences of childhood trauma were associated with greater satisfaction of all three of the basic psychological needs (except when masculinity was directly associated with dispositional optimism). Satisfaction of the needs for autonomy and competence make particularly important contributions to a perception of psychological well-being, being associated both directly *and* indirectly with psychological well-being, being mediated by dispositional optimism, while satisfaction of the need for relatedness was only indirectly associated with psychological well-being, being mediated by dispositional optimism.

The study's findings showed that while the associations between masculinity, femininity, and the satisfaction of the basic psychological needs for autonomy, competence, and relatedness vary, the way in which gender roles are socially constructed encourages the development of characteristics that enable individuals to satisfy their basic psychological needs, and thus contribute to the process of healthy development. The exception is where masculinity is directly associated with decreased dispositional optimism. This supports the contention of Basic Needs Theory (University of Rochester, 2004) that basic psychological needs must be satisfied if normal development of self-determination is to occur. This is also consistent with the WHO's (2005) assertion that the factors which protect individuals' psychological health include having autonomy that can be utilised in response to trauma, having access to resources that make available a range of responses (aligning with competence to some extent), and support from loved ones.

The results, however, are also consistent in showing that the experience of childhood trauma is associated with decreased satisfaction of all of the basic

psychological needs, indicating the manner in which the experience of childhood trauma comes to have such pervasive negative effects on health in adulthood. These findings suggest that childhood trauma may have a greater impact on well-being in adulthood than trauma experienced as an adult (Felitti et al., 1998) because it retards normal psychological development. This suggestion is in line with the literature which contends that childhood trauma causes individuals to experience helplessness (Brown & Harris, 1978; Seligman, 1975, 1990, 1995) – equated with autonomy and competence - and difficulties in trusting and confiding in others (Gavrilovic et al., 2001) – equated with relatedness. It is also consistent with Ryan and Deci's (2002) argument that failure to have the basic needs met results in a 'self' or personality that is alienated, reactive, and incongruent.

14.2.3 Beliefs about the world, oneself, and the future

Beck's (1976) cognitive triad model, asserting that beliefs about the world, oneself, and the future mediate the influence of environmental events on well-being, was only partly supported by findings from the model of psychological well-being. Using Aerts et al.'s (1994) guidelines regarding what constitutes a world view, the current research conceptualised world beliefs as the extent to which individuals perceive the world to be safe, just, supportive, meaningful, predictable, and controllable. Beliefs about oneself were assessed as perceived control, while beliefs about the future were assessed as dispositional optimism.

Although greater ascription to the masculine and feminine gender roles, and lower experience of childhood trauma were each significantly associated with greater satisfaction of the needs for autonomy, competence, and relatedness,

with satisfaction of the needs for both autonomy and competence then positively associated with world beliefs, perceived control, and dispositional optimism; and with relatedness in turn being associated with more favourable world beliefs and greater dispositional optimism (but not perceived control), neither world beliefs nor perceived control was found to have a significant impact on psychological well-being. While the significant association identified between dispositional optimism and increased psychological well-being supports the extensive literature regarding the existence of this association (Aspinall & Taylor, 1992; Carver et al., 1993; Pennebaker, 1995; Peterson, 2000; Scheier & Carver, 1992; Scheier et al., 1989; Stanton & Snider, 1993) and Beck's (1976) assertion that beliefs about the future mediate the impact of experiences on psychological well-being, the non-significant associations between both world beliefs and perceived control with psychological well-being did not support Beck's contention that beliefs about the world (world beliefs) and oneself (perceived control) also mediate the impact of environmental events on psychological well-being.

The finding of a non-significant association between world beliefs and psychological well-being in Study 2 is also in contrast with the view of a range of theorists (Aerts et al., 1994; Bowlby, 1969; Fletcher, n.d.; Heylighen, 2000; Janoff-Bulman, 1985; Leffel, 1994; Marris, 1975; Parkes, 1971) who opined that beliefs about the world influence psychological well-being in important ways. It is possible that changing one's beliefs about the world in response to the extent to which one has been able to integrate uncontrollable environmental events, such as gender role socialisation and the experience of childhood trauma, may be an adaptive form of secondary control, which acts as a safety valve, preventing

an adverse impact on psychological well-being rather than actually being associated with higher psychological well-being.

The finding of a non-significant association between perceived control and psychological well-being is also surprising, given that the literature has clearly shown that perceived control is associated with decreased depression (Seligman, 1975), mental health (O'Leary, 1990), hardiness (Kobasa, 1979), coherence (Antonovsky, 1987), stable mental well-being (Langer, 1983; Neal, 1998; Rosenfeld, 1997), happiness (Myers, 2004), and decreased stress and anxiety (Bandura, 1989), and under some circumstances has been found to be associated with decreased well-being (Averill, 1973; Glass & Singer, 1972; Shapiro et al., 1996; Shapiro & Shapiro, 1992). This result may indicate that perceived control provides an inadequate conceptualisation of beliefs about oneself. For example, world beliefs were conceptualised as more than belief in a controllable world, and beliefs about one-self may need to be similarly broad. Alternatively, as was suggested in regard to the lack of a significant association between world beliefs and psychological well-being, changes made to perceived control in response to environmental events may be a form of secondary control. Changing beliefs about one's level of control may reflect the extent to which individuals have been able to integrate environmental events, and may be an adaptive response to uncontrollable events that also act as a safety valve, protecting the individual from experiencing decreased psychological well-being. It therefore appears that beliefs about the future are an important aspect of self-regulation, reflecting the extent to which individuals have been able to internalise events and achieve a sense of agency in relation to them, being important to the process via which individuals determine their extent of psychological well-being.

14.2.4 The SRWNE

The SRWNE is the internalisation of the withholding of negative emotions so that it becomes a self-determined regulation, having healthy outcomes (Deci & Ryan, 1991; University of Rochester, 2004). Although femininity was found to be directly and positively associated with the SRWNE, the experience of childhood trauma was found to be directly and negatively associated with the SRWNE, and masculinity, femininity, and childhood trauma were found to be indirectly associated with the SRWNE being mediated by satisfaction of the needs for autonomy, the SRWNE was not found to be subsequently associated with psychological well-being. Thus, it appears that the concept of the SRWNE contributes very little to the explanation of the process via which gender role schema and the experience of childhood trauma influence psychological well-being.

The finding that the SRWNE was not significantly associated with psychological well-being is in contrast to the literature which suggests that emotion regulation/dysregulation is associated with histrionic personality disorder, depressive disorder, schizophrenia, and generalised anxiety disorder (Bonanno et al., n.d.; Butler, 2003; Gross & Levenson, 1997; King & Emmons, 1990; Richards & Gross, 2000). Care must be taken in interpreting these results, however, as the SRWNE relates to the extent to which the cultural expectation that individuals will withhold their negative emotions (which is extrinsically motivated) becomes an internalised or self-determined regulation, rather than being concerned with the extent to which negative emotions are expressed or withheld. It is therefore concerned with the *motivation* behind the withholding rather than the withholding itself.

Although the SRWNE was not found to be associated with increased psychological well-being, the fact that the SRWNE was able to transform the decreased satisfaction of the need for autonomy (resulting from the experience of childhood trauma) so that it did not adversely impact psychological well-being is particularly important. Ryff and Singer (2003) pointed to the importance of identifying the means via which negative emotional states could be transformed so that they do not reduce well-being. The concept of the SRWNE appears to answer this call.

14.2.5 Somatic amplification

Somatic amplification is the tendency to experience hypersensitivity to physiological symptoms and sensations, with the result that these experiences are perceived to indicate illness and disease (Sayar & Ismail, 2001). The study's findings showed that somatic amplification was not significantly associated with psychological well-being, regardless of the fact that it was found to be associated with the variables of masculinity, femininity, the experience of childhood trauma, autonomy, relatedness, and the SRWNE. This finding is in contrast to the hypothesis that somatic amplification would be associated with decreased psychological well-being due to its relationship with dissociation (Brown, 2004), hypochondriasis (Barsky et al., 1988; Barsky et al., 1990), and alexithymia (Reber & Reber, 2001); and the association between increased reporting of somatic symptoms and anxiety, depression (Simon et al., 1999), and the diagnosis of somatic disorders (Kirmayer et al., 2004) and personality disorders (Righter & Sanson, 1999). It is congruent, however, with the contention that somatic amplification cannot adequately explain the ways in which loss, stress, and conflict impact well-being (Kirmayer et al., 2004; Lipowski, 1988).

The lack of a significant association between somatic amplification and psychological well-being challenges the inference that somatic amplification is a less severe expression of psychosomatic disorders such as pain disorder, undifferentiated pain disorder, somatisation disorder, and somatoform disorder not otherwise specified (Kirmayer et al., 2004). The Somatic Amplification Scale (Rossi, 2004) was developed to assess individual differences in tolerance for environmental stimuli and "subjective sensitivity to physiological states" (p. 176). Yet it is clear that such sensitivity is not significantly associated with psychological well-being, providing indirect support for Sullivan's (2004) claim that distinguishing between perceptions of (pain of) organic origin and perceptions (of pain) of psychogenic origin is based on pseudoscientific rather than objective standards.

14.2.6 Summary of psychological well-being

Despite the fact that gender role socialisation emphasises the development of quite different characteristics in "masculine" and "feminine" individuals, it is clear that the pathways via which higher endorsement of masculine and feminine gender roles independently influence psychological well-being are primarily the same, involving the satisfaction of the basic psychological needs for autonomy, competence, and relatedness, and dispositional optimism, culminating in greater psychological well-being. Greater ascription to culturally sanctioned gender role schema, either masculinity or femininity, was found to result in greater psychological well-being due to adherence to both the masculine and feminine gender roles being associated with high levels of satisfaction of the basic psychological needs. This suggests that the conceptualisation of masculinity as primarily emphasising instrumentality

and agency (equated with autonomy and competence) and femininity as primarily emphasising communion (equated with relatedness) may no longer provide accurate representations of current social expectations regarding gender appropriate characteristics. Gender Role Schema Theory (Antill et al., 1981; Bem, 1983, 1985) may need to be updated to be congruent with 21st century expectations. The only different and significant pathway consisted of the direct association between masculinity and decreased dispositional optimism, with decreased dispositional optimism in turn being associated with decreased psychological well-being. It appears that highly masculine individuals who do not have their basic psychological needs met will tend to experience decreased dispositional optimism, explaining how men may come to experience an increased incidence of drug dependence, delusional aggression, antisocial disorder, alcohol dependence (WHO, 2005), and suicide (Royal Australian College of General Practitioners, 2001).

The majority of the pathways via which the experience of childhood trauma influenced psychological well-being were primarily the same as those via which gender role schema influenced psychological well-being, involving (i) satisfaction of the basic psychological needs for autonomy, competence, and relatedness, and (ii) dispositional optimism**,** with greater experience of childhood trauma consistently associated with low levels of psychological well-being. The findings that the experience of childhood trauma was consistently associated with decreased psychological well-being, and that some highly masculine individuals (those who did not have their basic needs met, and failed to develop the unrealistic optimism that tends to characterise psychologically normal individuals) also experienced decreased psychological well-being, suggests that

highly masculine individuals who have also experienced childhood trauma may be at compounded risk of developing difficulties in psychological functioning in adulthood.

Results for the full psychosocial cognitive model of psychological well-being therefore provide support for Basic Needs Theory (University of Rochester, 2004) and partial support for Beck's (1976) cognitive triad model which proposes that beliefs about the future (dispositional optimism) mediate the influence of experiences on psychological well-being. Some additional significant relationships were identified in the model of psychological well-being that did not exert a significant influence on psychological well-being. These non-significant paths indicate that while masculinity, femininity, and the experience of childhood trauma are directly and/or indirectly associated with beliefs regarding the world (world beliefs), beliefs regarding oneself (perceived control), the SRWNE, and somatic amplification, these variables do not then have a significant impact on psychological well-being. These variables therefore appear to have little practical utility in explaining the process via which gender role and the experience of childhood trauma influence psychological well-being. However, the fact that the SRWNE was able to transform decreased autonomy resulting from the experience of childhood trauma may be especially important, as it has identified the means via which a negative emotional experience resulting from an adverse event could be transformed so that well-being is not adversely affected.

14.3 Physical Well-Being

In this study, physical well-being was conceptualised from a positive psychological perspective as subjective vitality or vigour (Ryan & Frederick, 1997). As with the model of psychological well-being, the model of physical well-being posited that gender role schema and the experience of childhood trauma would be associated with physical well-being both directly and indirectly, being mediated by satisfaction of needs, beliefs, the SRWNE, and somatic amplification.

14.3.1 Gender role schema (masculinity and femininity) and the experience of childhood trauma

14.3.1.1. Masculinity

Results showed that the pattern of associations between masculinity and physical well-being was primarily the same as the pattern of associations between masculinity and psychological well-being. The only different significant pathway involved the identification of a significant association between the SRWNE and well-being in the physical well-being model, but not in the psychological well-being model.

High ascription to the masculine gender role was found to be associated with increased satisfaction of the needs for autonomy, competence, and relatedness, with greater satisfaction of each of these needs then associated with higher dispositional optimism, and dispositional optimism subsequently associated with improved physical well-being. Masculinity was also found to be related to physical well-being via four other causal paths. First, higher endorsement of the masculine gender role was found to be associated with (1) greater satisfaction of the need for autonomy, and (2) greater satisfaction of the

need for competence, which were then directly associated with higher reported physical well-being. Second, greater endorsement of the masculine gender role was found to be associated with greater satisfaction of the need for autonomy, which was then associated with low SRWNE, and which was subsequently related to low levels of reported physical well-being. Third, masculinity was directly related to decreased dispositional optimism, with decreased dispositional optimism then being directly associated with decreased reported physical well-being.

Only two of the pathways via which masculinity was associated with physical well-being culminated in *decreased* physical well-being. The first occurred when the association between masculinity and dispositional optimism was direct, and not mediated by satisfaction of the basic psychological needs. As was found in the model of psychological well-being, the finding that the association between masculinity and dispositional optimism is negative when not mediated by satisfaction of the basic psychological needs, but positive when mediated by the satisfaction of these needs, indicates that the satisfaction of the basic psychological needs is essential to the development of an optimistic view of the future, and the higher levels of physical well-being in adulthood that result from greater optimism (Peterson, 2000; Peterson & Bossio, 2001; Seligman, 1990). This finding supports Basic Needs Theory (University of Rochester, 2004) and Beck's (1976) assertion that beliefs about the future mediate the impact of events on well-being. The second pathway culminating in decreased physical well-being involved the variables of autonomy and the SRWNE. More specifically, higher masculinity was found to be associated with greater satisfaction of the need for autonomy, with greater autonomy in turn being

associated with decreased SRWNE. Thus, highly masculine, autonomous individuals may feel free to simply express their negative emotions rather than to internalise the cultural norm of withholding negative emotions. Decreased SRWNE then leads to low levels of self-reported physical well-being. This is in line with Kim et al.'s (2002) proposition that unless cultural practices such as the regulation of the withholding of negative emotions become internalised and self-determined, they cannot have healthy outcomes. The association between greater endorsement of the masculine gender role and high autonomy, with high autonomy in turn found to be associated with decreased SRWNE, and decreased SRWNE then being subsequently associated with decreased physical well-being, suggests that some of the physical health problems experienced by men may result from the combination of high autonomy and decreased SRWNE, which is in turn associated with decreased physical well-being. This explains the means via which males may come to disproportionately experience heart disease, angina, non-sex specific cancers (ABS, 2002), and peptic ulcers (Gomez, 1991), with such associations likely to occur as a result of physiological responses to negative emotional states. For example, stress influences health through changes in neuroendocrine acitivity (Cacioppo et al., 1995), cardiovascular (Tomaka et al., 1997) and immune functioning (Anderson, 2003; Anderson et al., 1994; Mehl-Madrona, 2004; O'Leary, 1990; Pennebaker, 1995), the sympathetic adrenomedullary system, the peptide system, and the pituitary-adrenocortical system (Taylor, 1995).

The association between masculinity and decreased dispositional optimism, with decreased dispositional optimism in turn being associated with low levels of self-reported physical well-being may reflect the literature which

indicates that optimism exerts some of its influence on well-being via behaviour, by causing individuals to follow health regimens (Peterson & De Avila, 1995; Robbins et al., 1991), to experience less stressful events because timely preventive action is taken when needed, to seek timely medical assistance, to have meaningful social relationships that provide social support, and by causing individuals to employ effective coping strategies (Aspinall & Taylor, 1992; Taylor, 1986). Those who do not participate in health behaviours resulting from having an optimistic outlook are likely to experience a decreased perception of subjective vitality and vigour.

14.3.1.2 Femininity

The association between femininity and physical well-being was found to be mediated by satisfaction of needs, dispositional optimism, and the SRWNE. Greater endorsement of the feminine gender role was found to be associated with greater satisfaction of all three basic psychological needs (autonomy, competence, and relatedness). Greater satisfaction of each of these needs was then associated with high levels of dispositional optimism, with dispositional optimism subsequently associated with high levels of self-reported physical well-being (assessed as subjective vitality). An additional three pathways were identified via which femininity was related to physical well-being, with two pathways culminating in higher self-reported physical well-being, and one pathway culminating in low physical well-being. First, the greater satisfaction of both the needs for autonomy and competence resulting from higher endorsement of the feminine gender role was, in turn, directly associated with increased levels of self-reported physical well-being. Second, higher endorsement of the feminine gender role was associated with greater satisfaction of the need for

autonomy, with autonomy then associated with low levels of SRWNE. Low SRWNE was then associated with low levels of self-reported physical well-being. Thus, the negative association between satisfaction of the need for autonomy and decreased SRWNE appears to be influential in the process via which gender role schema influences physical well-being, resulting in decreased physical well-being. It appears that highly feminine individuals tend to be high in autonomy, with autonomy in turn being associated with decreased internalisation of the regulation of the withholding of negative emotions. While low SRWNE indicates that the regulation of the withholding of negative emotions has not become an adequately internalised regulation, it may be that individuals high in femininity and who are highly autonomous do not wish to regulate their emotions to a large extent, either for their own benefit or to fit in with social expectations. They may simply wish to express their negative emotions freely. This supports anecdotal evidence that females (especially women in the younger age groups) are becoming more vocally aggressive, such as is seen in the behaviour of some young female drivers. It may be that while women now have greater gender equality than has occurred in the past, resulting in greater satisfaction of the need for autonomy, this greater autonomy may be inherently inconsistent with the internalisation of the SRWNE. In contrast, femininity was found to have a direct and positive association with the SRWNE, with the SRWNE in turn being associated with better self-reported physical well-being. Therefore, it appears that only when the influence of femininity on the SRWNE is mediated by autonomy, is physical well-being subsequently decreased.

The only pathway via which femininity was found to be associated with decreased physical well-being occurred through satisfaction of the need for autonomy and the SRWNE. This may explain why women, despite the fact that they live longer than men (ABS, 2002), tend to visit doctors more often than men, report a greater number of health problems and symptoms (Pennebaker, 1995), and disproportionately experience health problems such as high blood pressure, stomach sensitivity, and eating disorders (Gomez, 1991). Failure to adequately internalise the regulation of the withholding of negative emotions may result in changes in neuroendocrine activity (Cacioppo et al., 1995), cardiovascular (Tomaka et al., 1997), and immune functioning (Anderson, 2003; Anderson et al., 1994; Mehl-Madrona, 2004; O'Leary, 1990; Pennebaker, 1995), the sympathetic adreno-medullary system, the peptide system, and the pituitary adreno-cortical system (Taylor, 1995), with the result that decreased perceptions of physical well-being, assessed as subjective vitality, are reported. The association identified between decreased SRWNE and low levels of self-reported physical well-being is also congruent with Kim et al.'s (2002) assertion that failure to adequately internalise the regulation of the withholding of negative emotions has adverse consequences for health.

14.3.1.3 The experience of childhood trauma

Similar to the findings for gender role schema, the relationship between the experience of childhood trauma and physical well-being was mediated by the satisfaction of the basic psychological needs, dispositional optimism, and the SRWNE. As hypothesised, the experience of childhood trauma was found to have widespread negative influence on the process of successful development, as demonstrated in the finding of decreased satisfaction of the needs for autonomy,

competence, and relatedness. Decreased satisfaction of each of these needs was then found to be associated with low levels of dispositional optimism, with a less optimistic view of the future then found to be associated with decreased physical well-being. Optimism tends to influence health by encouraging health-promoting behaviours and discouraging behaviours that risk health. As individuals who have experienced childhood trauma have not had their basic needs satisfied, with the result that they do not develop an optimistic view of the future, it is likely that this finding explains how the experience of childhood trauma comes to be associated with behaviours such as the smoking of cigarettes, participating in low levels of physical activity, and participating in risky sexual activities, and why individuals who had experienced four or more forms of childhood trauma (in comparison to those who had not experienced childhood trauma at all) were found in previous research to experience increased risks of developing cancer, diabetes, strokes, ischaemic heart disease, chronic bronchitis, emphesema, jaundice, hepatitis (Felitti et al., 1998), cellulitis, urinary tract infections, asthma, hypertension, dermatitis, and reproductive problems (Walker et al., 1999a; Walker et al., 1999b)

The experience of childhood trauma was also found to be related to physical well-being via three additional causal paths, two of which culminated in decreased physical well-being, and one culminating in increased physical well-being. First, trauma's negative association with satisfaction of the need for autonomy was in turn directly associated with decreased physical well-being. Second, the experience of childhood trauma was directly and negatively associated with the SRWNE, with the SRWNE then associated with decreased physical well-being. This indicates that in order for the regulation of the

withholding of negative emotions to become self-determined or internalised, the basic psychological needs must first be satisfied. This also supports Kim et al.'s (2002) assertion that failure to adequately internalise the withholding of negative emotions has unhealthy consequences. It is likely that this relationship occurs because failure to internalise the withholding of negative emotions results in increased physiological stress responses, which adversely impact physical well-being. On the other hand, when the negative association between the experience of childhood trauma and the satisfaction of the need for autonomy was in turn associated with increased SRWNE, increased SRWNE was found to be associated with *greater* self-reported physical well-being. This finding suggests that while the experience of childhood trauma tends to adversely affect development and well-being, this is not always the case. Individuals who have experienced childhood trauma and who have failed to have their need for autonomy adequately satisfied, tend to internalise the regulation of the withholding of negative emotions to a greater extent, resulting in improved reported physical well-being. It is likely that greater SRWNE decreases the physiological stress responses which are a component of negative emotional states, thereby improving physical health, as reflected in self-reported physical well-being. This finding supports the contention that some individuals are able to transform the experience of adverse events into positive responses, as exemplified by their greater resilience, higher motivation, or sense of well-being (McFarlane & Yehuda, 1996).

The experience of childhood trauma clearly interferes with the process of healthy psychological well-being by causing basic psychological needs to be inadequately satisfied, through its impact on health related behaviours associated

with dispositional optimism, and through physiological responses resulting from the extent to which the regulation of the withholding of negative emotions has been internalised. Results therefore provide support for Basic Needs Theory (University of Rochester, 2004) and Beck's (1976) contention that beliefs about the future mediate the impact of environmental events on well-being. They also provide evidence of the utility of the concept of the SRWNE (Kim et al., 2002) in investigations regarding the impact of negative emotional states on physical health.

14.3.2 Satisfaction of the basic psychological needs

The findings of the indirect associations between masculinity, femininity, and the experience of childhood trauma with physical well-being, being mediated by the satisfaction of the basic psychological needs and dispositional optimism support the multidimensional concept of basic psychological needs as presented by Basic Needs Theory (University of Rochester, 2004). The findings also support the work of theorists who have identified the importance of some of these needs to well-being (Adler, 1956; Berkman, 1984; Bowlby, 1988; Durkheim, 1951; Elliott et al., 2002; Lewis, 1999; Murray, 1938; Rhodes & Lakey, 1999; Spangler, 1992).

As with psychological well-being, results indicate that satisfaction of the needs for autonomy and competence are both directly and indirectly associated with physical well-being, being mediated by dispositional optimism, while satisfaction of the need for relatedness is only indirectly associated with physical well-being, being mediated by dispositional optimism. While all three needs play important roles in the process via which gender role schema and the experience of childhood trauma are related to physical well-being, it appears that

satisfaction of the needs for autonomy and competence are more influential in this process than satisfaction of the need for relatedness. This may be a reflection of associations identified in the literature between perceptions of control, or lack thereof, (equated with autonomy and competence) and stress responses involving changes to physiological systems which can in turn bring about changes in physical well-being. For example, increases in blood pressure are reduced in response to hostility for individuals in positions of dominance or control (Doran & Newton, 2000). On the other hand, within the marital unit, women have been found, when experiencing conflict with their husbands, to be more physiologically responsive to the hostility of their husbands than are their husbands (Helgeson, 1994). Stress responses have been shown to influence physical well-being, contributing to physical disorders including hypertension, arthritis, and cardiovascular disease (Taylor, 1995). It is possible that satisfaction of the needs for autonomy and competence are particularly important to physical well-being because they provide a sense of control which decreases physiological reactivity, thereby decreasing allostatic load and improving physical health.

Although it would be expected that physical well-being would primarily result from the satisfaction of basic physical needs such as the needs for water, food, shelter, and oxygen, the findings indicate that a sense of physical well-being or subjective vitality depends on the satisfaction of the basic psychological needs (as does psychological well-being). This is important, and offers support to a holistic approach to the conceptualisation of well-being.

14.3.3 Beliefs about the world, oneself, and the future

Results obtained from the physical well-being model indicated that while beliefs about the world (world beliefs), oneself (perceived control), and the future (dispositional optimism) were directly and/or indirectly influenced by masculinity, femininity, and the experience of childhood trauma, only dispositional optimism subsequently influenced physical well-being. This finding provides partial support for Beck's (1976) cognitive triad by showing that beliefs about the future mediate some of the influence of gender role schema and the experience of childhood trauma on physical well-being. This finding is also in line with the extensive amount of literature indicating that optimism is associated with better physical health (Adler & Matthews, 1994; Allen, 1998; Friedman et al., 1995; Peterson, 2000; Peterson & De Avila, 1995; Robbins et al., 1991; Seligman, 1990). Although little literature exists regarding possible associations between world beliefs and physical health, the literature tends to indicate that perceived control (or related concepts) is associated with higher levels of self-reported physical well-being (Langer, 1983; O'Leary, 1990; Rodin & Langer, 1977; Shapiro et al., 1994; Shapiro et al., 1996). Yet surprisingly, the association between perceived control and physical well-being was found to be non-significant in the present study.

14.3.4 The SRWNE

In the physical well-being model, the direct and/or indirect associations between the exogenous variables and the SRWNE went on to exert a significant influence on physical well-being. Specifically, femininity and childhood trauma were both directly associated with the SRWNE (femininity – positively, and childhood trauma – negatively), while masculinity was not. Subsequently, the

association between the SRWNE and physical well-being was positive, indicating that high SRWNE was associated with greater physical well-being. The fact that decreased satisfaction of the need for autonomy resulting from the experience of childhood trauma is associated with increased SRWNE, and which in turn is associated with higher levels of self-reported physical well-being suggests that the association between autonomy and the SRWNE may in fact answer Ryff and Singer's (2003) call for the identification of the means via which negative emotional states can be transformed so that they do not adversely affect health and physical well-being. Results indicate that not only was physical well-being not adversely affected, it was positively affected. The finding of a positive association between the SRWNE and greater self-reported physical well-being supports the literature indicating that the regulation of emotions plays a role in the mind-body connection, thus influencing self-reported physical health (Watson & Pennebaker, 1989). It also provides tentative support to the claims that emotion regulation influences more specific forms of physical health, including the progression of cancer (Pennebaker, 1995), the experience of pain (Beutler et al., 1986), diseases with a psychosomatic component (Friedman & Booth-Kewley, 1987), and cardiovascular disease (King & Emmons, 1990) through changes in physiological functioning. While the findings appear to be in contrast to the assertion that emotional suppression reduces physical health (Butler, 2003), it must be noted that the SRWNE is quite different to the suppression of emotion, and emphasises the extent to which the regulation of the withholding of negative emotions has been internalised and has become a self-determined regulation, rather than focusing merely on the withholding of negative emotions. It also needs to be noted that physical well-being in the

present study was assessed as subjective vitality, which is quite different to assessing physical well-being using more objective measures.

14.3.5 Somatic amplification

Although masculinity, femininity, and the experience of childhood trauma were found to be indirectly associated with somatic amplification, somatic amplification was not found to be significantly related to physical well-being. This finding is incongruent with the expectation that individuals experiencing increased physiological sensitivity would also interpret those sensations as indications of decreased physical well-being. This suggests that the subjective experience of physiological sensitivity (somatic amplification) is quite different to actual physiological sensitivity assessed utilising more objective measures of physiological states, such as measures of galvanic skin response or changes in levels of salivary cortisol. Use of a less subjective measure of physiological sensitivity may have better elucidated the associations between gender role schema and the experience of childhood trauma with physical well-being, even though physical well-being was also assessed subjectively, as subjective vitality. The lack of a significant association between somatic amplification and physical well-being (as was also found for psychological well-being) does, however, support the assertion that somatic amplification cannot adequately explain the way in which experiences, especially stressful experiences, influence health (Kirmayer et al., 2004; Lipowski, 1988).

14.3.6 Summary of physical well-being

Satisfaction of the basic psychological needs, dispositional optimism, and the SRWNE were shown to be important factors in the process via which masculinity, femininity, and the experience of childhood trauma influence

physical well-being in adulthood. Satisfaction of the needs for autonomy and competence were found to be especially important, in that they exert both direct and indirect influences on reported levels of physical well-being. In contrast, the need for relatedness evidenced only an indirect association with reported physical well-being via dispositional optimism. Autonomy (but not competence nor relatedness) was directly (and negatively) associated with the SRWNE, which in turn was directly associated with physical well-being.

The results obtained from the model of physical well-being therefore support Basic Needs Theory (University of Rochester, 2004). Identification of positive associations between both masculinity and femininity with satisfaction of each of the three basic psychological needs (except when masculinity is directly associated with decreased dispositional optimism), similar to psychological well-being, suggests that gender role schema may share greater similarities than differences, as each gender role generally provides for the development of characteristics than allow for the satisfaction of basic psychological needs.

The exception in which masculinity was found to be directly associated with decreased dispositional optimism, with dispositional optimism then associated with decreased physical well-being suggests an explanation for the manner in which men come to experience a significantly shorter lifespan than women (76.6 years versus 82.2 years; AIHW, 2002), indicating decreased physical well-being. A contributing factor to these statistics is the high rate of suicide in males (Rosenfeld, 1997; WHO, 2005). Highly masculine individuals who have not had their basic psychological needs satisfied do not develop self-determination and tend to experience decreased dispositional optimism.

Optimism has been shown to influence physical well-being through behaviours such as through (i) causing individuals to follow regimens that contribute to optimal health (Peterson & De Avila, 1995; Robbins et al., 1991), (ii) causing individuals to experience less stressful events because timely preventive action is taken, and (iii) causing individuals to seek medical assistance before symptoms are serious. On the other hand, low levels of optimism have been shown to be associated with mortality (Peterson, 2000). In fact, men have been shown to be more likely to be smokers; to consume more alcohol (which is a contributing factor in male suicide); to consume less fruit, vegetables, and low-fat milk; and to use more salt (ABS, 2002). They also under-utilise health services of all types, except for those associated with accidents, alcohol abuse, and sexually transmitted diseases (Gomez, 1991). Men also tend to wait until a situation becomes serious before they seek assistance (Pease, 1997). The situation may be further exacerbated in highly masculine individuals who are also low in SES and do not have a spouse, as low SES is associated with lifestyle behaviours that put health at risk (AIHW, 2002), and spouses tend to discourage their partners from participating in health damaging behaviours (Umberson, 1987, 1992).

While the experience of childhood trauma was found to be quite consistently associated with decreased physical well-being, being mediated by satisfaction of needs, dispositional optimism, and the SRWNE, one pathway was identified via which the experience of childhood trauma was associated with *greater* physical well-being. Individuals who have experienced trauma and are low in autonomy tend to internalise the regulation of the withholding of negative emotions to a greater extent, with the result that physical well-being is improved. The identification of this pathway may answer Ryff and Singer's (2003) call for

the identification of the means via which negative emotional states can be transformed so that they do not negatively impact health. It also supports McFarlane and Yehuda's (1996) assertion that while the majority of individuals who experience trauma subsequently experience increased vulnerability, some individuals manage to transform adverse experiences into increased resilience.

Beck's (1976) argument that events impact the experience of well-being through their influence on cognitions regarding the future is also supported in relation to physical well-being. His assertion that beliefs about the world and oneself also mediate the impact of events on well-being was, however, not supported by the findings. The identification of an association between the SRWNE and greater self-reported physical well-being supports Kim et al.'s (2002) assertion that the extent to which the withholding of negative emotions becomes internalised reflects greater self-determination, resulting in improved well-being. This finding may reflect the fact that one of the constituents of emotion is physiological activation, which has been implicated in the relationship between negative emotional states and physical health, such as has been found between stress and hypertension, arthritis, and cardiovascular disease (Taylor, 1995). It appears that the self-regulation of emotions via the SRWNE, reflecting self-determination, does much more than ameliorate the impact of negative emotional states on health, actually contributing to *improved* physical well-being.

14.4 Social Well-Being

Social well-being was defined from a positive psychological perspective as the extent to which individuals perceive themselves to have attained social integration, social contribution, social coherence, social acceptance, and social

actualisation (Keyes, 1998). This conceptualisation is therefore based on an eudaimonic conceptualisation of well-being, which emphasises progress made toward self-actualisation. As with the models of psychological and physical well-being, the model of social well-being suggested that some of the influence of masculinity, femininity, and the experience of childhood trauma on social well-being would be mediated by the basic psychological needs for autonomy, competence, and relatedness; beliefs about the world (world beliefs), oneself (perceived control), and the future (dispositional optimism); the SRWNE; and somatic amplification.

14.4.1 Gender role schema (masculinity and femininity) and the experience of childhood trauma

14.4.1.1 Masculinity

Masculinity was found to be associated with greater satisfaction of each of the three basic psychological needs of autonomy, competence, and relatedness. Greater satisfaction of each of these needs was then found to be associated with more favourable beliefs regarding the nature of the world (world beliefs) and the future (dispositional optimism), with greater world beliefs and dispositional optimism each subsequently associated with higher levels of self-reported social well-being.

Three additional pathways were identified via which masculinity was associated with social well-being (one of which culminated in high self-reported social well-being, and two culminating in low levels of social well-being). First, masculinity was associated with high satisfaction of the need for relatedness, with relatedness subsequently associated with high levels of self-reported social well-being. On the other hand, masculinity was found to be directly associated

with less favourable beliefs regarding the world (world beliefs) and the future (dispositional optimism), with each of these belief components then being directly associated with decreased social well-being. It is likely that these associations are underpinned by social behaviours, such as failure to share problems with others. As men rely on their spouses, unmarried men who have not had their basic psychological needs satisfied would be especially vulnerable.

It is interesting to note that when the influence of masculinity on world beliefs and dispositional optimism was mediated by satisfaction of the basic psychological needs, world beliefs and dispositional optimism were high, and were in turn associated with higher levels of social well-being; however, this was not the case when the influence of masculinity on world beliefs and dispositional optimism was direct. The direct associations between masculinity and both world beliefs and dispositional optimism were negative (in contrast to the relationships hypothesised), with decreased world beliefs and decreased dispositional optimism then being associated with low levels of self-reported social well-being. These findings suggest that highly masculine individuals who do not have their basic psychological needs satisfied will tend to have an unfavourable view of the world, and will experience decreased optimism, both of which will then be associated with decreased social well-being. This finding provides support for Basic Needs Theory (University of Rochester, 2004) and partial support for Beck's (1976) cognitive triad, but fails to support Beck's assertion that beliefs about oneself also mediate some of the influence of experiences on well-being.

These pathways culminating in decreased social well-being suggest a means via which males may come to experience decreased social well-being and

an increased risk of suicide (Royal Australian College of General Practitioners, 2001). Highly masculine individuals who do not have their needs satisfied experience decreased world beliefs (which was found in study 1 to be associated with depression), and decreased dispositional optimism, which is also associated with depression (Peterson, 2000: Pennebaker, 1995; Scheier et al., 1989). Depressed individuals tend to experience social isolation (Peterson, 2000). Men also generally avoid seeking informal support from others due to inconsistency with the masculine ideal of being self-contained. Men tend to gain the majority of support from their spouses. They additionally avoid seeking assistance from professionals such as social workers, GPs, and psychiatrists (Gomez, 1991), instead attempting to cope through such behaviours as the consumption of alcohol and drugs. As the consumption of alcohol and drugs is a risk factor for suicide in males (WHO, 2005), these pathways provide a possible explanation for the process via which males tend to experience decreased social well-being and an increased risk of suicide. Suicide statistics provide a clear indication of the extent of the problem, showing that males are at five times the risk of committing suicide as females (Royal Australian College of General Practitioners, 2001).

Satisfaction of the need for relatedness appears to be of greater importance than satisfaction of the needs for autonomy and competence to the process via which masculinity influences social well-being, having both direct and indirect influences, with indirect influences being mediated by world beliefs and dispositional optimism. This contrasts with the identification of autonomy and competence as being of greater importance than relatedness to both psychological and physical well-being.

14.4.1.2 Femininity

Femininity was found to be positively associated with satisfaction of each of the three basic psychological needs. Each of these needs was then found to be associated with high levels of self-reported social well-being via positive associations with beliefs regarding the world (world beliefs) and the future (dispositional optimism). The direct positive association identified between world beliefs and social well-being indicates that having favourable perceptions of the world assists highly feminine individuals to achieve a sense of social well-being. It is likely that world beliefs which appear to largely reflect beliefs regarding the nature of the social world, influence social well-being through social behaviours. Having a positive view regarding the nature of the world is likely to bring about positive expectations regarding social interactions with others, with these expectations then being reflected in one's social behaviours, with the result that they become a self-fulfilling prophecy, resulting in increased social well-being. The direct association between dispositional optimism and improved social well-being is also likely to occur through social behaviours. Optimism encourages the development of meaningful social relationships that provide social support when required (Aspinall & Taylor, 1992; Seligman, 1995), bringing about greater popularity, and causing individuals to experience decreased social isolation (Peterson, 2000). One additional pathway was identified via which femininity was associated with social well-being, with femininity's positive association with satisfaction of the need for relatedness being directly associated with high levels of self-reported social well-being. The satisfaction of the need for relatedness appears to be of greater importance than satisfaction of the needs for autonomy and competence in the process via which

femininity influenced social well-being. These findings provide support for Basic Needs Theory (University of Rochester, 2004) and Beck's (1976) cognitive triad, indicating that beliefs about the world (world beliefs) and the future (dispositional optimism) both influence social well-being.

While the status of women in society has been reflected in a high risk of being the victim of domestic and sexual violence, having to perform multiple roles (WHO, 2005), and from the fact that highly feminine women tend to experience decreased acceptance from peers, and social isolation (Whitley, 1984), the current research found greater endorsement of the feminine gender role to be consistently indirectly associated with high levels of self-reported social well-being, being mediated by the satisfaction of the basic psychological needs, world beliefs, and dispositional optimism. This provides support for the contention that the feminine gender role encourages women to commune with others, and that the focus of women on other is an important aspect of their social well-being, as it provides social support (Helgeson, 1994).

14.4.1.3 The experience of childhood trauma

In the social well-being model, the experience of childhood trauma was found to be associated with decreased satisfaction of all three basic psychological needs, thereby supporting Basic Needs Theory (University of Rochester, 2004). Yet only satisfaction of the need for relatedness was both directly and indirectly associated with social well-being, being mediated by both world beliefs and dispositional optimism. Results support Beck's (1976) argument that experiences influence well-being via their influence on beliefs about the world and the future. The fact that satisfaction of the need for relatedness was both directly and indirectly associated with social well-being is congruent with the

assertion that traumas which involve disruption of family dynamics, loss, and separation adversely affect well-being due to the importance of attachment to well-being (Bowlby, 1969, 1988; Gomez, 1991; O'Leary, 1990; Pennebaker, 1995; Rosenfeld, 1997). Satisfaction of the needs for autonomy and competence were less influential in the process via which the experience of childhood trauma influenced social well-being, having only indirect effects.

It was hypothesised that the experience of childhood trauma would be both directly and indirectly associated with world beliefs; however, only indirect associations were identified between these variables. This indicates that while the experience of childhood trauma challenges individuals' perceptions of the world in which they live, this occurs through childhood trauma's association with decreased satisfaction of needs. The indirect associations between the experience of childhood trauma and world beliefs (being mediated by satisfaction of the basic psychological needs), with decreased world beliefs then being associated with decreased social well-being, aligns with the contention that child abuse (a particularly common form of childhood trauma) leads to a perception that the environment is unsafe, threatening, and hostile, with the result that individuals experience difficulty in trusting and confiding in others (Felitti et al., 1998; Schnurr, 2004). This perception is also likely to be shared to some extent with individuals who have experienced childhood trauma other than abuse. Having such negative perceptions regarding the nature of the world is then likely to adversely influence the nature of one's interactions with others, and influencing perceptions regarding the extent to which social well-being has been achieved.

14.4.2 Satisfaction of the basic psychological needs

The influence of masculinity, femininity, and the experience of childhood trauma on social well-being was mediated mainly by satisfaction of the needs for autonomy, competence, and relatedness. This finding is in line with Basic Needs Theory (University of Rochester, 2004), and supports the contention that the basic psychological needs for autonomy, competence, and relatedness must be satisfied if a sense of well-being (social well-being specifically) is to be achieved.

Satisfaction of the need for relatedness was found to be more important than satisfaction of the needs for autonomy and competence to social well-being (having both direct and indirect influences on social well-being), while satisfaction of the needs for autonomy and competence was found to be only indirectly associated with social well-being. This reflects the importance of attachment to a perception of social well-being (Bowlby, 1969, 1988).

The positive associations between masculinity and satisfaction of the needs for autonomy and competence support the contention that individuals socialised into the masculine gender role tend to be characterised by instrumentality or agency (Helgeson, 1994). Yet, the positive association between masculinity and satisfaction of the need for relatedness suggests that socialisation into the masculine gender role, rather than discouraging the satisfaction of the need for relatedness, contributes to the satisfaction of this need. While it was expected that socialisation into the feminine gender role would be positively associated with satisfaction of the need for relatedness, and negatively associated with satisfaction of the needs for autonomy and competence, the feminine gender role was also associated with satisfaction of all

three needs. It appears that conceptualisations of gender role schema have changed. Some of the influence of masculinity on world beliefs and dispositional optimism, however, was not mediated by the satisfaction of the basic psychological needs, with the result that world beliefs and dispositional optimism were decreased. Decreased world beliefs and dispositional optimism were then found to be associated with low levels of self-reported social well-being. This supports the contention that failure to have the basic psychological needs satisfied results in decreased well-being, as proposed by Basic Needs Theory (University of Rochester, 2004), and as applied specifically to social well-being.

Identification of the satisfaction of the need for relatedness as playing a particularly important role in the process via which the experience of childhood trauma influences social well-being extends the literature which indicates that traumas involving the disruption of family dynamics, loss, and separation, influence a child's psychological and physical functioning, by showing that such traumas also influence social well-being. This indicates that the importance of attachment to well-being also applies specifically to social well-being (Bowlby, 1969, 1988; O'Leary, 1990; Pennebaker, 1995; Rosenfeld, 1997).

14.4.3 Beliefs about the world, oneself, and the future

Beck's (1976) cognitive triad received greater support in relation to social well-being than psychological and physical well-being, as both world beliefs and dispositional optimism mediated the influence of masculinity, femininity, and the experience of childhood trauma on social well-being. Masculinity was found to be associated directly (and negatively), and indirectly with both world beliefs and dispositional optimism. Femininity and the experience of childhood trauma, on

the other hand, were found to be associated only indirectly with world beliefs and dispositional optimism, with these associations being mediated by satisfaction of the basic psychological needs.

Of significant interest in regard to social well-being is the positive significant association identified between world beliefs and higher self-reported well-being that was not found for psychological or physical well-being. The direct positive association found between satisfaction of the need for relatedness and well-being is also specific to social well-being, with satisfaction of the need for relatedness shown to be of greater importance than satisfaction of the needs for autonomy and competence to social well-being.

As with psychological and physical well-being, when the influence of masculinity on world beliefs and dispositional optimism was direct, these associations were negative. On the other hand, when the influence of masculinity on world beliefs and dispositional optimism was mediated by the satisfaction of the basic psychological needs, more positive beliefs regarding the nature of the world (world beliefs) and the future (dispositional optimism) were reported. This pattern of results was specific to the exogenous variable of masculinity, indicating that some aspects of socialisation into the masculine gender role fail to provide for the satisfaction of the basic psychological needs, with the result that world beliefs and dispositional optimism are decreased, resulting in decreased social well-being.

Thus, while it was hypothesised that masculinity would be associated with decreased social well-being through decreased satisfaction of the need for relatedness (due to the masculine ideal of remaining independent), this result indicates that unless the basic needs for autonomy, competence, and relatedness

are satisfied, masculinity is associated with decreased social well-being through its association with less favourable views regarding the nature of the world and less optimistic views of the future. Perhaps the favoured treatment of highly masculine individuals in Western societies, which is accompanied by expectations regarding motivation, results in great incongruity or an inability to meet these expectations if the basic psychological needs have not been met. Such individuals may suffer from a clash between society's expectations and aspects of socialisation which have failed to ensure the development of self-determination.

14.4.4 The SRWNE

Femininity and the experience of childhood trauma were found to be associated both directly (femininity – positively, and childhood trauma – negatively) and indirectly with the SRWNE, while masculinity was found to be indirectly related to the SRWNE. The SRWNE, however, was not found to be associated with social well-being. The finding that the SRWNE was not significantly associated with social well-being is in contrast to the literature which suggests that emotional expression (or lack thereof) influences the quality of social interactions (Butler, 2003; Izard, 1990; Keltner, 1995; Levenson & Gottman, 1983) and therefore social well-being.

The lack of a significant association between the SRWNE and social well-being is also in contrast to the fact that children as young as 6 years of age in Western cultures have been identified as having already developed a range of strategies to regulate emotions (Richards & Gross, 2000), and contrasts with Kim et al.'s (2002) assertion that the SRWNE will have healthy consequences. These strategies may, however, not involve the internalisation of the regulation of the

withholding of negative emotions, and instead may simply indicate learning of the cultural expectation that negative emotions be withheld so as to avoid sanctions that could be imposed for non-compliance, such as bullying. The withholding of negative emotions may therefore remain an extrinsically motivated behaviour, with the result that improved social well-being does not occur.

14.4.5 Somatic amplification

Although somatic amplification was influenced by the variables preceding it in the model of social well-being, somatic amplification was not found to be significantly associated with social well-being. The lack of a significant association between somatic amplification and social well-being suggests that although somatic amplification is influenced by social circumstances, these circumstances may not consequently influence individuals' perceptions of the quality of their functioning in their social environment. This aligns with the contention that while sociophysiological models can explain the ways in which stress, loss, and conflict influence well-being, the concept of somatic amplification cannot (Kirmayer et al., 2004; Lipowski, 1988).

14.4.6 Summary of social well-being

The variables identified as playing a role in the process via which gender role schema and the experience of childhood trauma influence a perception of social well-being were satisfaction of the basic psychological needs, world beliefs, and dispositional optimism. More specifically, the greater the endorsement of the masculine and feminine gender roles, and the lower the experience of childhood trauma, the higher was the satisfaction of the basic psychological needs for autonomy, competence, and relatedness. The higher the

satisfaction of these needs, the higher were the levels of both world beliefs and dispositional optimism, with higher world beliefs and dispositional optimism then leading to greater social well-being.

Social well-being was influenced by three additional causal paths. First, higher masculinity and higher femininity, and lower experience of childhood trauma, were found to be associated with greater satisfaction of the need for relatedness, with relatedness in turn being directly associated with greater social well-being. Second, masculinity was found to be directly associated with decreased world beliefs, with world beliefs in turn being directly associated with decreased social well-being. It appears that highly masculine individuals who do not have their basic psychological needs met develop a negative view of the world. It is then likely that similar social expectations and behaviours involved in the process via which the experience of childhood trauma comes to be associated with decreased social well-being may also be involved in the process via which highly masculine individuals, who have not had their needs met and experience decreased world beliefs also come to experience decreased social well-being. For example, the experience of childhood trauma influences perceptions of others (world beliefs) (Maitra, 1996), leading to a perception that the environment is threatening, unsafe, and hostile. As a result, individuals are unable to confide and trust in others. They also experience interpersonal sensitivity, feeling inadequate and inferior, with the result that they then have negative expectations regarding interactions with others (Gavrilovic et al., 2001). In response to such perceptions of threat, it is likely that social behaviours would be adversely affected, decreasing social support, ultimately decreasing social well-being.

Third, masculinity was found to be directly associated with decreased dispositional optimism, which was in turn associated with decreased social well-being. Optimism is important to social well-being because it encourages meaningful social relationships that provide social support when required (Aspinall & Taylor, 1992; Seligman, 1995). This aligns with the contention that depressed individuals (those low in optimism) (Pennebaker, 1995; Scheier et al., 1989) find it difficult to access the benefits of social support. This also tends to explain the process via which some men come to experience decreased social well-being and an increased rate of suicide (Rosenfeld, 1997). The masculine gender role discourages men from seeking the support of others (except their spouses), so when men who have not had their basic psychological needs satisfied experience depression (reflecting decreased optimism), instead of turning to others for support, they are more likely to turn to alcohol and drugs as a means of coping. Excessive consumption of alcohol and drugs then plays a role in decreasing social well-being, and ultimately increases the risk of suicide. This leaves unmarried men who have not had their basic psychological needs satisfied, and as a result experience decreased dispositional optimism, to be at particular risk of experiencing social isolation and lack of social well-being. This may also explain why some men who experience a marriage break-up have such difficulty in coping.

The inclusion of social well-being in the current research sought to redress the lack of recognition given in the psychological literature to the importance of people's perceptions of the quality of their functioning in their social environment. Satisfaction of the basic psychological needs for autonomy, competence, and relatedness, world beliefs, and dispositional optimism were

identified as important variables in the process via which individuals determine the extent of their social well-being. Basic Needs Theory (University of Rochester, 2004) was consistently supported by the findings for social well-being. Significant relationships identified in the model of social well-being (but not in the models of psychological and physical well-being) consisted of the direct associations between world beliefs and social well-being, and between satisfaction of the need for relatedness and social well-being. Identification of a significant positive relationship between world beliefs and social well-being supports the assertion that while world beliefs reflect our experiences, they also shape our experiences in important ways (Beck, 1976; Janoff-Bulman, 1985; Koltko-Rivera, 2004; Simpson, 1993). It is likely that social expectations and behaviours are the means via which world beliefs come to influence social well-being.

The significant direct and indirect associations identified between satisfaction of the need for relatedness and social well-being, being mediated by world beliefs and dispositional optimism, indicated that satisfaction of the need for relatedness is of greater importance to the perception of social well-being than satisfaction of the needs for autonomy and competence, which have only indirect effects through world beliefs and dispositional optimism. The association between world beliefs and social well-being aligns with Leffel's (1994) claim that world beliefs are constituted in part by beliefs regarding human nature. Aerts et al. (1994) similarly posited that world beliefs relate to the role of humans in the world and the manner in which humans should participate in their world. World beliefs appear to more specifically represent beliefs regarding the

nature of the social world, with the identification of the association between world beliefs and social well-being aligning with this contention.

Heylighen (2000), a member of the Principia Cybernetica Project which was formed to develop an integrated multidisciplinary approach to a philosophical conceptualisation of a world view, posited that information regarding past occurrences and causal impacts on the future allow the unit to understand events and to anticipate the future. Current research findings suggest that world beliefs (which reflect past experiences in the world) and dispositional optimism (proposed causal impacts on the future) operate together as a control scheme, using change to compensate for disturbances in the environment. While perceived control was not found to be associated with any form of well-being, it appears that world beliefs and dispositional optimism allow individuals to gain an understanding of their social world, and to subsequently develop a sense of social well-being.

The identification of a direct positive association between satisfaction of the need for relatedness and social well-being aligns with Bowlby's (1988) assertion that secure attachment enables the development of social relations with others; Adler's (1956) identification of the importance of social interest to well-being; and Durkheim's (1951) work emphasising the need for social integration. This finding also indicates that, as well as relatedness being of importance to physical and psychological health and well-being (Berkman, 1984; Lewis, 1999; Rhodes & Lakey, 1999), it is especially important to the perception of a sense of social well-being. Results also indicate that satisfaction of the need for relatedness contributes to having a positive view regarding the nature of the world.

Results for the social well-being model therefore support the need to differentiate between the specific forms of well-being, as the association between world beliefs and well-being is specific to social well-being. Results for the social well-being model also provide greater support for Beck's (1976) cognitive triad than do the models of psychological and physical well-being.

A number of significant relationships were identified between variables that did not exert any significant influences on social well-being. For example, masculinity, femininity, and the experience of childhood trauma were found to be directly and/or indirectly related to perceived control, the SRWNE, and somatic amplification, but these variables were not found to be significantly related to social well-being.

14.5 Summary of Well-Being

No single theory tested in the current research was able to fully explain the processes via which gender role schema and the experience of childhood trauma lead to differential well-being. Instead, Gender Role Schema Theory (Antill et al., 1981; Bem, 1983, 1985), Basic Needs Theory (University of Rochester, 2004), Beck's (1976) cognitive triad model, and the concept of the SRWNE (Kim et al., 2002) were each shown to contribute to explanations of the interplay between psychosocial and cognitive factors influencing psychological, physical, and social well-being. Results in the current research also tend to support Cacioppo's (2003) claim that environmental events influence health not through the spread of biological pathogens but through their influence on behaviours and negative affective states. This is in line with suggestions that beliefs about the world and the future exert this influence on well-being through behaviour, and

that the SRWNE appears to exert its influence on well-being by decreasing changes in physiological responses.

Internalisation of the culturally valued masculine and feminine gender role schema appear to generally support the development of self-determination. On the other hand, the experience of childhood trauma cannot be adequately internalised (except when childhood trauma is associated with decreased autonomy, which is related to greater SRWNE, and which, in turn is associated with increased physical well-being), tending to decrease self-determination and to produce adverse outcomes.

With regard to satisfaction of the basic psychological needs, autonomy and competence were shown to be more important to psychological and physical well-being, while relatedness was shown to be of greater importance to social well-being. Yet, Little et al. (2002) emphasised the importance of balancing the satisfaction of the basic psychological needs through self-regulation. This tends to suggest that society is not set up in such a way that encourages optimum balance between the satisfaction of needs. Recent focus in the media on a need for greater work/life balance, and the tendency for more Australians to be heading for a "sea change" or "tree change" suggests that more and more individuals are taking greater responsibility for regulating the satisfaction of their own needs, so that a greater sense of eudaimonic well-being is achieved.

The study's results generally support the contention of Basic Needs Theory (University of Rochester, 2004) that the satisfaction of the basic psychological needs for autonomy, competence, and relatedness are necessary for well-being. When the influence of masculinity on dispositional optimism is direct and is not mediated by the satisfaction of the basic psychological needs,

dispositional optimism is decreased, and decreased psychological, physical, and social well-being result. The fact that optimism is associated with decreased anger, depression (Pennebaker, 1995; Scheier et al., 1989), efficient coping (Aspinall & Taylor, 1992), and positive affect (Peterson, 2000), provides an explanation of the process via which men may tend to come to experience decreased psychological well-being in the form of disproportional risks of suicide, and developing alcohol dependence (WHO, 2005), mania, delusional aggression, and psychopathology (Gomez, 1991). Optimism has been shown to be associated with the tendency to follow healthy regimens (Peterson & De Avila, 1995; Robbins et al., 1991), causing individuals to experience less stressful events due to timely preventive action taken when required, causing individuals to seek timely medical assistance, and by causing effective coping strategies to be utilised, resulting in improved physical well-being (Seligman, 1990; Peterson, 2000; Peterson & Bossio, 2001), as reflected in findings of the present study. The literature indicates that optimism exerts its influence on social well-being via social behaviours such as the seeking of social support (Aspinall & Taylor, 1992; Peterson, 2000; Seligman, 1995). This elucidates the means via which men may come to experience decreased social well-being, exhibited in its most extreme form in high rates of suicide (Royal Australian College of General Practitioners, 2001). Men tend to avoid seeking social support from others (apart from their spouses). They also tend to avoid seeking more formal sources of support such as from social workers, GPs, and psychiatrists (Gomez, 1991). The fact that some highly masculine individuals are unable to access the health benefits that result from an optimistic view of the

future goes some way toward explaining the decreased well-being of men, illustrated by their shorter life span (AIHW, 2002).

The exception in which the satisfaction of the basic psychological needs was not found to be associated with a positive outcomes occurred when higher endorsement of the masculine and feminine gender roles was associated with greater satisfaction of the basic psychological need for autonomy, which was associated with decreased SRWNE, which was in turn associated with low levels of physical well-being. Individuals high in masculinity and individuals high in femininity who are highly autonomous do not tend to internalise the regulation of the withholding of negative emotions, suggesting that they may instead wish to freely express their negative emotions. This, however, comes at a cost to physical health, probably through increased physiological activity, such as through changes in neuroendocrine activity (Cacioppo et al., 1995), cardiovascular (Tomaka et al., 1997) and immune functioning (Anderson, 2003; Anderson et al., 1994; Mehl-Madrona, 2004; O'Leary, 1990; Pennebaker, 1995), the sympathetic adrenomedullary system, the peptide system, and the pituitary adrenocortical system (Taylor, 1995). This is reflected in low levels of self-reported physical well-being.

On the other hand, the experience of childhood trauma was found to be associated with decreased satisfaction of the need for autonomy, which was in turn found to be associated with greater SRWNE, with the SRWNE then associated with high levels of self-reported physical well-being. This indicates a means by which individuals who have experienced childhood trauma may come to experience physical well-being. This finding appears to answer Ryff and Singer's (2003) call to identify the manner via which some individuals who

experience negative emotional states are able to transform them so that their health is not damaged. It also aligns with the fact that some individuals who have experienced childhood trauma, instead of developing increased vulnerability, have been shown to develop increased resilience and well-being (McFarlane & Yehuda, 1996). It appears that the withholding of negative emotions in individuals who experience decreased autonomy as a result of experiencing childhood trauma enables them to transform their negative emotional states so that their physical well-being is not only not adversely affected, but is improved. This was the only pathway via which the experience of childhood trauma was found to be associated with increased well-being of any form.

Femininity was shown to be associated quite consistently with high levels of psychological, physical, and social well-being, illustrating the benefits of (i) having one's psychological needs for autonomy, competence, and relatedness satisfied, (ii) holding positive beliefs regarding the world and the future, and (iii) internalising the regulation of the withholding of negative emotions. These pathways suggest the manner in which women may come to experience greater well-being and longevity (ABS, 2002), as reflected in their self-reported well-being in the present study. As previously mentioned, the only pathway via which femininity was associated with decreased well-being involved femininity's positive association with satisfaction of the need for autonomy, which was in turn related to decreased SRWNE, which resulted in decreased physical well-being.

The fact that masculinity was found to be directly and negatively associated with decreased world beliefs, which was then associated with

decreased well-being in the social well-being model, suggests the manner in which men may come to experience decreased social well-being, as revealed in its most severe form as a disproportionately high rate of suicide (Royal Australian College of General Practitioners, 2001). Failure to have the basic psychological needs satisfied, which results in a negative view of the world, then appears to influence social well-being through social expectations and behaviours. It is likely that highly masculine individuals who have experienced environments that have not provided for the satisfaction of the basic psychological needs may tend to experience to a lesser degree some of the problems besetting individuals who have experienced childhood trauma such as having a perception that the world is threatening and hostile, which brings about difficulty in trusting and confiding in others (Gavrilovic et al., 2001).

Overall, the study's findings suggest that assessment of the satisfaction of needs, beliefs about the world (world beliefs), beliefs about the future (dispositional optimism), and the SRWNE should provide an indication of the sequential operations to be employed in designing, implementing, and assessing interventions aimed at promoting well-being in adulthood.

CHAPTER 15: OVERALL DISCUSSION

15.1 Overview

The findings from this research provide insights into the processes via which individuals determine how well they are functioning positively - psychologically, physically, and socially - in their environment. In Study 1, the development of the World Beliefs Inventory (WBI), representing a single dimension of beliefs regarding the nature of the world (i.e., belief that the world is safe, just, controllable, predictable, supportive, and meaningful), demonstrated that such world beliefs are associated with aspects of psychological well-being. The WBI was found to provide a psychometrically sound means of assessing world beliefs, as indicated by its high reliability and validity. In study 2, the important role of world beliefs in the decision making process via which perceptions of social well-being develop was demonstrated in the psychosocial cognitive model of social well-being. The psychosocial cognitive model of social well-being and the psychosocial cognitive models of psychological and physical well-being articulated the relationship between gender role orientation and the experience of childhood trauma, the satisfaction of basic psychological needs, beliefs, the SRWNE, and somatic amplification with well-being. Satisfaction of the basic psychological needs for autonomy, competence, and relatedness; beliefs about the world and the future; and the SRWNE were shown to mediate the influence of gender role schema and the experience of childhood trauma on well-being.

15.2 Summary of Results

The development of the WBI in study 1 provided support for Beck's (1976) contention that beliefs about the world are significantly associated with psychological well-being, and that such world beliefs are an important aspect of psychological functioning (Bowlby, 1969, Fletcher, n.d.; Heylighen, 2000; Janoff-Bulman, 1985; Leffel, 1994; Marris, 1975; Parkes, 1971; Simpson, 1993; Watzlawick et al., 1968). The development of the WBI is expected to also have practical applications in that it can be used to screen for early signs of social mal-adaptation. It could also be employed to assess the degree to which interventions have successfully changed maladaptive world beliefs (e.g., by comparing world beliefs post-treatment to world beliefs pre-treatment). The development of the WBI also has implications for psychological research, as mentioned. The fact that world beliefs can now be assessed utilising a psychometrically sound WBI means that the world beliefs construct can be included in investigations of the processes via which environmental factors affect well-being, as was demonstrated in study 2.

Study 2 evaluated and compared five nested models for each of psychological, physical, and social well-being. The findings indicated that the most complex (i.e., the fully identified) models of psychological, physical, and social well-being best represented the processes via which these forms of well-being were influenced by gender role schema (masculinity and femininity) and the experience of childhood trauma. Comparison of the patterns of relationships between the exogenous and endogenous variables for the three well-being models revealed some commonalities and differences in the pathways via which

gender role schema and the experience of childhood trauma influenced well-being.

The variables identified as playing important roles in the processes via which all three forms of well-being were influenced by masculinity, femininity, and the experience of childhood trauma included satisfaction of the need for autonomy, satisfaction of the need for competence, satisfaction of the need for relatedness, and dispositional optimism. These findings support Basic Needs Theory (University of Rochester, 2004), and Beck's (1976) contention that beliefs about the future mediate the influence of experiences on well-being. For social well-being only, world beliefs were found to play an important role in the processes via which gender role schema and childhood trauma influenced well-being, providing further support for Beck's assertion that beliefs about the world influence well-being. For physical well-being only, the SRWNE was found to play an important role in the processes via which gender role schema and childhood trauma influenced well-being, providing support for Kim et al.'s (2002) application of Organismic Integration Theory to the withholding of negative emotions. The satisfaction of the needs for autonomy and competence appeared to be more important to the process via which individuals judged their degree of psychological and physical well-being, while relatedness was of greater importance to the judgement of social well-being. Results from study 2 therefore provided support for Basic Needs Theory (University of Rochester, 2004), partial support for Beck's (1976) cognitive triad, and evidence for the utility of the concept of the SRWNE (in predicting social well-being).

The literature, theories, and results from the present research suggest that (i) basic psychological needs provide the basis for the development of self-

determination; (ii) world beliefs allow self-determination to be expressed through social expectations and behaviours that contribute to social well-being; (iii) dispositional optimism allows self-determination to be expressed in (a) the employment of efficient coping strategies which contribute to psychological well-being, (b) participation in health promoting and health protecting behaviours, contributing to physical well-being, (c) and participation in social behaviours that cause individuals to experience social support, contributing to social well-being; (iv) and the SRWNE allows self-determination to be expressed through the internalisation of the regulation of the withholding negative emotions, contributing to physical health by decreasing physiological responses to negative emotional states. Gender role schema and the experience of childhood trauma differentially influence psychological, physical, and social well-being through these pathways reflecting the extent to which self-determination and self-actualisation have been achieved.

15.3 Multidimensional Concept of Well-Being

Conceptualising well-being as a multidimensional concept consisting of psychological, physical, and social well-being, is in line with the assumption that a sense of well-being can be differentiated in terms of the degree to which individuals perceive that they are functioning well psychologically, physically, and socially in their environment. The finding that the patterns of relationships between the models' exogenous and endogenous variables are not identical supports this differentiation, and in particular, the multidimensional approach to well-being employed in this research. Support was also found for an eudaimonic conceptualisation of well-being, which assesses well-being in terms of the extent

to which individuals have met the challenges posed by the process of self-actualisation.

15.4 Limitations

All research has limitations, and the current research is no exception. One limitation of the current research is that time and resource constraints necessitated the use of a cross-sectional, correlational design when a longitudinal research design would have been optimal to investigate the hypothesised causal effects implied in the path models. Results are therefore descriptive of the structural relationships between the models' variables rather than conclusively indicating chronological order, making questionable the interpretation of significant pathways as evidence of cause-effect relationships.

A second limitation of this study is that it employed self-report measures which are susceptible to biases such as social desirability. Although anonymity and confidentiality of responses were assured, there is still no guarantee that respondents answered in a totally unbiased manner. In order to address the problem of response bias, some items used in the questionnaire were reverse-scored to control for acquiescence effects.

Another limitation of this research is that the experience of childhood trauma was assessed using self-reports based on retrospective recall. The accuracy of such recall has been questioned, as memories of past events can be biased and distorted by a variety of factors, both personal and environmental. Nonetheless, it is believed that asking participants to merely recall whether specific major traumatic events occurred during childhood is likely to be more reliable than if participants were asked to describe details of such events. Recall

of whether traumatic events occurred, if anything, is likely to be understated (Williams, 1994). Brewin et al. (1993) argued that as long as individuals were old enough at the time that a traumatic event occurred in childhood to understand the incident, it is likely that the memory of that event will be quite accurate, and should be given credence.

Another limitation is that results for the current research may not be able to be generalised to individuals in geographical locations other than Central Queensland, Australia, as it is possible that characteristics of this sample will differ from those in the broader population. Demographic data gathered by organisations such as the ABS for populations from different geographical areas provide evidence of differences in population characteristics for different locations. Results may therefore differ for participants from other areas in Queensland, other states, and indeed, other countries.

A further limitation relates to the fact that the current research did not control for a range of possible confounds. Additional variables that have been shown to impact well-being in adulthood include traumas experienced in adulthood, SES (AIHW, 2002), marital status (De Paulo, 2004; Lillard & Waite, 1995; Marks & Lambert, 1998; Umberson, 1987, 1992; Waite, 1996), health behaviours (AIHW, 2002), and cohort differences. It is possible that such confounds could have biased the observed relationships in unknown degree and direction.

Additionally, this research's criterion variables (psychological, physical, and social well-being) were assessed on the basis of subjective perceptions of the extent to which individuals are positively functioning in their environment. While it can be argued that subjective perception is more important than more

"objective reality" (if there is such a thing), the use of more objective and less subjective outcome variables may provide quite different outcomes.

15.5 Implications

Results from this research have implications for theory, the development of health promotion programs and intervention strategies, and future research. The findings that masculinity and femininity were each associated with the satisfaction of each of the three basic psychological needs (except when masculinity was directly associated with world beliefs and dispositional optimism) challenges current conceptualisations of gender roles as constituted by Gender Role Theory (Antill et al., 1981; Bem, 1983, 1985). While masculinity has been conceptualised as primarily encouraging characteristics that relate to agency and instrumentality (e.g., confidence, competency), and discouraging factors considered to be related to communion (e.g., emotional, devoted to the needs of others), femininity has been conceptualised as discouraging characteristics related to instrumentality, primarily encouraging characteristics associated with communion (Helgeson, 1994). Results in the current study, however, suggest that changes may have occurred in the way in which gender roles are socially constructed, with the result that gender role schema may need to be redefined and reconceptualised in order to be congruent with 21st century values.

The fact that satisfaction of the basic psychological needs for autonomy, competence, and relatedness was found to mediate the influence of gender role schema and the experience of childhood trauma on psychological, physical, and social well-being, supports the application of Basic Needs Theory (University of

Rochester, 2004) to the developmental process and its outcomes, and provides evidence of the utility of this sub-theory of SDT. These findings also more generally suggest that SDT holds promise for explicating the processes via which a variety of experiences influence a range of outcomes over the longer term.

Identification of dispositional optimism as playing a role in the processes via which gender role schema and the experience of childhood trauma influence psychological, physical, and social well-being; and identification of world beliefs as mediating the influence of gender role schema and the experience of childhood trauma on social well-being, support Beck's (1976) assertion that beliefs about the future and beliefs about the world influence well-being, but call into question his assertion that beliefs about oneself (equated with perceived control in the models) mediate the influence of environmental events on outcomes. Perhaps Beck's cognitive triad should be pruned to become Beck's cognitive dyad.

The finding that the SRWNE plays a mediating role in the process via which physical well-being is influenced by gender role schema and the experience of childhood trauma supports the way in which the concept of the SRWNE has been constructed on the basis of Organismic Integration Theory's identification of the process of internalisation, and its application to the regulation of the withholding of negative emotions. This also supports SDT, more generally supporting the contention that extrinsically motivated behaviours, while posited in the past to be consistently associated with adverse outcomes, can have positive outcomes when regulations (such as the regulation of the withholding of negative emotions) become internalised, reflecting self-

determination and self-regulation (Blais et al., 1990; Pelletier, 2002; Vallerand & Bissonnette, 1992).

The finding that somatic amplification did not influence any of the three forms of well-being suggests that this concept assessing perceived physiological sensitivity has limited practical utility in explaining processes via which environmental events influence perceptions of well-being. More directly observable measures of physiological reactivity such as changes in levels of galvanic skin response or salivary cortisol may better explicate the associations between environmental events and health and well-being. While medical and psychological research have recently made vast leaps in knowledge regarding the physiological processes via which stress injures health, it is clear that the processes via which individuals judge the extent to which they are functioning well in their environment is not dependent on their subjective experience of physiological sensitivity.

The obtained findings also have implications for the development of health promotion programs and intervention strategies aimed at optimising health in adulthood. Health interventions need to be multidimensional, and to focus on the social, psychological, and physical aspects of health and well-being. Instead of viewing individuals as distinct and separate entities, greater emphasis needs to be placed on the reciprocal relationships between an individual and his/her environment. Health promotion, instead of being based on a deficit approach in which the negative outcomes of failure to look after one's health are emphasised, should instead emphasise an eudaimonic long-term approach to well-being in which ultimate development and optimal functioning is emphasised. Children, especially traumatised children, and highly masculine individuals, should be

encouraged to participate in activities that assist in the development of self-determination by satisfying the basic psychological needs, enabling them to have an optimistic view of the future. The development of a program for traumatised children that aims to encourage a more positive view of the world may also have utility in improving the social well-being of these individuals in adulthood. Traumatised children may also benefit from the development of a program that encourages them to self-regulate the withholding of negative emotions, so that physical well-being in adulthood is increased. The Basic Needs Satisfaction Scale (University of Rochester, 2004) could be utilised with clinical populations to assess how severely the process of psychological development has been impeded. Identification of the specific needs not adequately satisfied could be utilised to guide the development of tailored interventions aiming to catalyse the satisfaction of these needs.

Current research findings may also have clinical applications. While it had been expected that the WBI could have utility in assessing early signs of decreased well-being, especially psychological well-being, and thus making possible the use of early therapeutic interventions and the assessment of the success of psychological interventions, world beliefs were found to be significantly associated with only social well-being (not psychological or physical well-being). While this may preclude the use of the WBI to assess for signs of early psychological mal-adaptation, it does support its use in the assessment of social well-being, which is an important component of the overall sense of well-being. Identification of individuals with less positive world beliefs could be used in the development of interventions, and assessments of program success.

The study's findings have implications for future research. A primary aim of the current research was to investigate the influence of adherence to gender role on well-being. Gender, as an independent variable, was not investigated, as an important assumption underlying gender role schema is that subscription to the schema cuts across both genders. Thus, the focus of the present study was to investigate how adherence to both masculinity and femininity by both male and female respondents influences their well-being, both directly and indirectly. Nevertheless, future research should include gender as a moderator variable, which would then allow for a more indepth investigation of how respondents' gender may interact with their experience of childhood trauma and adherence to gender roles in influencing their well-being.

The study's findings also suggest that the Basic Needs Satisfaction Scale (University of Rochester, 2004) could be included in questionnaires to provide a new perspective on the developmental process. It further recommended that future research should also investigate the impact of an imbalance in the satisfaction of the basic psychological needs for autonomy, competence, and relatedness on aspects of well-being, as this topic largely remains unexplored.

The finding that world beliefs play a role in the process via which gender role schema and childhood trauma influence social well-being supports the use of the WBI (developed in study 1 to assess world beliefs) in investigations of associations between environmental experiences and social well-being. The finding that perceived control was not associated with well-being suggests that operationalising beliefs about oneself as 'perceived control' may not provide an adequate conceptualisation of this concept. Just as a multinational, multidisciplinary think tank was utilised to develop a cohesive (though

philosophical) conceptualisation of world beliefs (Aerts et al., 1994), it may be necessary to take a similar approach to the development of a cohesive construct of beliefs about oneself that has utility in predicting well-being.

The finding that dispositional optimism plays a role in the processes via which all three forms of well-being are influenced by gender role schema and childhood trauma, indicates the utility of including measures of optimism such as the LOT-R (which was used to operationalise Beck's [1976] "beliefs about the future") in investigations of factors mediating the influence of experiences on well-being.

The finding that the SRWNE is involved in the process via which gender role schema and the experience of childhood trauma influence physical well-being provides evidence of the practical applications of the newly developed SRWNE Questionnaire (Kim et al., 2002) in predicting physical well-being, and its potential to be utilised in research investigating the associations between environmental experiences and physical well-being.

Results from the current research also suggest that a general process model could be utilised to investigate the means via which a range of environmental factors (other than gender role schema and the experience of childhood trauma) come to directly and indirectly influence psychological, physical, and social well-being, being mediated by (i) satisfaction of the basic psychological needs for autonomy, competence, and relatedness, (ii) beliefs about the world and the future, and (iii) the SRWNE.

15.6 Conclusions

The present study contributes to the literature by extending knowledge regarding gender role schema, the experience of childhood trauma, and well-being. It highlights the importance of satisfaction of the basic psychological needs for autonomy, competence, and relatedness; dispositional optimism, and the SRWNE to well-being. Results support a multidimensional approach to well-being, as the pathways via which variables influence these three forms of well-being (psychological, physical, and social well-being) differ. This research supports the need for individuals to seek to become self-determined and to seek to experience well-being as a by-product of making progress in the long-term pursuit of self-actualisation. Overall, the findings and implications of the present study lead to the conclusion that the theoretical framework underlying the models of psychological, physical, and social well-being could be employed to guide the development of health promotion strategies and intervention programs that address the sequential, multilevel nature of the well-being decision making process.

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Running head: A POSITIVE PSYCHOLOGICAL PERSPECTIVE OF WELL-BEING

A Positive Psychological Perspective of the Direct and Indirect Influences of Gender Role Schema and the Experience of Childhood Trauma on Psychological, Physical, and Social Well-Being in Adulthood

Suzanne Coker

Central Queensland University

Volume 2: Appendices

Submitted March 1, 2007, for the qualification of Doctor of Philosophy, School of Psychology and Sociology, Faculty of Engineering, Science and Health, Central Queensland University.

Table of Appendices

Appendix A: Study 1 Demographic Data for Study 1

Frequencies for Entire Study 1 Sample

Statistics

		Age Group	Gender	Education	Marital Status	Income	Occupation
N	Valid	406	408	408	409	405	388
	Missing	4	2	2	1	5	22

Frequency Table

Age Group

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 24	53	12.9	13.1	13.1
	25 to 44	173	42.2	42.6	55.7
	45 to 64	140	34.1	34.5	90.1
	65 and over	40	9.8	9.9	100.0
	Total	406	99.0	100.0	
Missing	99.00	4	1.0		
Total		410	100.0		

Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Males	137	33.4	33.6	33.6
	Females	271	66.1	66.4	100.0
	Total	408	99.5	100.0	
Missing	9	2	.5		
Total		410	100.0		

Education

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Primary school	13	3.2	3.2	3.2
	1 or 2 secondary school	27	6.6	6.6	9.8
	3 or 4 years secondary	56	13.7	13.7	23.5
	5 or 6 years secondary school	59	14.4	14.5	38.0
	technical/trade	71	17.3	17.4	55.4
	tertiary	182	44.4	44.6	100.0
	Total	408	99.5	100.0	
Missing	9	2	.5		
Total		410	100.0		

Marital Status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	90	22.0	22.0	22.0
	married	211	51.5	51.6	73.6
	de facto	43	10.5	10.5	84.1
	separated	11	2.7	2.7	86.8
	divorced	40	9.8	9.8	96.6
	widowed	14	3.4	3.4	100.0
	Total	409	99.8	100.0	
Missing	9	1	.2		
Total		410	100.0		

Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than $10,000 per year	75	18.3	18.5	18.5
	$10,001 up to $20,000 per year	87	21.2	21.5	40.0
	$20,001 up to $30,000 per year	60	14.6	14.8	54.8
	$30,001 up to $40,000 per year	57	13.9	14.1	68.9
	$40,001 up to $50,000 per year	53	12.9	13.1	82.0
	$50,001 up to $60,000 per year	26	6.3	6.4	88.4
	More than $60,000 per year	47	11.5	11.6	100.0
	Total	405	98.8	100.0	
Missing	9	5	1.2		
Total		410	100.0		

Occupation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employer of more than 10; Executive ; Senior public servant	8	2.0	2.1	2.1
	Professional (with degree, diploma, or society)	122	29.8	31.4	33.5
	Small business employer or self-employed; administrator	61	14.9	15.7	49.2
	Clerical; low level administration; low salary white-collar	32	7.8	8.2	57.5
	Skilled blue-collar worker (apprenticeship)	35	8.5	9.0	66.5
	Unskilled or semi-skilled worker	51	12.4	13.1	79.6
	Unemployed	79	19.3	20.4	100.0
	Total	388	94.6	100.0	
Missing	9	22	5.4		
Total		410	100.0		

Appendix B: Study 1 Questionnaire

Central Queensland University

Faculty of Arts, Health, and Sciences

School of Psychology and Sociology

Dear Sir/Madam,

I would like to invite you to participate in this research which deals with factors that may influence psychological, physical, and social well-being in adulthood. The information gained may help in the development of programs to optimise well-being in people in general.

The questionnaire that follows is completely anonymous and the answers you provide will be used for the purpose of this research only. Please do not write your name or any identifying marks on the questionnaire to ensure anonymity.

Participation in this study is completely voluntary. You are free to withdraw your participation at anytime without penalty. If you choose to participate, please answer all questions as honestly as you can. Counselling services, if required, are available through the following services: Anglicare (Phone No. 49278200); Centacare (Phone No. 49271700); and Lifeline (Phone No. 131114).

If you have any questions regarding this study, please contact Suzanne Coker by phone on 07 49309721 or by e-mail at s.coker@cqu.edu.au. Alternatively, you can contact my supervisor Associate Professor Robert Ho by phone on 07 49309105 or by e-mail at r.ho@cqu.edu.au. If you have any concerns regarding the conduct of this project, please contact the Office of Research at Central Queensland University at 07 49232602.

If you wish to obtain a copy of the summary of results of this study, please provide your name and return mailing or e-mail address in the tear-off section below. Please tear off this section, place it in a postage paid envelope provided (with the consent form), and post it. At the conclusion of the study, a copy of the results will be mailed to you.

NAME: _____

ADDRESS: _____

_____ POSTCODE: _____

E-MAIL: _____

Factors Influencing Well-being in Adulthood

Consent Form

In agreeing to complete the questionnaire, I understand the following:

- All identifying details will be removed before analysis of results,
- The results of the research may be used in publications in scholarly journals or conference presentations,
- My participation is voluntary, and
- I may withdraw at any time without penalty or prejudice.

I understand that I can ask questions about this research by contacting Suzanne Coker or Associate Professor Robert Ho (Research Supervisor).

I am over 18 years of age, and agree to participate in this research.

Name (please print): ……

Signature: ……..

Please contact Central Queensland University's Office of Research (Tel 07 49232602) should there be any concerns about the nature and/or conduct of this research project.

SECTION 1

Please fill in your age in years, and tick (√) the other appropriate responses.

(a) Age _____ in years

(b) Gender Male:____ 1 Female: ____ 2

(c) What is the highest level of education attained?

1._____ Primary school
2._____ 1 or 2 years of Secondary school
3._____ 3 - 4 years of Secondary school
4._____ 5 - 6 years of Secondary school
5._____ Technical/trade
6._____Tertiary

(d) What is your marital status?

1._____ Single
2._____ Married
3._____ De facto
4._____ Separated
5._____ Divorced
6._____ Widowed

(e) What is your personal annual income?

1._____ Less than $10,000 per year
2._____ $10,001 up to $20,000 per year
3._____ $20,001 up to $30,000 per year
4._____ $30,001 up to $40,000 per year
5._____ $40,001 up to $50,000 per year
6._____ $50,001 up to $60,000 per year
7._____ More than $60,000 per year

(f) What is your current occupation?

1._____ Employer of more than ten; executive in an organization greater than 100; senior public servant.

2._____ Professional (specific skill with university degree or technical college diploma and recognised professional society).

3._____ Small business employer or self-employed; non-executive administrator in large company; middle-level public servant.

4._____ Clerical; low level administration; low salary skilled white-collar worker.

5._____ Skilled blue-collar worker with apprenticeship or similar training.

6. _____ Unskilled or semi-skilled worker (e.g., driver, labourer, shop assistant, typist but not secretary).

SECTION 2

Below are a number of statements that relate to your beliefs about the world. Please read each of the following statements carefully, and then decide whether you **STRONGLY DISAGREE, MODERATELY DISAGREE, BARELY DISAGREE, BARELY AGREE, MODERATELY AGREE,** or **STRONGLY AGREE** with the statement. Please indicate your level of agreement with each of the following statements by recording your rating (number) on the space next to each statement.

1_____2_____3_____4_____5_____6

Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

1. The world is an understandable place. _____
2. The world is a threatening place. _____
3. The world is an unsupportive place. _____
4. The world is a place of certainty. _____
5. The world is a meaningful place. _____
6. The world is a biased place. _____
7. The world is a responsive place. _____
8. The world is an uncontrollable place. _____
9. The world is a purposeful place. _____
10. The world is a predictable place. _____
11. The world is a meaningless place. _____
12. The world is an uncertain place. _____
13. The world is not an accommodating place. _____
14. The world is a manageable place. _____
15. The world is an unjust place. _____
16. The world is a protective place. _____
17. The world is an orderly place. _____
18. The world is an incomprehensible place. _____
19. The world is a just place. _____
20. The world is a cooperative place. _____
21. The world is an unsafe place. _____
22. The world is a supportive place. _____
23. The world is a place in which people get what they deserve. _____
24. The world is a safe place. _____
25. The world is a dependable place. _____
26. The world is an unpredictable place. _____
27. The world is a chaotic place. _____
28. The world is a fair place. _____
29. The world is a controllable place. _____
30. The world is a harmless place. _____

SECTION 3

For each of the following statements, please circle the number that corresponds with how you felt during the previous week.

During the past week

1. I was bothered by things that usually don't bother me.
   0 *Rarely or none of the time (less than 1 day).*
   1 *Some or a little of the time (1-2 days).*
   2 *Occasionally or a moderate amount of the time (3-4 days).*
   3 *Most or all of the time (5-7 days).*

2. I did not feel like eating; my appetite was poor.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

3. I felt that I could not shake off the blues even with help from my family and friends.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

4. I felt that I was not as good as other people.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

5. I had trouble keeping my mind on what I was doing.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

6. I felt depressed.
   0 *Rarely or none of the time (less than 1 day).*
   1 *Some or a little of the time (1-2 days).*
   2 *Occasionally or a moderate amount of the time (3-4 days).*
   3 *Most or all of the time (5-7 days).*

7. I felt that everything I did was an effort.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

8. I felt hopeless about the future.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

9. I thought my life had been a failure.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

10. I felt fearful.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

11. My sleep was restless.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

12. I was unhappy.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

13. I talked less than usual.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

14. I felt lonely.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

15. People were unfriendly.
   0 Rarely or none of the time (less than 1 day).
   1 Some or a little of the time (1-2 days).
   2 Occasionally or a moderate amount of the time (3-4 days).
   3 Most or all of the time (5-7 days).

16. I did not enjoy life.
    0 Rarely or none of the time (less than 1 day).
    1 Some or a little of the time (1-2 days).
    2 Occasionally or a moderate amount of the time (3-4 days).
    3 Most or all of the time (5-7 days).

17. I had crying spells.
    0 Rarely or none of the time (less than 1 day).
    1 Some or a little of the time (1-2 days).
    2 Occasionally or a moderate amount of the time (3-4 days).
    3 Most or all of the time (5-7 days).

18. I felt sad.
    0 Rarely or none of the time (less than 1 day).
    1 Some or a little of the time (1-2 days).
    2 Occasionally or a moderate amount of the time (3-4 days).
    3 Most or all of the time (5-7 days).

19. I felt that people disliked me.
    0 Rarely or none of the time (less than 1 day).
    1 Some or a little of the time (1-2 days).
    2 Occasionally or a moderate amount of the time (3-4 days).
    3 Most or all of the time (5-7 days).

20. I could not get "going."
    0 Rarely or none of the time (less than 1 day).
    1 Some or a little of the time (1-2 days).
    2 Occasionally or a moderate amount of the time (3-4 days).
    3 Most or all of the time (5-7 days).

SECTION 4

Below is a list of statements that talk about people's general health. Please record on the space next to each statement your rating (number) that best describes the way you have been feeling over the **past few weeks**. It is important that you try to answer all the questions.

1 = More so than usual, 2 = Same as usual, 3 = Less so than usual, 4 = Much less than usual.

Have you recently:

1	2	3	4
More so than usual	Same as usual	Less so than usual	Much less than usual

1 Been **unable** to concentrate on whatever you're doing? _____

2 **Lost** much sleep over worry? _____

3 Felt that you are playing a **useful** part in things? _____

4 Felt **capable** of making decisions about things? _____

5 Felt constantly under **strain**? _____

6 Felt that you could **not** overcome your difficulties? _____

7 Been able to **enjoy** your normal day-to-day activities? _____

8 Been able to **face up** to your problems? _____

9 Been feeling **unhappy** and depressed? _____

10 Been **losing** confidence in yourself? _____

11 Been thinking of yourself as a **worthless** person? _____

12 Been feeling reasonably **happy**, all things considered? _____

SECTION 5

Below are a number of statements that relate to your feelings about yourself. Please read each of the following statements carefully, and then decide whether you **STRONGLY AGREE, AGREE, DISAGREE,** or **STRONGLY DISAGREE** with each statement. Please indicate your level of agreement with each of the following statements by recording your rating (number) on the space next to each statement.

1	2	3	4
Strongly Agree	Agree	Disagree	Strongly Disagree

1 I feel that I'm a person of worth, at least on an equal basis with others. _____

2 I feel that I have a number of good qualities. _____

3 All in all, I am inclined to feel that I am a failure. _____

4 I am able to do things as well as most other people. _____

5 I feel I do not have much to be proud of. _____

6 I take a positive attitude toward myself. _____

7 On the whole, I am satisfied with myself. _____

8 I wish I could have more respect for myself. _____

9 I certainly feel useless at times. _____

10 At times I think I am no good at all. _____

Before posting, please ensure you have answered all questions.

Place the questionnaire in the one postage paid envelope.

Place the consent form and the small tear off section from the information sheet with your contact details (if you wish to receive a brief summary of results) in the other postage paid envelope.

Please remember that counselling services are available for participants through the following services: Anglicare (Phone No. 49278200); Centacare (Phone No. 49271700); and Lifeline (Phone No. 131114).

Thank you for your participation in this study.

Suzanne Coker

Appendix C: Study 1 Factor Analyses of the World Beliefs Inventory

Factor Analysis of WBI - First Run

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	2769.958
	df	435
	Sig.	.000

Communalities

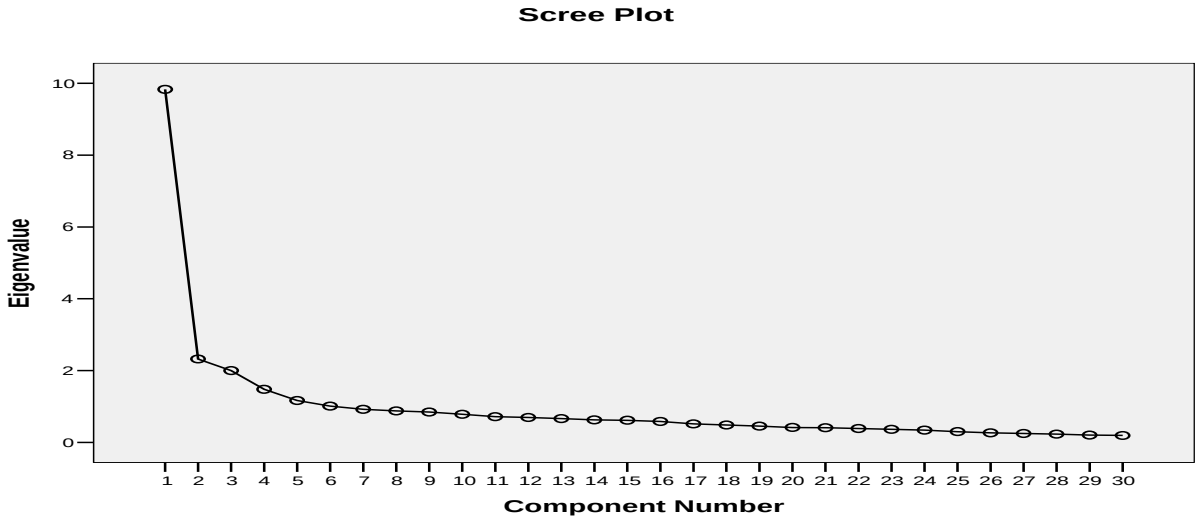
	Initial	Extraction
wb1	1.000	.415
wb2	1.000	.508
wb3	1.000	.563
wb4	1.000	.736
wb5	1.000	.649
wb6	1.000	.588
wb7	1.000	.608
wb8	1.000	.606
wb9	1.000	.688
wb10	1.000	.613
wb11	1.000	.627
wb12	1.000	.650
wb13	1.000	.576
wb14	1.000	.491
wb15	1.000	.572
wb16	1.000	.640
wb17	1.000	.521
wb18	1.000	.705
wb19	1.000	.400
wb20	1.000	.629
wb21	1.000	.643
wb22	1.000	.648
wb23	1.000	.558
wb24	1.000	.595
wb25	1.000	.599
wb26	1.000	.506
wb27	1.000	.713
wb28	1.000	.572
wb29	1.000	.644
wb30	1.000	.551

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.831	32.769	32.769	9.831	32.769	32.769
2	2.323	7.745	40.514	2.323	7.745	40.514
3	2.001	6.670	47.184	2.001	6.670	47.184
4	1.481	4.936	52.121	1.481	4.936	52.121
5	1.167	3.891	56.012	1.167	3.891	56.012
6	1.011	3.370	59.382	1.011	3.370	59.382
7	.923	3.076	62.458			
8	.879	2.931	65.389			
9	.847	2.823	68.212			
10	.786	2.620	70.832			
11	.718	2.395	73.227			
12	.695	2.317	75.543			
13	.665	2.217	77.760			
14	.630	2.100	79.860			
15	.618	2.059	81.919			
16	.586	1.953	83.872			
17	.516	1.720	85.592			
18	.487	1.624	87.216			
19	.456	1.522	88.737			
20	.417	1.391	90.129			
21	.410	1.366	91.495			
22	.390	1.299	92.793			
23	.364	1.212	94.005			
24	.345	1.149	95.154			
25	.301	1.004	96.159			
26	.269	.897	97.056			
27	.250	.832	97.888			
28	.233	.778	98.665			
29	.205	.685	99.350			
30	.195	.650	100.000			

Extraction Method: Principal Component Analysis.



Component Matrix [a]

	Component					
	1	2	3	4	5	6
wb25	.730					
wb20	.718	-.310				
wb16	.704					
wb24	.702					
wb22	.699	-.348				
wb15	.669					
wb28	.667			-.304		
wb17	.648					
wb14	.634					
wb21	.622	.352				
wb27	.619	.306				-.377
wb29	.577		.448			
wb8	.562	.378				
wb30	.555				-.376	
wb6	.550	.305	-.316			
wb12	.548	.445				.374
wb19	.542					
wb3	.542		-.444			
wb13	.531		-.476			
wb9	.526	-.492				
wb2	.521	.440				
wb5	.521	-.435		.336		
wb18	.512			.409	.444	
wb23	.463			-.448		-.327
wb1	.459		.372			
wb26	.447	.496				
wb7	.450	-.471				.364
wb10	.383		.643			
wb11	.418		-.391	.522		
wb4	.401				.555	.432

Extraction Method: Principal Component Analysis.

a. 6 components extracted.

Factor Analysis of WBI - Second Run

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.894
Bartlett's Test of Sphericity	Approx. Chi-Square	2769.958
	df	435
	Sig.	.000

Communalities

	Initial	Extraction
wb1	1.000	.211
wb2	1.000	.465
wb3	1.000	.294
wb4	1.000	.163
wb5	1.000	.461
wb6	1.000	.395
wb7	1.000	.424
wb8	1.000	.459
wb9	1.000	.519
wb10	1.000	.152
wb11	1.000	.185
wb12	1.000	.498
wb13	1.000	.305
wb14	1.000	.425
wb15	1.000	.488
wb16	1.000	.578
wb17	1.000	.443
wb18	1.000	.305
wb19	1.000	.336
wb20	1.000	.611
wb21	1.000	.511
wb22	1.000	.610
wb23	1.000	.226
wb24	1.000	.500
wb25	1.000	.556
wb26	1.000	.446
wb27	1.000	.477
wb28	1.000	.458
wb29	1.000	.334
wb30	1.000	.319

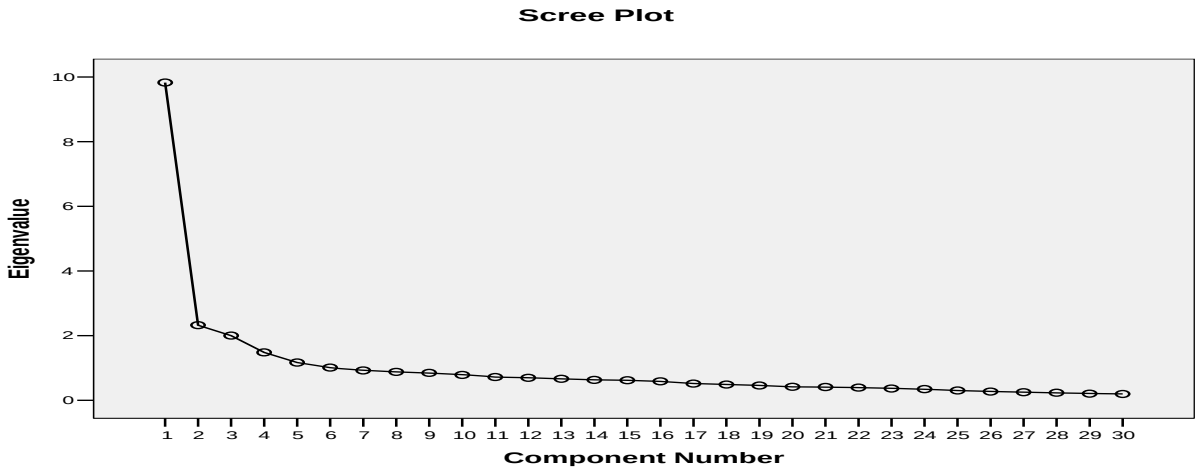
Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	9.831	32.769	32.769	9.831	32.769	32.769	8.173
2	2.323	7.745	40.514	2.323	7.745	40.514	7.592
3	2.001	6.670	47.184				
4	1.481	4.936	52.121				
5	1.167	3.891	56.012				
6	1.011	3.370	59.382				
7	.923	3.076	62.458				
8	.879	2.931	65.389				
9	.847	2.823	68.212				
10	.786	2.620	70.832				
11	.718	2.395	73.227				
12	.695	2.317	75.543				
13	.665	2.217	77.760				
14	.630	2.100	79.860				
15	.618	2.059	81.919				
16	.586	1.953	83.872				
17	.516	1.720	85.592				
18	.487	1.624	87.216				
19	.456	1.522	88.737				
20	.417	1.391	90.129				
21	.410	1.366	91.495				
22	.390	1.299	92.793				
23	.364	1.212	94.005				
24	.345	1.149	95.154				
25	.301	1.004	96.159				
26	.269	.897	97.056				
27	.250	.832	97.888				
28	.233	.778	98.665				
29	.205	.685	99.350				
30	.195	.650	100.000				

Extraction Method: Principal Component Analysis.

a. When components are correlated, sums of squared loadings cannot be added to obtain a total variance.



Component Matrix[a]

	Component	
	1	2
wb25	.730	
wb20	.718	
wb16	.704	
wb24	.702	
wb22	.699	
wb15	.669	
wb28	.667	
wb17	.648	
wb14	.634	
wb21	.622	
wb27	.619	
wb29	.577	
wb8	.562	
wb30	.555	
wb6	.550	
wb12	.548	.445
wb19	.542	
wb3	.542	
wb13	.531	
wb9	.526	-.492
wb2	.521	.440
wb5	.521	-.435
wb18	.512	
wb23	.463	
wb1	.459	
wb11	.418	
wb4	.401	
wb10		
wb26	.447	.496
wb7	.450	-.471

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

Pattern Matrix[a]

	Component	
	1	2
wb9	.799	
wb22	.769	
wb20	.744	
wb5	.741	
wb7	.731	
wb16	.713	
wb25	.603	
wb17	.549	
wb14	.541	
wb19	.534	
wb28	.526	
wb23		
wb11		
wb1		
wb4		
wb12		.742
wb26		.740
wb2		.723
wb21		.689
wb8		.683
wb27		.641
wb6		.602
wb15		.561
wb18		.482
wb24		.461
wb13		.439
wb30		.402
wb29		
wb3		
wb10		

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

a. Rotation converged in 12 iterations.

Structure Matrix

	Component	
	1	2
wb22	.781	
wb20	.779	.432
wb16	.756	.434
wb25	.717	.526
wb9	.696	
wb5	.664	
wb17	.643	.460
wb28	.643	.496
wb14	.631	.448
wb7	.618	
wb19	.575	
wb23	.460	
wb1	.417	
wb11	.416	
wb4		
wb21		.714
wb12		.702
wb27	.402	.686
wb8		.678
wb2		.677
wb15	.496	.670
wb26		.645
wb24	.580	.634
wb6		.627
wb18		.541
wb13		.528
wb30	.441	.521
wb29	.497	.498
wb3	.464	.471
wb10		

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Component Correlation Matrix

Component	1	2
1	1.000	.483
2	.483	1.000

Extraction Method: Principal Component Analysis.
Rotation Method: Oblimin with Kaiser Normalization.

Appendix D: Study 1 Reliability Analysis of the WBI

Reliability

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded[a]	0	.0
	Total	205	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.888	11

Item Statistics

	Mean	Std. Deviation	N
wb9	4.3463	1.29556	205
wb22	3.6390	1.32341	205
wb20	3.5512	1.39802	205
wb5	4.4049	1.44744	205
wb7	4.2503	1.26074	205
wb16	3.0683	1.41256	205
wb25	3.2780	1.40927	205
wb17	3.0732	1.42784	205
wb14	3.6683	1.50073	205
wb19	3.0927	1.58924	205
wb28	2.9480	1.43581	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
wb9	34.9739	97.122	.586	.879
wb22	35.6812	93.772	.711	.872
wb20	35.7690	92.354	.724	.871
wb5	34.9153	96.073	.549	.882
wb7	35.0699	99.244	.514	.883
wb16	36.2519	92.672	.702	.872
wb25	36.0422	94.193	.643	.876
wb17	36.2470	95.146	.595	.879
wb14	35.6519	94.544	.581	.880
wb19	36.2275	95.432	.509	.885
wb28	36.3722	95.182	.589	.879

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
39.3202	113.756	10.66565	11

Reliability

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded[a]	0	.0
	Total	205	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.861	10

Item Statistics

	Mean	Std. Deviation	N
wb12	2.7791	1.53017	205
wb26	2.3756	1.34689	205
wb2	3.1512	1.51190	205
wb21	2.9805	1.46850	205
wb8	2.7366	1.54947	205
wb27	2.8634	1.49538	205
wb6	2.5598	1.43457	205
wb15	3.0146	1.51941	205
wb18	3.6768	1.44869	205
wb13	3.6696	1.51343	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
wb12	27.0281	78.635	.611	.844
wb26	27.4316	83.517	.497	.853
wb2	26.6560	79.803	.573	.847
wb21	26.8267	78.442	.652	.841
wb8	27.0706	79.395	.571	.847
wb27	26.9438	79.141	.609	.844
wb6	27.2475	81.114	.557	.849
wb15	26.7926	77.997	.643	.841
wb18	26.1304	82.786	.481	.855
wb13	26.1376	81.719	.496	.854

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
29.8072	97.570	9.87775	10

Appendix E: Study 1 AMOS output for CFA

E:\Study1\CFA\WBI_cfa_two factors_all items.amw

Analysis Summary

Date and Time

Date: Monday, 27 March 2006
Time: 3:03:22 PM

Title

Model 1: CFA - 2 Factors

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 205

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables
WB12
WB26
WB2
WB21
WB8
WB27
WB6
WB15
WB18
WB13
WB28
WB19
WB14
WB17
WB25
WB16
WB7
WB5
WB20
WB22
WB9
Unobserved, exogenous variables
negative_world_beliefs
e12
e13
e14

e15
e16
e17
e18
e19
e20
e21
positive_world_beliefs
e11
e10
e9
e8
e7
e6
e5
e4
e3
e2
e1

Variable counts (Group number 1)

Number of variables in your model:	44
Number of observed variables:	21
Number of unobserved variables:	23
Number of exogenous variables:	23
Number of endogenous variables:	21

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	23	0	0	0	0	23
Labeled	0	0	0	0	0	0
Unlabeled	19	1	23	0	0	43
Total	42	1	23	0	0	66

Models

Default model (Default model)

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments:	231
Number of distinct parameters to be estimated:	43
Degrees of freedom (231 - 43):	188

Result (Default model)

Minimum was achieved
Chi-square = 455.538
Degrees of freedom = 188
Probability level = .000

Group number 1 (Group number 1 - Default model)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
WB12 <--- negative_world_beliefs	1.000				
WB26 <--- negative_world_beliefs	.812	.118	6.875	***	
WB2 <--- negative_world_beliefs	.709	.124	5.714	***	
WB21 <--- negative_world_beliefs	.826	.119	6.955	***	
WB8 <--- negative_world_beliefs	.832	.127	6.576	***	
WB27 <--- negative_world_beliefs	.787	.119	6.623	***	
WB6 <--- negative_world_beliefs	.629	.111	5.669	***	
WB15 <--- negative_world_beliefs	.877	.122	7.190	***	
WB18 <--- negative_world_beliefs	.695	.118	5.909	***	
WB13 <--- negative_world_beliefs	.957	.123	7.791	***	
WB28 <--- positive_world_beliefs	1.148	.141	8.151	***	
WB19 <--- positive_world_beliefs	1.012	.139	7.261	***	
WB14 <--- positive_world_beliefs	.694	.127	5.464	***	
WB17 <--- positive_world_beliefs	1.154	.143	8.053	***	
WB25 <--- positive_world_beliefs	1.271	.147	8.675	***	
WB16 <--- positive_world_beliefs	1.030	.136	7.577	***	
WB7 <--- positive_world_beliefs	.724	.114	6.335	***	
WB5 <--- positive_world_beliefs	.897	.132	6.802	***	
WB20 <--- positive_world_beliefs	1.099	.135	8.130	***	
WB22 <--- positive_world_beliefs	1.081	.130	8.309	***	
WB9 <--- positive_world_beliefs	1.000				

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
WB12 <--- negative_world_beliefs	.663
WB26 <--- negative_world_beliefs	.559
WB2 <--- negative_world_beliefs	.455
WB21 <--- negative_world_beliefs	.567
WB8 <--- negative_world_beliefs	.532
WB27 <--- negative_world_beliefs	.536

			Estimate
WB6	<---	negative_world_beliefs	.451
WB15	<---	negative_world_beliefs	.589
WB18	<---	negative_world_beliefs	.472
WB13	<---	negative_world_beliefs	.648
WB28	<---	positive_world_beliefs	.692
WB19	<---	positive_world_beliefs	.597
WB14	<---	positive_world_beliefs	.428
WB17	<---	positive_world_beliefs	.681
WB25	<---	positive_world_beliefs	.753
WB16	<---	positive_world_beliefs	.629
WB7	<---	positive_world_beliefs	.507
WB5	<---	positive_world_beliefs	.551
WB20	<---	positive_world_beliefs	.689
WB22	<---	positive_world_beliefs	.710
WB9	<---	positive_world_beliefs	.621

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
negative_world_beliefs	<-->	positive_world_beliefs	.573	.105	5.436	***	

Correlations: (Group number 1 - Default model)

			Estimate
negative_world_beliefs	<-->	positive_world_beliefs	.689

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
negative_world_beliefs	.965	.195	4.944	***	
positive_world_beliefs	.717	.152	4.701	***	
e12	1.231	.143	8.592	***	
e13	1.399	.152	9.226	***	
e14	1.858	.194	9.600	***	
e15	1.390	.151	9.192	***	
e16	1.695	.181	9.344	***	
e17	1.481	.159	9.326	***	
e18	1.492	.155	9.610	***	
e19	1.399	.154	9.080	***	
e20	1.626	.170	9.551	***	
e21	1.222	.140	8.709	***	
e11	1.030	.114	9.001	***	
e10	1.327	.141	9.439	***	
e9	1.539	.157	9.832	***	
e8	1.104	.122	9.066	***	
e7	.886	.104	8.531	***	
e6	1.159	.124	9.315	***	

	Estimate	S.E.	C.R.	P	Label
e5	1.089	.112	9.687	***	
e4	1.321	.138	9.579	***	
e3	.956	.106	9.016	***	
e2	.826	.093	8.885	***	
e1	1.143	.122	9.350	***	

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
WB9	.385
WB22	.503
WB20	.475
WB5	.304
WB7	.257
WB16	.396
WB25	.567
WB17	.463
WB14	.183
WB19	.356
WB28	.478
WB13	.420
WB18	.223
WB15	.347
WB6	.204
WB27	.287
WB8	.283
WB21	.321
WB2	.207
WB26	.313
WB12	.439

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e4 <--> e1	38.050	.561
e5 <--> e4	11.056	.291
e8 <--> e6	19.957	.383
e11 <--> e10	12.981	.319
e21 <--> e4	15.727	.384
e20 <--> e9	18.427	.493
e16 <--> e19	11.778	-.398
e13 <--> e21	13.143	-.364
e12 <--> e4	13.302	-.356
e12 <--> e21	10.087	-.307

	M.I.	Par Change
e12 <--> e13	31.133	.566

Variances: (Group number 1 - Default model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

	M.I.	Par Change
WB9 <--- WB5	25.359	.283
WB5 <--- WB9	21.919	.283
WB17 <--- WB16	11.302	.187
WB14 <--- WB18	15.313	.238
WB13 <--- WB9	10.330	.194
WB13 <--- WB5	16.368	.242
WB18 <--- WB14	16.525	.271
WB26 <--- WB12	15.450	.228
WB12 <--- WB5	10.519	-.195
WB12 <--- WB26	20.068	.261

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	5		-.951	9999.000	1566.160	0	9999.000
1	e	1		-.143	3.599	761.495	20	.197
2	e	1		-.086	.676	603.722	5	.908
3	e	0	1940.835		.934	496.055	6	.809
4	e	0	258.082		.642	468.221	5	.000
5	e	0	317.731		.573	457.880	1	.837
6	e	0	432.970		.134	455.586	1	1.072
7	e	0	431.999		.031	455.539	1	1.036
8	e	0	433.783		.002	455.538	1	1.003
9	e	0	433.646		.000	455.538	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	43	455.538	188	.000	2.423
Saturated model	231	.000	0		
Independence model	21	1672.687	210	.000	7.965

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.144	.801	.756	.652
Saturated model	.000	1.000		
Independence model	.586	.342	.277	.311

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.728	.696	.820	.796	.817
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.895	.651	.731
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	267.538	208.797	333.978
Saturated model	.000	.000	.000
Independence model	1462.687	1336.112	1596.700

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.233	1.311	1.024	1.637
Saturated model	.000	.000	.000	.000
Independence model	8.199	7.170	6.550	7.827

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.084	.074	.093	.000
Independence model	.185	.177	.193	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	541.538	551.934	684.428	727.428
Saturated model	462.000	517.846	1229.615	1460.615
Independence model	1714.687	1719.764	1784.470	1805.470

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.655	2.367	2.980	2.706

Model	ECVI	LO 90	HI 90	MECVI
Saturated model	2.265	2.265	2.265	2.538
Independence model	8.405	7.785	9.062	8.430

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	99	106
Independence model	30	32

Execution time summary

Minimization: .020
Miscellaneous: .871
Bootstrap: .000
Total: .891

Study 1/CFA/WBI_cfa_one factor_all items.amw

Analysis Summary

Date and Time

Date: Monday, 27 March 2006
Time: 3:10:53 PM

Title

Wbi_cfa_one factor_all items: Monday, 27 March 2006 03:10 PM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 205

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables
WB12
WB26
WB2
WB21
WB8
WB27
WB6
WB15
WB18
WB13
WB28
WB19
WB14
WB17
WB25
WB16
WB7
WB5
WB20
WB22
WB9
Unobserved, exogenous variables
e12
e13

e14
e15
e16
e17
e18
e19
e20
e21
World_Beliefs
e11
e10
e9
e8
e7
e6
e5
e4
e3
e2
e1

Variable counts (Group number 1)

Number of variables in your model: 43
Number of observed variables: 21
Number of unobserved variables: 22
Number of exogenous variables: 22
Number of endogenous variables: 21

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	22	0	0	0	0	22
Labeled	0	0	0	0	0	0
Unlabeled	20	0	22	0	0	42
Total	42	0	22	0	0	64

Models

Default model (Default model)

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 231
Number of distinct parameters to be estimated: 42
Degrees of freedom (231 - 42): 189

Result (Default model)

Minimum was achieved
Chi-square = 584.360
Degrees of freedom = 189
Probability level = .000

Group number 1 (Group number 1 - Default model)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
WB28 <--- World_Beliefs	1.175	.151	7.761	***	
WB19 <--- World_Beliefs	1.038	.149	6.974	***	
WB14 <--- World_Beliefs	.723	.134	5.380	***	
WB17 <--- World_Beliefs	1.161	.153	7.583	***	
WB25 <--- World_Beliefs	1.310	.158	8.265	***	
WB16 <--- World_Beliefs	1.008	.144	7.003	***	
WB7 <--- World_Beliefs	.718	.121	5.954	***	
WB5 <--- World_Beliefs	.914	.140	6.517	***	
WB20 <--- World_Beliefs	1.107	.145	7.660	***	
WB22 <--- World_Beliefs	1.105	.140	7.898	***	
WB9 <--- World_Beliefs	1.000				
WB12 <--- World_Beliefs	.963	.150	6.412	***	
WB26 <--- World_Beliefs	.751	.140	5.381	***	
WB2 <--- World_Beliefs	.715	.148	4.845	***	
WB21 <--- World_Beliefs	.904	.144	6.268	***	
WB8 <--- World_Beliefs	.780	.150	5.212	***	
WB6 <--- World_Beliefs	.597	.131	4.557	***	
WB15 <--- World_Beliefs	.923	.147	6.258	***	
WB18 <--- World_Beliefs	.762	.142	5.382	***	
WB13 <--- World_Beliefs	1.093	.152	7.193	***	
WB27 <--- World_Beliefs	.720	.140	5.140	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
WB28 <--- World_Beliefs	.676
WB19 <--- World_Beliefs	.585
WB14 <--- World_Beliefs	.426
WB17 <--- World_Beliefs	.655
WB25 <--- World_Beliefs	.741
WB16 <--- World_Beliefs	.588

			Estimate
WB7	<---	World_Beliefs	.480
WB5	<---	World_Beliefs	.536
WB20	<---	World_Beliefs	.664
WB22	<---	World_Beliefs	.693
WB9	<---	World_Beliefs	.593
WB12	<---	World_Beliefs	.526
WB26	<---	World_Beliefs	.426
WB2	<---	World_Beliefs	.378
WB21	<---	World_Beliefs	.511
WB8	<---	World_Beliefs	.410
WB6	<---	World_Beliefs	.353
WB15	<---	World_Beliefs	.510
WB18	<---	World_Beliefs	.426
WB13	<---	World_Beliefs	.609
WB27	<---	World_Beliefs	.404

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
World_Beliefs	.654	.146	4.474	***	
E12	1.590	.164	9.708	***	
E13	1.666	.169	9.872	***	
E14	2.009	.202	9.929	***	
E15	1.513	.155	9.737	***	
E16	1.965	.199	9.892	***	
E17	1.739	.176	9.900	***	
E18	1.640	.165	9.954	***	
E19	1.585	.163	9.739	***	
E20	1.713	.174	9.872	***	
E21	1.324	.139	9.494	***	
E11	1.073	.116	9.235	***	
E10	1.355	.142	9.566	***	
E9	1.542	.156	9.873	***	
E8	1.176	.126	9.330	***	
E7	.922	.104	8.849	***	
E6	1.256	.131	9.557	***	
e5	1.127	.115	9.793	***	
e4	1.352	.140	9.685	***	
e3	1.019	.110	9.291	***	
e2	.864	.094	9.150	***	
e1	1.206	.126	9.543	***	

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
WB9	.352
WB22	.480
WB20	.441
WB5	.288
WB7	.230
WB16	.346
WB25	.549
WB17	.428
WB14	.181
WB19	.342
WB28	.457
WB13	.371
WB18	.181
WB15	.260
WB6	.124
WB27	.163
WB8	.169
WB21	.261
WB2	.143
WB26	.181
WB12	.276

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e4 <--> e1	40.861	.597
e4 <--> e2	12.037	.279
e5 <--> e1	10.774	.279
e5 <--> e2	11.389	.247
e5 <--> e4	13.226	.325
e8 <--> e6	26.523	.465
e11 <--> e10	15.067	.349
e20 <--> e6	10.796	-.349
e20 <--> e9	14.842	.447
e19 <--> e21	12.402	.373
e16 <--> e17	13.622	.487
e14 <--> e15	14.672	.479
e13 <--> e1	12.385	-.362
e13 <--> e17	20.044	.544
e13 <--> e16	16.883	.531
e12 <--> e1	16.162	-.407
e12 <--> e4	16.797	-.436

	M.I.	Par Change
e12 <--> e16	10.577	.413
e12 <--> e13	48.924	.819

Variances: (Group number 1 - Default model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

	M.I.	Par Change
WB9 <--- WB5	28.080	.303
WB9 <--- WB12	11.309	-.179
WB5 <--- WB9	25.220	.305
WB5 <--- WB12	11.747	-.192
WB16 <--- WB17	14.168	.211
WB17 <--- WB16	16.568	.231
WB14 <--- WB18	11.905	.210
WB18 <--- WB14	11.908	.233
WB27 <--- WB8	11.120	.202
WB27 <--- WB26	16.080	.262
WB8 <--- WB27	11.198	.230
WB8 <--- WB26	13.545	.256
WB21 <--- WB2	12.391	.201
WB2 <--- WB21	10.493	.226
WB26 <--- WB27	16.477	.257
WB26 <--- WB8	13.782	.221
WB26 <--- WB12	34.193	.360
WB12 <--- WB5	11.535	-.222
WB12 <--- WB26	39.264	.395

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	2		-1.060	9999.000	1509.363	0	9999.000
1	e	1		-.063	2.847	763.812	19	.226
2	e	1		-.018	1.040	637.525	5	.756
3	e	0	28.883		.579	600.950	5	.892
4	e	0	45.666		.719	590.460	1	.844
5	e	0	77.303		.335	584.699	1	1.105
6	e	0	115.725		.180	584.371	1	1.109
7	e	0	126.684		.042	584.360	1	1.028
8	e	0	128.633		.002	584.360	1	1.001
9	e	0	128.637		.000	584.360	1	1.002

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	42	584.360	189	.000	3.092
Saturated model	231	.000	0		
Independence model	21	1672.687	210	.000	7.965

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.178	.752	.697	.615
Saturated model	.000	1.000		
Independence model	.586	.342	.277	.311

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.651	.612	.734	.700	.730
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.900	.586	.657
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	395.360	326.321	472.017
Saturated model	.000	.000	.000
Independence model	1462.687	1336.112	1596.700

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	2.865	1.938	1.600	2.314
Saturated model	.000	.000	.000	.000
Independence model	8.199	7.170	6.550	7.827

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.101	.092	.111	.000
Independence model	.185	.177	.193	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	668.360	678.514	807.927	849.927
Saturated model	462.000	517.846	1229.615	1460.615
Independence model	1714.687	1719.764	1784.470	1805.470

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	3.276	2.938	3.652	3.326
Saturated model	2.265	2.265	2.265	2.538
Independence model	8.405	7.785	9.062	8.430

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	78	83
Independence model	30	32

Execution time summary

Minimization: .020
Miscellaneous: .781
Bootstrap: .000
Total: .801

E:\Study1\CFA\WBI_cfa_one factor_correlated errors.amw

Analysis Summary

Date and Time

Date: Monday, 27 March 2006
Time: 3:23:35 PM

Title

Wbi_cfa_one factor_correlated errors: Monday, 27 March 2006 03:23 PM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 205

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables
WB12
WB26
WB2
WB21
WB8
WB27
WB6
WB15
WB18
WB13
WB28
WB19
WB14
WB17
WB25
WB16
WB7
WB5
WB20
WB22
WB9
Unobserved, exogenous variables
e12
e13
e14
e15

e16
e17
e18
e19
e20
e21
world_beliefs
e11
e10
e9
e8
e7
e6
e5
e4
e3
e2
e1

Variable counts (Group number 1)

Number of variables in your model: 43
Number of observed variables: 21
Number of unobserved variables: 22
Number of exogenous variables: 22
Number of endogenous variables: 21

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	22	0	0	0	0	22
Labeled	0	0	0	0	0	0
Unlabeled	20	45	22	0	0	87
Total	42	45	22	0	0	109

Models

Default model (Default model)

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 231
Number of distinct parameters to be estimated: 87
Degrees of freedom (231 - 87): 144

Result (Default model)

Minimum was achieved
Chi-square = 327.656
Degrees of freedom = 144

Probability level = .000

Group number 1 (Group number 1 - Default model)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
WB28 <--- world_beliefs	1.130	.137	8.222	***	
WB19 <--- world_beliefs	.990	.136	7.266	***	
WB14 <--- world_beliefs	.687	.125	5.502	***	
WB17 <--- world_beliefs	1.133	.140	8.104	***	
WB25 <--- world_beliefs	1.253	.143	8.776	***	
WB16 <--- world_beliefs	1.007	.133	7.585	***	
WB7 <--- world_beliefs	.729	.112	6.480	***	
WB5 <--- world_beliefs	.902	.130	6.963	***	
WB20 <--- world_beliefs	1.087	.132	8.232	***	
WB22 <--- world_beliefs	1.070	.127	8.422	***	
WB9 <--- world_beliefs	1.000				
WB12 <--- world_beliefs	.735	.135	5.439	***	
WB26 <--- world_beliefs	.554	.128	4.342	***	
WB2 <--- world_beliefs	.536	.136	3.934	***	
WB21 <--- world_beliefs	.737	.131	5.630	***	
WB8 <--- world_beliefs	.570	.137	4.157	***	
WB6 <--- world_beliefs	.432	.121	3.565	***	
WB15 <--- world_beliefs	.729	.133	5.464	***	
WB18 <--- world_beliefs	.620	.130	4.757	***	
WB13 <--- world_beliefs	.915	.136	6.729	***	
WB27 <--- world_beliefs	.518	.128	4.029	***	

Standardized Regression Weights: (Group number 1 - Default model)

	Estimate
WB28 <--- world_beliefs	.689
WB19 <--- world_beliefs	.590
WB14 <--- world_beliefs	.429
WB17 <--- world_beliefs	.676
WB25 <--- world_beliefs	.751
WB16 <--- world_beliefs	.622
WB7 <--- world_beliefs	.516
WB5 <--- world_beliefs	.561
WB20 <--- world_beliefs	.690
WB22 <--- world_beliefs	.711

			Estimate
WB9	<---	world_beliefs	.628
WB12	<---	world_beliefs	.425
WB26	<---	world_beliefs	.333
WB2	<---	world_beliefs	.300
WB21	<---	world_beliefs	.441
WB8	<---	world_beliefs	.318
WB6	<---	world_beliefs	.270
WB15	<---	world_beliefs	.427
WB18	<---	world_beliefs	.367
WB13	<---	world_beliefs	.540
WB27	<---	world_beliefs	.307

Covariances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
e12<-->e13	.950	.147	6.481	***	
e12<-->e14	.189	.141	1.341	.180	
e12<-->e15	.366	.128	2.867	.004	
e12<-->e16	.576	.146	3.936	***	
e12<-->e17	.530	.137	3.856	***	
e12<-->e18	.409	.130	3.147	.002	
e12<-->e19	.494	.133	3.704	***	
e12<-->e20	.246	.131	1.874	.061	
e12<-->e21	.188	.121	1.560	.119	
e13<-->e14	.106	.140	.757	.449	
e13<-->e15	.200	.125	1.604	.109	
e13<-->e16	.662	.148	4.487	***	
e13<-->e17	.667	.140	4.770	***	
e13<-->e18	.133	.126	1.056	.291	
e13<-->e19	.233	.129	1.810	.070	
e13<-->e20	.369	.132	2.791	.005	
e13<-->e21	.076	.119	.636	.525	
e14<-->e15	.590	.141	4.178	***	
e14<-->e16	.402	.154	2.612	.009	
e14<-->e17	.273	.144	1.898	.058	
e14<-->e18	.404	.139	2.893	.004	
e14<-->e19	.350	.141	2.484	.013	
e14<-->e20	.121	.140	.862	.389	
e14<-->e21	.434	.133	3.259	.001	
e15<-->e16	.270	.136	1.990	.047	
e15<-->e17	.215	.127	1.686	.092	
e15<-->e18	.304	.123	2.471	.013	
e15<-->e19	.330	.125	2.632	.008	
e15<-->e20	.086	.124	.689	.491	
e15<-->e21	.334	.118	2.841	.005	

	Estimate	S.E.	C.R.	P	Label
e16<-->e17	.620	.149	4.162	***	
e16<-->e18	.392	.139	2.818	.005	
e16<-->e19	.056	.138	.403	.687	
e16<-->e20	.383	.143	2.685	.007	
e16<-->e21	.315	.131	2.399	.016	
e17<-->e18	.399	.131	3.038	.002	
e17<-->e19	.298	.132	2.259	.024	
e17<-->e20	.315	.134	2.360	.018	
e17<-->e21	.273	.123	2.217	.027	
e18<-->e19	.413	.128	3.221	.001	
e18<-->e20	-.101	.126	-.797	.425	
e18<-->e21	.353	.119	2.958	.003	
e19<-->e20	.296	.130	2.281	.023	
e19<-->e21	.513	.124	4.118	***	
e20<-->e21	.416	.124	3.360	***	

Correlations: (Group number 1 - Default model)

	Estimate
e12<--> e13	.526
e12<--> e14	.096
e12<--> e15	.212
e12<--> e16	.294
e12<--> e17	.288
e12<--> e18	.231
e12<--> e19	.278
e12<--> e20	.136
e12<--> e21	.115
e13<--> e14	.054
e13<--> e15	.116
e13<--> e16	.338
e13<--> e17	.361
e13<--> e18	.075
e13<--> e19	.131
e13<--> e20	.204
e13<--> e21	.046
e14<--> e15	.314
e14<--> e16	.189
e14<--> e17	.136
e14<--> e18	.210
e14<--> e19	.181
e14<--> e20	.062
e14<--> e21	.243
e15<--> e16	.144
e15<--> e17	.122

	Estimate
e15 <--> e18	.180
e15 <--> e19	.194
e15 <--> e20	.050
e15 <--> e21	.213
e16 <--> e17	.310
e16 <--> e18	.204
e16 <--> e19	.029
e16 <--> e20	.195
e16 <--> e21	.177
e17 <--> e18	.221
e17 <--> e19	.164
e17 <--> e20	.171
e17 <--> e21	.163
e18 <--> e19	.237
e18 <--> e20	-.057
e18 <--> e21	.219
e19 <--> e20	.166
e19 <--> e21	.317
e20 <--> e21	.253

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
world_beliefs	.734	.154	4.773	***	
e12	1.800	.183	9.823	***	
e13	1.810	.182	9.941	***	
e14	2.133	.214	9.974	***	
e15	1.649	.168	9.797	***	
e16	2.124	.213	9.957	***	
e17	1.882	.189	9.967	***	
e18	1.736	.174	9.999	***	
e19	1.752	.178	9.820	***	
e20	1.811	.183	9.903	***	
e21	1.492	.155	9.594	***	
e11	1.038	.115	9.029	***	
e10	1.342	.142	9.467	***	
e9	1.538	.156	9.834	***	
e8	1.117	.123	9.101	***	
e7	.891	.104	8.564	***	
e6	1.177	.126	9.352	***	
e5	1.075	.111	9.672	***	
e4	1.300	.136	9.557	***	
e3	.954	.106	9.022	***	
e2	.823	.093	8.889	***	
e1	1.126	.121	9.329	***	

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
WB9	.394
WB22	.505
WB20	.476
WB5	.315
WB7	.266
WB16	.387
WB25	.564
WB17	.457
WB14	.184
WB19	.349
WB28	.475
WB13	.292
WB18	.135
WB15	.182
WB6	.073
WB27	.095
WB8	.101
WB21	.194
WB2	.090
WB26	.111
WB12	.180

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e4 <--> e1	36.439	.542
e5 <--> e4	10.027	.274
e8 <--> e6	21.167	.399
e11 <--> e10	13.825	.331
e20 <--> e9	16.530	.445

Variances: (Group number 1 - Default model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

	M.I.	Par Change
WB9 <--- WB5	23.858	.273
WB5 <--- WB9	20.642	.273
WB16 <--- WB17	10.548	.178
WB17 <--- WB16	12.197	.195
WB14 <--- WB18	14.804	.234
WB18 <--- WB14	13.177	.230

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	10		-1.260	9999.000	1509.363	0	9999.000
1	e	1		-.021	2.132	728.375	19	.356
2	e	1		-.014	.690	499.332	5	.863
3	e	0	89.766		1.072	374.402	7	.761
4	e	0	60.760		.536	346.286	2	.000
5	e	0	103.856		.455	329.782	1	1.162
6	e	0	147.307		.307	327.781	1	1.116
7	e	0	188.692		.098	327.657	1	1.061
8	e	0	187.011		.013	327.656	1	1.009
9	e	0	186.340		.000	327.656	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	87	327.656	144	.000	2.275
Saturated model	231	.000	0		
Independence model	21	1672.687	210	.000	7.965

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.115	.858	.772	.535
Saturated model	.000	1.000		
Independence model	.586	.342	.277	.311

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.804	.714	.880	.817	.874
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.686	.551	.600
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	183.656	134.874	240.163
Saturated model	.000	.000	.000
Independence model	1462.687	1336.112	1596.700

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.606	.900	.661	1.177
Saturated model	.000	.000	.000	.000
Independence model	8.199	7.170	6.550	7.827

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.079	.068	.090	.000
Independence model	.185	.177	.193	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	501.656	522.689	790.758	877.758
Saturated model	462.000	517.846	1229.615	1460.615
Independence model	1714.687	1719.764	1784.470	1805.470

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	2.459	2.220	2.736	2.562
Saturated model	2.265	2.265	2.265	2.538
Independence model	8.405	7.785	9.062	8.430

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	108	117
Independence model	30	32

Execution time summary

Minimization: .040
Miscellaneous: .791
Bootstrap: .000
Total: .831

Appendix F: Study 1 Reliability Analysis of the CES-DS, the GHQ-12, and the RSE

Reliability

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded[a]	0	.0
	Total	205	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.944	20

Item Statistics

	Mean	Std. Deviation	N
Depr1	.7463	.83081	205
Depr2	.5171	.80802	205
Depr3	.5902	.88445	205
Depr4	.5854	.86816	205
Depr5	.7659	.81277	205
Depr6	.6146	.83595	205
Depr7	.8683	.91674	205
Depr8	.5805	.89092	205
Depr9	.4244	.82271	205
Depr10	.4424	.72207	205
Depr11	1.0195	1.00470	205
Depr12	.6683	.79040	205
Depr13	.5639	.79881	205
Depr14	.5454	.78799	205
Depr15	.3317	.63956	205
Depr16	.4390	.76212	205
Depr17	.2927	.67315	205
Depr18	.6103	.74969	205
Depr19	.2927	.62794	205
Depr20	.7610	.87248	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Depr1	10.9133	116.323	.577	.943
Depr2	11.1425	117.452	.528	.943
Depr3	11.0694	112.333	.760	.940
Depr4	11.0742	114.242	.666	.941
Depr5	10.8938	115.156	.662	.941
Depr6	11.0450	112.094	.823	.939
Depr7	10.7913	114.693	.602	.943
Depr8	11.0791	111.795	.784	.939
Depr9	11.2352	114.321	.702	.941
Depr10	11.2172	117.107	.622	.942
Depr11	10.6401	116.853	.437	.946
Depr12	10.9913	113.013	.816	.939
Depr13	11.0957	114.370	.723	.940
Depr14	11.1142	116.236	.618	.942
Depr15	11.3279	119.649	.522	.943
Depr16	11.2206	115.347	.698	.941
Depr17	11.3669	116.884	.688	.941
Depr18	11.0493	114.446	.770	.940
Depr19	11.3669	119.491	.544	.943
Depr20	10.8986	113.730	.691	.941

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
11.6596	127.356	11.28522	20

Reliability

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded[a]	0	.0
	Total	205	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.852	12

Item Statistics

	Mean	Std. Deviation	N
gh1	2.0341	.65215	205
gh2	2.0634	.76753	205
gh3R	3.0098	.70704	205
gh4R	3.0098	.61029	205
gh5	1.9659	.85967	205
gh6	2.1387	.70795	205
gh7R	2.8878	.70856	205
gh8R	2.9268	.61796	205
gh9	2.1024	.79474	205
gh10	2.1561	.80136	205
gh11	2.4120	.84428	205
gh12R	2.9610	.69905	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
gh1	27.6336	26.522	.391	.849
gh2	27.6044	25.519	.446	.846
gh3R	26.6580	25.887	.442	.846
gh4R	26.6580	26.216	.477	.843
gh5	27.7019	24.709	.482	.844
gh6	27.5291	24.523	.648	.832
gh7R	26.7800	25.319	.526	.840
gh8R	26.7410	26.276	.460	.844
gh9	27.5653	23.457	.712	.825
gh10	27.5117	24.075	.617	.833
gh11	27.2558	23.953	.593	.835
gh12R	26.7068	25.733	.472	.844

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
29.6678	29.570	5.43786	12

Reliability

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	205	100.0
	Excluded[a]	0	.0
	Total	205	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.885	10

Item Statistics

	Mean	Std. Deviation	N
se1R	3.3366	.69935	205
se2R	3.4390	.57942	205
se3	3.3171	.76180	205
se4R	3.1707	.67528	205
se5	3.3253	.73882	205
se6R	3.0920	.68315	205
se7R	2.9788	.72095	205
se8	2.8020	.92293	205
se9	2.7268	.96178	205
se10	3.1122	.94043	205

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
se1R	27.9640	24.991	.614	.874
se2R	27.8615	26.540	.485	.883
se3	27.9835	24.577	.611	.874
se4R	28.1298	25.822	.509	.881
se5	27.9753	24.318	.674	.870
se6R	28.2085	25.213	.597	.876
se7R	28.3218	24.496	.667	.871
se8	28.4985	22.849	.688	.869
se9	28.5737	22.774	.662	.872
se10	28.1884	22.662	.695	.868

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
31.3006	29.773	5.45650	10

Appendix G: Study 1 Concurrent Validity Output

E:\Study1\CFA\Concurrent Validity.amw

Analysis Summary

Date and Time

Date: Sunday, 25 June 2006
Time: 10:20:37 AM

Title

Concurrent Validity

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 205

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables
WB_POS1
WB_POS2
WB_POS3
WB_NEG1
WB_NEG2
WB_NEG3
DEPRESS1
DEPRESS2
DEPRESS3
GEN_H1
GEN_H2
GEN_H3
SELF_ES1
SELF_ES2
SELF_ES3
Unobserved, exogenous variables
world_beliefs
e1
e2
e3
e4
e5
e6
depress
e7

e8
e9
general_health
e10
e11
e12
self_esteem
e13
e14
e15

Variable counts (Group number 1)

Number of variables in your model: 34
Number of observed variables: 15
Number of unobserved variables: 19
Number of exogenous variables: 19
Number of endogenous variables: 15

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	19	0	0	0	0	19
Labeled	0	0	0	0	0	0
Unlabeled	11	9	19	0	0	39
Total	30	9	19	0	0	58

Models

Default model (Default model)

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments: 120
Number of distinct parameters to be estimated: 39
Degrees of freedom (120 - 39): 81

Result (Default model)

Minimum was achieved
Chi-square = 139.643
Degrees of freedom = 81
Probability level = .000

Group number 1 (Group number 1 - Default model)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
WB_POS1	<---	world_beliefs	1.000				
WB_POS2	<---	world_beliefs	.905	.066	13.648	***	
WB_POS3	<---	world_beliefs	.969	.069	14.106	***	
WB_NEG1	<---	world_beliefs	.603	.080	7.488	***	
WB_NEG2	<---	world_beliefs	.687	.083	8.296	***	
WB_NEG3	<---	world_beliefs	.546	.082	6.664	***	
DEPRESS1	<---	depress	1.000				
DEPRESS2	<---	depress	1.056	.051	20.535	***	
DEPRESS3	<---	depress	1.017	.052	19.597	***	
GEN_H1	<---	general_health	1.000				
GEN_H2	<---	general_health	.974	.083	11.799	***	
GEN_H3	<---	general_health	.771	.072	10.702	***	
SELF_ES1	<---	self_esteem	1.000				
SELF_ES2	<---	self_esteem	.861	.068	12.699	***	
SELF_ES3	<---	self_esteem	.874	.063	13.965	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
WB_POS1	<---	world_beliefs	.849
WB_POS2	<---	world_beliefs	.827
WB_POS3	<---	world_beliefs	.852
WB_NEG1	<---	world_beliefs	.516
WB_NEG2	<---	world_beliefs	.563
WB_NEG3	<---	world_beliefs	.467
DEPRESS1	<---	depress	.917
DEPRESS2	<---	depress	.909
DEPRESS3	<---	depress	.890
GEN_H1	<---	general_health	.739
GEN_H2	<---	general_health	.933
GEN_H3	<---	general_health	.760
SELF_ES1	<---	self_esteem	.843
SELF_ES2	<---	self_esteem	.792
SELF_ES3	<---	self_esteem	.862

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
general_health	<-->	self_esteem	.108	.022	4.872	***	
depress	<-->	self_esteem	-.162	.023	-7.081	***	
world_beliefs	<-->	self_esteem	.129	.040	3.248	.001	
depress	<-->	general_health	-.096	.018	-5.341	***	
world_beliefs	<-->	general_health	.150	.035	4.239	***	

			Estimate	S.E.	C.R.	P	Label
world_beliefs	<-->	depress	-.100	.031	-3.194	.001	
e4	<-->	e5	.331	.065	5.083	***	
e5	<-->	e6	.364	.068	5.385	***	
e4	<-->	e6	.263	.064	4.107	***	

Correlations: (Group number 1 - Default model)

			Estimate
general_health	<-->	self_esteem	.451
depress	<-->	self_esteem	-.690
world_beliefs	<-->	self_esteem	.270
depress	<-->	general_health	-.487
world_beliefs	<-->	general_health	.372
world_beliefs	<-->	depress	-.255
e4	<-->	e5	.411
e5	<-->	e6	.436
e4	<-->	e6	.317

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
world_beliefs	.801	.111	7.198	***	
depress	.193	.023	8.426	***	
general_health	.202	.035	5.849	***	
self_esteem	.285	.040	7.102	***	
e1	.311	.046	6.686	***	
e2	.302	.042	7.243	***	
e3	.285	.043	6.605	***	
e4	.800	.083	9.631	***	
e5	.813	.086	9.507	***	
e6	.859	.088	9.738	***	
e7	.036	.006	6.140	***	
e8	.045	.007	6.545	***	
e9	.052	.007	7.299	***	
e10	.168	.020	8.345	***	
e11	.028	.010	2.703	.007	
e12	.088	.011	8.035	***	
e13	.116	.017	6.684	***	
e14	.126	.016	7.831	***	
e15	.076	.012	6.140	***	

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
SELF_ES3	.742
SELF_ES2	.627
SELF_ES1	.711

	Estimate
GEN_H3	.577
GEN_H2	.871
GEN_H1	.546
DEPRESS3	.792
DEPRESS2	.826
DEPRESS1	.842
WB_NEG3	.218
WB_NEG2	.317
WB_NEG1	.267
WB_POS3	.725
WB_POS2	.685
WB_POS1	.721

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e9 <--> self_esteem	13.196	-.029
e4 <--> general_health	10.515	-.074

Variances: (Group number 1 - Default model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

	M.I.	Par Change
WB_NEG1 <--- general_health	11.413	-.447
WB_NEG1 <--- GEN_H2	11.563	-.411

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	11		-.688	9999.000	2001.690	0	9999.000
1	e	11		-.384	2.730	880.506	20	.526
2	e*	2		-.043	.881	435.991	5	.941
3	e	0	1116.986		.671	257.365	5	.714
4	e	0	233.914		.858	200.600	3	.000
5	e	0	89.789		.474	148.935	1	1.069
6	e	0	64.382		.098	140.118	1	1.123
7	e	0	62.196		.027	139.646	1	1.050
8	e	0	62.814		.002	139.643	1	1.006
9	e	0	62.915		.000	139.643	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	39	139.643	81	.000	1.724
Saturated model	120	.000	0		
Independence model	15	1994.123	105	.000	18.992

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.028	.918	.878	.619
Saturated model	.000	1.000		
Independence model	.228	.323	.227	.283

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.930	.909	.969	.960	.969
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.771	.717	.747
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	58.643	29.757	95.396
Saturated model	.000	.000	.000
Independence model	1889.123	1747.803	2037.815

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	.685	.287	.146	.468
Saturated model	.000	.000	.000	.000
Independence model	9.775	9.260	8.568	9.989

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.060	.042	.076	.167
Independence model	.297	.286	.308	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	217.643	224.281	347.240	386.240
Saturated model	240.000	260.426	638.761	758.761
Independence model	2024.123	2026.677	2073.969	2088.969

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	1.067	.925	1.247	1.099
Saturated model	1.176	1.176	1.176	1.277
Independence model	9.922	9.229	10.651	9.935

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	151	166
Independence model	14	15

Execution time summary

Minimization: .010
Miscellaneous: .812
Bootstrap: .000
Total: .822

Appendix H: Demographic Data for Study 2

Frequencies

Statistics

		agecat	gender	educ	marit	income	occup
N	Valid	605	605	605	605	605	605
	Missing	0	0	0	0	0	0

Frequency Table

agecat

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18 to 24	32	5.3	5.3	5.3
	25 to 44	207	34.2	34.2	39.5
	45 to 64	293	48.4	48.4	87.9
	65 and over	73	12.1	12.1	100.0
	Total	605	100.0	100.0	

gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	male	190	31.4	31.4	31.4
	female	415	68.6	68.6	100.0
	Total	605	100.0	100.0	

educ

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	primary school	23	3.8	3.8	3.8
	1 or 2 years secondary school	66	10.9	10.9	14.7
	3 to 4 years secondary school	135	22.3	22.3	37.0
	5 to 6 years secondary school	80	13.2	13.2	50.2
	technical/trade	82	13.6	13.6	63.8
	tertiary	219	36.2	36.2	100.0
	Total	605	100.0	100.0	

marit

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	single	72	11.9	11.9	11.9
	married	337	55.7	55.7	67.6
	defacto	56	9.3	9.3	76.9
	separated	30	5.0	5.0	81.8
	divorced	78	12.9	12.9	94.7
	widowed	32	5.3	5.3	100.0
	Total	605	100.0	100.0	

income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Less than $10,000	79	13.1	13.1	13.1
	$10,001 to $20,000	133	22.0	22.0	35.0
	$20,001 to $30,000	95	15.7	15.7	50.7
	$30,001 to $40,000	76	12.6	12.6	63.3
	$40,001 to $50,000	47	7.8	7.8	71.1
	$50,001 to $60,000	66	10.9	10.9	82.0
	More than $60,000	109	18.0	18.0	100.0
	Total	605	100.0	100.0	

occup

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	employer of > 10; senior public servant	18	3.0	3.0	3.0
	professional	143	23.6	23.6	26.6
	small business employer/self-employed	77	12.7	12.7	39.3
	clerical; low salary skilled white-collar worker	62	10.2	10.2	49.6
	skilled blue collar worker	47	7.8	7.8	57.4
	unskilled or semi-skilled worker	72	11.9	11.9	69.3
	unemployed (student, homemaker, retiree, unemployed)	186	30.7	30.7	100.0
	Total	605	100.0	100.0	

Appendix I: Study 2 Questionnaire

Central Queensland University

Faculty of Arts, Health, and Sciences

School of Psychology and Sociology

Dear Sir/Madam,

I would like to invite you to participate in this research which deals with factors that may influence psychological, physical, and social well-being in adulthood. The information gained may help in the development of programs to optimise well-being in people in general.

The questionnaire that follows is completely anonymous and the answers you provide will be used for the purpose of this research only. Please do not write your name or any identifying marks on the questionnaire to ensure anonymity.

Participation in this study is completely voluntary**. You are** free to withdraw your participation at anytime without penalty**. If you choose to participate, please answer all questions as honestly as you can. Counselling services, if required, are available through the following services: Anglicare (Phone No. 49278200); Centacare (Phone No. 49271700); and Lifeline (Phone No. 131114).**

If you have any questions regarding this study, please contact Suzanne Coker by phone on 07 49309721 or by e-mail at s.coker@cqu.edu.au. Alternatively, you can contact my supervisor Associate Professor Robert Ho by phone on 07 49309105 or by e-mail at r.ho@cqu.edu.au. If you have any concerns regarding the conduct of this project, please contact the Office of Research at Central Queensland University at 07 49232602.

If you wish to obtain a copy of the summary of results of this study, please provide your name and return mailing or e-mail address in the tear-off section below. Please tear off this section, place it in a postage paid envelope provided (with the consent form), and post it. At the conclusion of the study, a copy of the results will be mailed to you.

NAME: _____

ADDRESS: _____

_____ POSTCODE: _____

E-MAIL: _____

Factors Influencing Well-being in Adulthood

Consent Form

In agreeing to complete the questionnaire, I understand the following:

- All identifying details will be removed before analysis of results,
- The results of the research may be used in publications in scholarly journals or conference presentations,
- My participation is voluntary, and
- I may withdraw at any time without penalty or prejudice.

I understand that I can ask questions about this research by contacting Suzanne Coker or Associate Professor Robert Ho (Research Supervisor).

I am over 18 years of age, and agree to participate in this research.

Name (please print): ……

Signature: ……..

Please contact Central Queensland University's Office of Research (Tel 07 49232602) should there be any concerns about the nature and/or conduct of this research project.

SECTION 1

Please fill in your age, and tick (√) the other appropriate responses.

(a) Age _____ in years

(b) Gender Male:____ 1 Female: ____ 2

(c) What is the highest level of education attained?

1._____ Primary school
2._____ 1 or 2 years of Secondary school
3._____ 3 - 4 years of Secondary school
4._____ 5 - 6 years of Secondary school
5._____ Technical/trade
6._____Tertiary

(d) What is your marital status?

1._____ Single
2._____ Married
3._____ Defacto
4._____ Separated
5._____ Divorced
6._____ Widowed

(e) What is your personal annual income?

1._____ Less than $10,000 per year
2._____ $10,001 up to $20,000 per year
3._____ $20,001 up to $30,000 per year
4._____ $30,001 up to $40,000 per year
5._____ $40,001 up to $50,000 per year
6._____ $50,001 up to $60,000 per year
7._____ More than $60,000 per year

(f) What is your current occupation?

1._____ Employer of more than ten; executive in an organization greater than 100; senior public servant.

2._____ Professional (specific skill with university degree or technical college diploma and recognised professional society).

3._____ Small business employer or self-employed; non-executive administrator in large company; middle-level public servant.

4._____ Clerical; low level administration; low salary skilled white-collar worker.

5._____ Skilled blue-collar worker with apprenticeship or similar training.

6. _____ Unskilled or semi-skilled worker (e.g., driver, labourer, shop assistant, typist but not secretary).

7. _____ Unemployed (e.g., unemployed, student, home-maker, retired)

SECTION 2

Each of the following statements refers to an event that you may have experienced **prior to the age of 17.** Your responses will remain confidential, so please answer honestly. For the following statements, please **circle Yes or No** for the statements requiring a YES/NO response. **If you answered yes**, please **circle a number** on the rating scale that follows to indicate the extent to which as an adult you have been **traumatised** by having experienced this event.

(1) Prior to the age of 17, I experienced the death of a very close friend or family member. **YES** **NO**

Since turning 18, this event has traumatised me to the following extent.

1	**2**	**3**	**4**	**5**	**6**
Not at all Traumatised	Slightly Traumatised	Somewhat Traumatised	Moderately Traumatised	Badly Traumatised	Unbearably Traumatised

(2) Prior to the age of 17, I experienced a major upheaval between my parents (such as divorce or separation). **YES** **NO**

Since turning 18, this event has traumatised me to the following extent.

1	**2**	**3**	**4**	**5**	**6**
Not at all Traumatised	Slightly Traumatised	Somewhat Traumatised	Moderately Traumatised	Badly Traumatised	Unbearably Traumatised

(3) Prior to the age of 17, I experienced a traumatic sexual experience (that is, I was raped, molested, etc.). **YES** **NO**

Since turning 18, this event has traumatised me to the following extent.

1	**2**	**3**	**4**	**5**	**6**
Not at all Traumatised	Slightly Traumatised	Somewhat Traumatised	Moderately Traumatised	Badly Traumatised	Unbearably Traumatised

(4) Prior to the age of 17, I was the victim of violence (child abuse, mugged, or assaulted – other than sexually). **YES** **NO**

Since turning 18, this event has traumatised me to the following extent.

1	**2**	**3**	**4**	**5**	**6**
Not at all Traumatised	Slightly Traumatised	Somewhat Traumatised	Moderately Traumatised	Badly Traumatised	Unbearably Traumatised

(5) Prior to the age of 17, I was extremely ill or injured.
YES **NO**

Since turning 18, this event has traumatised me to the following extent.

1	**2**	**3**	**4**	**5**	**6**
Not at all Traumatised	Slightly Traumatised	Somewhat Traumatised	Moderately Traumatised	Badly Traumatised	Unbearably Traumatised

(6) Prior to the age of 17, I experienced another major upheaval that I think may have shaped my life or been personality significant.
YES **NO**

If yes, what was this event?_____

_____

Since turning 18 this event has traumatised me to the following extent.

1	**2**	**3**	**4**	**5**	**6**
Not at all Traumatised	Slightly Traumatised	Somewhat Traumatised	Moderately Traumatised	Badly Traumatised	Unbearably Traumatised

SECTION 3

Below is a list of personality characteristics. Please use these characteristics to describe yourself. Indicate on the scale from 1 to 7 below, how true of you these various characteristics are. Please do not leave any characteristics unmarked.

1 = never or almost never true, 2 = usually not true, 3 = sometimes but infrequently true, 4 = occasionally true, 5 = often true, 6 = usually true, 7 = always or almost always true.

Example: Happy

Mark 1 if it is NEVER OR ALMOST NEVER TRUE that you are happy.
Mark 2 if it is USUALLY NOT TRUE that you are happy.
Mark 3 if it is SOMETIMES BUT INFREQUENTLY TRUE that you are happy.
Mark 4 if it is OCCASIONALLY TRUE that you are happy.
Mark 5 if it is OFTEN TRUE that you are happy.
Mark 6 if it is USUALLY TRUE that you are happy.
Mark 7 if it is ALWAYS OR ALMOST ALWAYS TRUE that you are happy.

Thus, if you feel it is SOMETIMES BUT INFREQUENTLY TRUE that you are happy, you should write a "3" next to happy.

Loves children	__	Competitive	__	Childlike	__
Firm	__	Casual	__	Anxious	__
Dependent	__	Timid	__	Devotes self to others	__
Patient	__	Self-critical	__		
Tense	__	Logical	__	Feels superior	__
Bossy	__	Grateful	__	Boastful	__
Noisy	__	Sarcastic	__	Loyal	__
Needs approval	__	Forceful	__	Strong	__
Rash	__	Clear-thinking	__	Carefree	__
Show-off	__	Weak	__	Absentminded	__
Interesting	__	Bashful	__	Rude	__
Appreciative	__	Mischievous	__	Sees self running show	__
Nervous	__	Responsible	__		
Sensitive to needs of others	__	Emotional	__	Outspoken	__
		Resourceful	__	Worrying	__
Aggressive	__	Skilled in business	__	Gentle	__
Confident	__	Shy	__	Silly	__
Self-sufficient	__			Pleasure-seeking	__

SECTION 4

Below are a number of statements that relate to how you feel about your life. Please read each of the following statements carefully, thinking about how it relates to your life, and then indicate **how true it is for you**. Please indicate the extent of your feeling toward each of the following statements by recording your rating (number) on the space next to each statement.

1_____2_____3_____4_____5_____6_____7
Not at all true Somewhat true Very true

1. I feel like I am free to decide for myself how to live my life. _____
2. I really like the people I interact with. _____
3. Often, I do not feel very competent. _____
4. I feel pressured in my life. _____
5. People I know tell me I am good at what I do. _____
6. I get along with people I come into contact with. _____
7. I pretty much keep to myself and don't have a lot of social contacts._____
8. I generally feel free to express my ideas and opinions. _____
9. I consider the people I regularly interact with to be my friends. _____
10. I have been able to learn interesting new skills recently. _____
11. In my daily life, I frequently have to do what I am told. _____
12. People in my life care about me. _____
13. Most days I feel a sense of accomplishment from what I do. _____
14. People I interact with on a daily basis tend to take my feelings into consideration. _____
15. In my life I do not get much of a chance to show how capable I am._____
16. There are not many people that I am close to. _____

1_____2_____3_____4_____5_____6_____7
Not at all true Somewhat true Very true

17. I feel like I can pretty much be myself in my daily situations. _____

18. The people I interact with regularly do not seem to like me much. _____

19. I often do not feel very capable. _____

20. There is not much opportunity for me to decide to myself how to do things in my daily life. _____

21. People are generally pretty friendly towards me. _____

SECTION 5

Below are a number of statements that relate to your beliefs about the world. Please read each of the following statements carefully, and then decide whether you **STRONGLY DISAGREE, MODERATELY DISAGREE, BARELY DISAGREE, BARELY AGREE, MODERATELY AGREE,** or **STRONGLY AGREE** with the statement. Please indicate your level of agreement with each of the following statements by recording your rating (number) on the space next to each statement.

1	**2**	**3**	**4**	**5**	**6**
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

1. The world is a threatening place. _____
2. The world is a meaningful place. _____
3. The world is a biased place. _____
4. The world is a responsive place. _____
5. The world is an uncontrollable place. _____
6. The world is a purposeful place. _____
7. The world is an uncertain place. _____
8. The world is not an accommodating place. _____
9. The world is a manageable place. _____
10. The world is an unjust place. _____
11. The world is a protective place. _____
12. The world is an orderly place. _____
13. The world is an incomprehensible place. _____
14. The world is a just place. _____
15. The world is a cooperative place. _____
16. The world is an unsafe place. _____
17. The world is a supportive place. _____
18. The world is a dependable place. _____
19. The world is an unpredictable place. _____
20. The world is a chaotic place. _____
21. The world is a fair place. _____

SECTION 6

Below are a number of statements that relate to your beliefs about the amount of control you have over your life. Please read each of the following statements carefully, and then decide whether you **STRONGLY DISAGREE, MODERATELY DISAGREE, BARELY DISAGREE, BARELY AGREE, MODERATELY AGREE,** or **STRONGLY AGREE** with the statement. Please indicate your level of agreement with each of the following statements by recording your rating (number) on the space next to each statement.

1	**2**	**3**	**4**	**5**	**6**
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

(1) I am responsible for my own successes. _____

(2) I can do just about anything I really set my mind to. _____

(3) My misfortunes are the result of mistakes I have made. _____

(4) I am responsible for my failures. _____

(5) The really good things that happen to me are mostly luck. _____

(6) There's no sense planning a lot – if something good is going to happen it will. _____

(7) Most of my problems are due to bad breaks. _____

(8) I have little control over the bad things that happen to me. _____

SECTION 7

Below are a number of statements that relate to your attitudes toward life. Please read each of the following statements carefully, and then decide whether you **STRONGLY DISAGREE, MODERATELY DISAGREE, BARELY DISAGREE, BARELY AGREE, MODERATELY AGREE,** or **STRONGLY AGREE** with the statement. Please indicate your level of agreement with each of the following statements by recording your rating (number) on the space next to each statement.

1	**2**	**3**	**4**	**5**	**6**
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

(1) In uncertain times, I usually expect the best. _____

(2) It's easy for me to relax. _____

(3) If something can go wrong for me, it will. _____

(4) I'm always optimistic about my future. _____

(5) I enjoy my friends a lot. _____

(6) It's important for me to keep busy. _____

(7) I hardly ever expect things to go my way. _____

(8) I don't get upset too easily. _____

(9) I rarely count on good things happening to me. _____

(10) Overall, I expect more good things to happen to me than bad. _____

SECTION 8

Below are a number of reasons why (1) you **may *not* want to express your negative emotions to other people**, and (2) **sometimes act like everything is all right, even though you are upset.** Please read each of the following reasons carefully, and then decide whether you **STRONGLY DISAGREE, MODERATELY DISAGREE, BARELY DISAGREE, BARELY AGREE, MODERATELY AGREE,** or **STRONGLY AGREE** with the reason. Please indicate your level of agreement with each of the following reasons by recording your rating (number) on the space next to each reason.

1	**2**	**3**	**4**	**5**	**6**
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

The reason I do *not* express my negative emotions to other people is because:

1. I think others would be upset with me, if I expressed these feelings. _____
2. I would feel guilty if I let my bad feelings come out.
3. I find it personally satisfying to be able to feel my emotions without letting them be disruptive. _____
4. Expressing negative emotions would just hurt others, and a person shouldn't do that. _____
5. There are some situations where it is useful to express my feelings and others where it's not.
6. I would feel like a bad person if I expressed my bad feelings to my friends. _____
7. My parents and friends expect me to control myself. _____
8. I enjoy being aware of my feelings but I also find it satisfying to maintain a positive outward experience. _____
9. It is important to me personally not to be hurtful to others. _____
10. I don't think I have the right to bother other people with my negative feelings. _____
11. As a caring person, I do not want to upset others with my negative feelings. _____

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

12. I'm afraid that people wouldn't like me if I express my feelings._____

13. It is important to be aware of my negative feelings, but if I keep them to myself it is to maintain emotional stability. _____

Sometimes when I am upset, I act like everything is all right because:

14. I'd be ashamed of myself if I let my bad feelings come out. _____

15. The important thing is to understand my own upset, but it may not be useful to tell others about it. _____

16. I think it could ruin my relationships if I am always talking about what bothers me. _____

17. It is important to me not to burden others with my problems. _____

18. It is gratifying to be able to keep my upset from interfering with my goals. _____

19. I want others to think I'm mature. _____

20. It is an interesting challenge to remain calm and not always be getting upset. _____

21. I would be embarrassed if I let others see what was bothering me. _____

22. I feel that it is mature to maintain a positive attitude. _____

23. It is fulfilling to be able to achieve my goals even when I am upset. _____

24. I believe people should keep their upset to themselves. _____

25. I'm afraid people won't like me if I let on what is wrong. _____

1	**2**	**3**	**4**	**5**	**6**
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

26. I choose to keep my bad feelings to myself so I can accomplish important projects. _____

27. I think I have to follow the social norms.

28. I want others to think I'm a good person. _____

SECTION 9

Below are a number of statements relating to your awareness of your bodily sensations. Please read each of the following statements carefully, and then decide **how true it is for you.** Please indicate the extent of your feeling toward each of the following statements by recording your rating (number) on the space next to each statement.

1_____2_____3_____4_____5_____6_____7
Not at all true — Somewhat true — Very true

1. I am often aware of things happening within my body. _____
2. Sudden loud noises really bother me. _____
3. I hate to be too hot or too cold. _____
4. I am quick to sense hunger contractions in my stomach. _____
5. I have a low tolerance for pain. _____

SECTION 10

Below are a number of statements that relate to your sense of well-being. Please read each of the following statements carefully, and then decide whether you **STRONGLY DISAGREE, MODERATELY DISAGREE, BARELY DISAGREE, BARELY AGREE, MODERATELY AGREE,** or **STRONGLY AGREE** with the statement. Please indicate your level of agreement with each of the following statements by recording your rating (number) on the space next to each statement.

1	**2**	**3**	**4**	**5**	**6**
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

(a) I like most parts of my personality. _____

(b) When I look at the story of my life, I am pleased how things have turned out. _____

(c) Some people wander aimlessly through life, but I am not one of them. _____

(d) The demands of everyday life often get me down. _____

(e) In many ways, I feel disappointed about my achievements in life. _____

(f) Maintaining close relationships has been difficult and frustrating for me. _____

(g) I live one day at a time and don't really think about the future. _____

(h) In general, I feel I am in charge of the situation in which I live. _____

(i) I am good at managing the responsibilities of daily life. _____

(j) I sometimes feel as if I've done all there is to do in life. _____

(k) For me, life has been a continuous process of learning, changing, and growth. _____

1	2	3	4	5	6
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

(l) I think it is important to have new experiences that challenge how I think about myself and the world. _____

(m) People would describe me as a giving person, willing to share my time with others. _____

(n) I gave up trying to make big improvements or changes in my life a long time ago. _____

(o) I tend to be influenced by people with strong opinions. _____

(p) I have not experienced many warm and trusting relationships with others. _____

(q) I have confidence in my own opinions, even if they are different from the way most other people think. _____

(r) I judge myself by what I think is important, not by the values of what others think is important. _____

SECTION 11

Below are a number of statements relating to your sense of vitality. Please read each of the following statements carefully, and then decide **how true it is for you.** Please indicate the extent of your feeling toward each of the following statements by recording your rating (number) on the space next to each statement.

1_____2_____3_____4_____5_____6_____7
Not at all true Somewhat true Very true

1. I feel alive and vital. _____
2. I don't feel very energetic. _____
3. Sometimes I feel so alive I just want to burst. _____
4. I have energy and spirit. _____
5. I look forward to each new day. _____
6. I nearly always feel alert and awake. _____
7. I feel energised. _____

SECTION 12

Below are a number of statements that relate to your sense of social well-being. Please read each of the following statements carefully, and then decide whether you **STRONGLY DISAGREE, MODERATELY DISAGREE, BARELY DISAGREE, BARELY AGREE, MODERATELY AGREE,** or **STRONGLY AGREE** with the statement. Please indicate your level of agreement with each of the following statements by recording your rating (number) on the space next to each statement.

1	**2**	**3**	**4**	**5**	**6**
Strongly Disagree	Moderately Disagree	Barely Disagree	Barely Agree	Moderately Agree	Strongly Agree

(a) The world is too complex for me. _____

(b) I don't feel I belong to anything I'd call a community. _____

(c) People who do a favour expect nothing in return. _____

(d) I have something valuable to give to the world. _____

(e) The world is becoming a better place for everyone. _____

(f) I feel close to other people in my community. _____

(g) My daily activities do not create anything worthwhile for my community. _____

(h) I cannot make sense of what's going on in the world. _____

(i) Society has stopped making progress. _____

(j) People do not care about other people's problems. _____

(k) My community is a source of comfort. _____

(l) I find it easy to predict what will happen next in society. _____

(m) Society isn't improving for people like me. _____

(n) I believe that people are kind. _____

(o) I have nothing important to contribute to society. _____

Before posting, please ensure you have answered all questions.

Place the questionnaire in the one postage paid envelope.

Place the consent form and the small tear off section from the information sheet with your contact details (if you wish to receive a brief summary of results) in the other postage paid envelope.

Please remember that counselling services are available for participants through the following services: Anglicare (Phone No. 49278200); Centacare (Phone No. 49271700); and Lifeline (Phone No. 131114).

Thank you for your participation in this study.

Suzanne Coker

Appendix J: Study 2 Reliability Analyses

Reliability - trauma

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.652	6

Item Statistics

	Mean	Std. Deviation	N
trauma1	1.9025	1.22153	605
trauma2	1.5025	1.19411	605
trauma3	1.7223	1.48578	605
trauma4	1.5328	1.32499	605
trauma5	1.3835	.99920	605
trauma6	1.6860	1.41324	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
trauma1	7.8270	16.671	.346	.621
trauma2	8.2270	16.863	.339	.624
trauma3	8.0071	15.001	.383	.611
trauma4	8.1967	14.966	.477	.572
trauma5	8.3460	18.074	.299	.636
trauma6	8.0435	14.763	.447	.583

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
9.7295	21.615	4.64922	6

Reliability – masculine positive

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.689	10

Item Statistics

	Mean	Std. Deviation	N
gr2	4.9008	1.22343	605
gr16	4.7603	1.39787	605
gr18	4.0066	1.68749	605
gr19	4.6347	1.48071	605
gr25	3.2545	1.46753	605
gr33	4.4314	1.70138	605
gr41	5.3140	1.19625	605
gr42	4.1388	1.50294	605
gr46	3.6826	1.66134	605
gr50	4.3174	1.60559	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
gr2	38.5405	52.371	.313	.672
gr16	38.6810	47.986	.489	.642
gr18	39.4347	47.306	.398	.656
gr19	38.8066	52.845	.203	.691
gr25	40.1868	51.348	.281	.678
gr33	39.0099	48.437	.341	.668
gr41	38.1273	49.317	.515	.643
gr42	39.3025	49.241	.375	.661
gr46	39.7587	47.299	.409	.654
gr50	39.1240	51.639	.225	.690

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
43.4413	59.403	7.70731	10

Reliability – masculine negative

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.782	10

Item Statistics

	Mean	Std. Deviation	N
gr6	3.4793	1.46651	605
gr7	2.8198	1.50020	605
gr10	2.3256	1.37555	605
gr15	2.5289	1.39935	605
gr24	3.3256	1.63511	605
gr29	3.4562	1.63473	605
gr38	2.6314	1.42634	605
gr39	2.2248	1.23513	605
gr44	1.9785	1.07709	605
gr45	3.1140	1.75818	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
gr6	24.4049	59.172	.484	.759
gr7	25.0644	59.722	.442	.764
gr10	25.5586	59.042	.534	.753
gr15	25.3553	59.650	.491	.758
gr24	24.5586	57.628	.481	.759
gr29	24.4281	62.728	.264	.789
gr38	25.2528	60.010	.461	.762
gr39	25.6595	59.894	.566	.752
gr44	25.9057	62.536	.501	.761
gr45	24.7702	58.879	.380	.775

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
27.8843	72.232	8.49891	10

Reliability – feminine positive

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.764	10

Item Statistics

	Mean	Std. Deviation	N
gr1	5.9950	1.24418	605
gr4	5.0066	1.34458	605
gr12	5.8413	.95492	605
gr14	5.6793	1.06245	605
gr23	5.8083	1.02110	605
gr30	6.1289	.92959	605
gr31	4.8479	1.50606	605
gr37	4.8446	1.39500	605
gr40	6.2463	.84601	605
gr48	5.2248	1.22436	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
gr1	49.6281	37.615	.318	.761
gr4	50.6165	36.409	.357	.757
gr12	49.7818	36.585	.564	.731
gr14	49.9438	35.884	.550	.730
gr23	49.8149	36.035	.566	.729
gr30	49.4942	38.161	.434	.746
gr31	50.7752	37.747	.216	.783
gr37	50.7785	33.577	.525	.730
gr40	49.3769	39.086	.398	.750
gr48	50.3983	34.740	.539	.729

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
55.6231	44.013	6.63426	10

Reliability – feminine negative

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.793	10

Item Statistics

	Mean	Std. Deviation	N
gr3	4.0496	1.99856	605
gr8	3.5884	1.67100	605
gr13	3.6149	1.54901	605
gr20	2.7785	1.47401	605
gr21	4.7537	1.53992	605
gr27	2.4579	1.30344	605
gr28	2.7041	1.39063	605
gr34	3.1306	1.57940	605
gr36	3.5273	1.53804	605
gr47	3.9851	1.62394	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
gr3	30.5405	79.623	.091	.830
gr8	31.0017	71.684	.438	.779
gr13	30.9752	67.832	.652	.752
gr20	31.8116	70.276	.584	.762
gr21	29.8364	74.568	.374	.786
gr27	32.1322	73.877	.504	.772
gr28	31.8860	73.959	.459	.776
gr34	31.4595	69.891	.549	.765
gr36	31.0628	69.119	.602	.759
gr47	30.6050	69.057	.563	.763

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
34.5901	86.878	9.32084	10

Reliability – satisfaction of need for autonomy

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	604	99.8
	Excluded[a]	1	.2
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.699	7

Item Statistics

	Mean	Std. Deviation	N
satneed1	5.3344	1.44922	604
satneed4	4.3278	1.73878	604
satneed8	5.1589	1.32506	604
satneed11	5.0662	1.68071	604
satneed14	4.8278	1.38823	604
satneed17	5.5844	1.32002	604
satneed20	5.7798	1.41522	604

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
satneed1	30.7450	29.175	.454	.654
satneed4	31.7517	28.359	.378	.677
satneed8	30.9205	30.936	.386	.672
satneed11	31.0132	29.343	.341	.687
satneed14	31.2517	30.563	.384	.672
satneed17	30.4950	29.345	.510	.642
satneed20	30.2997	29.580	.442	.657

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
36.0795	38.385	6.19557	7

Reliability – satisfaction of need for competence

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.679	6

Item Statistics

	Mean	Std. Deviation	N
satneed3	4.6860	1.59798	605
satneed5	5.2430	1.30161	605
satneed10	4.7471	1.83162	605
satneed13	5.1826	1.44150	605
satneed15	4.7901	1.69746	605
satneed19	5.3438	1.56561	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
satneed3	25.3066	25.661	.393	.643
satneed5	24.7496	28.088	.347	.657
satneed10	25.2455	25.294	.322	.674
satneed13	24.8099	25.098	.512	.606
satneed15	25.2025	24.797	.408	.638
satneed19	24.6488	24.374	.501	.606

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
29.9926	34.575	5.88004	6

Reliability – satisfaction of need for relatedness

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.767	8

Item Statistics

	Mean	Std. Deviation	N
satneed2	5.5917	1.14810	605
satneed6	5.7190	.92449	605
satneed7	4.3306	1.94540	605
satneed9	5.5603	1.29636	605
satneed12	6.0281	1.12653	605
satneed16	4.4579	1.97508	605
satneed18	6.1008	1.08026	605
satneed21	5.8793	.99850	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
satneed2	38.0760	36.421	.558	.729
satneed6	37.9488	39.631	.429	.751
satneed7	39.3372	31.823	.450	.757
satneed9	38.1074	35.414	.543	.729
satneed12	37.6397	38.194	.432	.748
satneed16	39.2099	30.385	.514	.742
satneed18	37.5669	37.133	.545	.733
satneed21	37.7884	38.833	.454	.747

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
43.6678	45.477	6.74368	8

Reliability – world beliefs

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.884	21

Item Statistics

	Mean	Std. Deviation	N
wb1	3.1339	1.51491	605
wb2	4.8727	1.03834	605
wb3	2.6926	1.36465	605
wb4	4.4364	1.06944	605
wb5	3.0116	1.54025	605
wb6	4.7058	1.06076	605
wb7	2.4298	1.38000	605
wb8	3.6298	1.44837	605
wb9	4.1421	1.32836	605
wb10	3.0198	1.45220	605
wb11	3.3752	1.30956	605
wb12	3.2992	1.38753	605
wb13	3.6050	1.39570	605
wb14	3.1438	1.45489	605
wb15	3.4942	1.23901	605
wb16	2.9686	1.35588	605
wb17	3.8347	1.13892	605
wb18	3.6479	1.23552	605
wb19	2.3736	1.31571	605
wb20	2.8397	1.41857	605
wb21	3.3752	1.35919	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
wb1	68.8975	212.387	.466	.879
wb2	67.1587	221.789	.400	.881
wb3	69.3388	217.228	.402	.881
wb4	67.5950	224.529	.299	.883
wb5	69.0198	210.556	.499	.878
wb6	67.3256	222.078	.381	.881
wb7	69.6017	212.558	.516	.878
wb8	68.4017	210.747	.533	.877
wb9	67.8893	214.774	.480	.879
wb10	69.0116	210.141	.546	.877
wb11	68.6562	213.749	.517	.878
wb12	68.7322	212.084	.525	.877
wb13	68.4264	217.662	.380	.882
wb14	68.8876	218.345	.344	.883
wb15	68.5372	212.262	.594	.876
wb16	69.0628	212.907	.518	.878
wb17	68.1967	213.926	.601	.876
wb18	68.3835	212.919	.577	.876
wb19	69.6579	217.623	.409	.881
wb20	69.1917	209.225	.585	.875
wb21	68.6562	209.425	.609	.875

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
72.0314	235.246	15.33772	21

Reliability – perceived control

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.715	8

Item Statistics

	Mean	Std. Deviation	N
control1	5.3934	.84998	605
control2	5.1008	.93395	605
control3	4.5388	1.31619	605
control4	4.9719	1.07694	605
control5	4.0926	1.44365	605
control6	4.1587	1.58154	605
control7	4.6744	1.28983	605
control8	4.2347	1.47084	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
control1	31.7719	30.140	.389	.695
control2	32.0645	29.150	.443	.685
control3	32.6264	29.827	.204	.730
control4	32.1934	29.345	.341	.700
control5	33.0727	25.654	.462	.675
control6	33.0066	25.033	.439	.682
control7	32.4909	26.015	.518	.663
control8	32.9306	24.671	.524	.659

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
37.1653	34.489	5.87275	8

Reliability – dispositional optimism

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.745	10

Item Statistics

	Mean	Std. Deviation	N
opt1	4.0347	1.31489	605
opt2	3.9917	1.45174	605
opt3	4.1355	1.44598	605
opt4	4.6694	1.12900	605
opt5	5.3124	.83978	605
opt6	4.8843	1.20285	605
opt7	4.1884	1.45604	605
opt8	3.9025	1.46665	605
opt9	3.9719	1.52383	605
opt10	4.8760	1.19443	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
opt1	39.9322	44.331	.382	.728
opt2	39.9752	42.859	.410	.724
opt3	39.8314	41.753	.477	.713
opt4	39.2975	43.150	.561	.705
opt5	38.6545	48.193	.330	.736
opt6	39.0826	50.990	.018	.774
opt7	39.7785	40.093	.571	.697
opt8	40.0645	44.156	.331	.737
opt9	39.9950	40.902	.489	.711
opt10	39.0909	42.950	.535	.707

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
43.9669	52.751	7.26296	10

Reliability – external regulation subscale of SRWNE

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.821	7

Item Statistics

	Mean	Std. Deviation	N
srwne1	3.7372	1.52312	605
srwne7	4.0314	1.51177	605
srwne12	3.0149	1.57214	605
srwne16	4.0810	1.56590	605
srwne19	4.0529	1.55384	605
srwne25	2.6820	1.50592	605
srwne27	3.1934	1.54854	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
srwne1	21.0556	43.969	.482	.810
srwne7	20.7613	44.328	.468	.812
srwne12	21.7779	39.804	.693	.774
srwne16	20.7118	42.289	.554	.798
srwne19	20.7399	43.346	.502	.807
srwne25	22.1107	40.357	.701	.774
srwne27	21.5994	42.666	.542	.800

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
24.7927	56.030	7.48531	7

Reliability – introjected regulation subscale of SRWNE

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.855	8

Item Statistics

	Mean	Std. Deviation	N
srwne2	3.5636	1.57000	605
srwne4	3.8099	1.52525	605
srwne6	3.1124	1.59695	605
srwne10	4.0645	1.50852	605
srwne14	3.3256	1.59721	605
srwne21	3.3968	1.50523	605
srwne24	2.8364	1.45051	605
srwne28	4.2926	1.54578	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
srwne2	24.8381	57.835	.625	.835
srwne4	24.5918	58.782	.604	.837
srwne6	25.2894	56.961	.652	.831
srwne10	24.3373	58.463	.628	.834
srwne14	25.0761	56.554	.671	.829
srwne21	25.0050	58.214	.642	.833
srwne24	25.5654	61.703	.501	.849
srwne28	24.1092	61.820	.454	.855

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
28.4018	75.234	8.67375	8

Reliability – identified regulation subscale of SRWNE

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.747	8

Item Statistics

	Mean	Std. Deviation	N
srwne5	5.3091	.92715	605
srwne9	5.2595	.98688	605
srwne11	4.5355	1.33501	605
srwne13	3.9818	1.41468	605
srwne15	4.3967	1.33272	605
srwne17	4.3240	1.37534	605
srwne22	4.5366	1.27230	605
srwne26	3.5504	1.44646	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
srwne5	30.5845	35.014	.150	.762
srwne9	30.6341	32.095	.398	.730
srwne11	31.3580	28.474	.509	.707
srwne13	31.9118	27.607	.532	.702
srwne15	31.4969	28.426	.515	.706
srwne17	31.5696	27.810	.539	.701
srwne22	31.3570	30.256	.403	.728
srwne26	32.3432	28.402	.455	.719

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
35.8936	37.515	6.12494	8

Reliability – integrated regulation subscale of SRWNE

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.738	5

Item Statistics

	Mean	Std. Deviation	N
srwne3	4.0942	1.39157	605
srwne8	4.8248	1.20665	605
srwne18	4.3587	1.28489	605
srwne23	4.7137	1.19063	605
srwne26	3.5504	1.44646	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
srwne3	17.4476	13.836	.494	.696
srwne8	16.7170	15.450	.419	.721
srwne18	17.1832	13.749	.575	.664
srwne23	16.8281	14.182	.589	.662
srwne26	17.9914	13.982	.444	.717

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
21.5418	20.882	4.56967	5

Reliability - SRWNE

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.830	4

Item Statistics

	Mean	Std. Deviation	N
extreg	3.5437	1.06855	605
introreg	3.5507	1.08452	605
identreg	4.3720	.84548	605
integreg	4.3070	.91914	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
extreg	12.2297	5.667	.680	.776
introreg	12.2227	5.278	.765	.732
identreg	11.4013	6.175	.804	.732
integreg	11.4664	7.295	.429	.876

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
15.7734	10.269	3.20449	4

Reliability – somatic amplification

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.572	5

Item Statistics

	Mean	Std. Deviation	N
somatic1	5.4562	1.50060	605
somatic2	3.9669	1.96465	605
somatic3	4.7636	1.80011	605
somatic4	4.2475	1.74030	605
somatic5	2.9785	1.70737	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
somatic1	15.9565	23.806	.146	.603
somatic2	17.4458	17.920	.386	.482
somatic3	16.6491	17.401	.503	.410
somatic4	17.1653	18.834	.420	.465
somatic5	18.4342	21.940	.209	.581

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
21.4127	28.202	5.31053	5

Reliability – autonomy subscale of psychological well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.585	3

Item Statistics

	Mean	Std. Deviation	N
psychwb15	4.0050	1.49002	605
psychwb17	4.8909	1.10147	605
psychwb18	5.0430	1.10003	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
psychwb15	9.9339	3.764	.281	.712
psychwb17	9.0479	4.334	.450	.417
psychwb18	8.8959	4.156	.500	.348

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.9388	7.610	2.75871	3

Reliability – mastery subscale of psychological well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.599	3

Item Statistics

	Mean	Std. Deviation	N
psychwb4	3.7322	1.51517	605
psychwb8	4.8364	1.10147	605
psychwb9	5.0579	.96887	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
psychwb4	9.8942	3.267	.337	.683
psychwb8	8.7901	4.093	.471	.420
psychwb9	8.5686	4.494	.481	.438

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.6264	7.407	2.72150	3

Reliability – positive relations with others subscale of psychological well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.591	3

Item Statistics

	Mean	Std. Deviation	N
psychwb6	4.3488	1.56927	605
psychwb13	5.0744	.79906	605
psychwb16	4.5240	1.60860	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
psychwb6	9.5983	3.774	.516	.290
psychwb13	8.8727	7.780	.217	.702
psychwb16	9.4231	3.519	.543	.238

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.9471	9.385	3.06343	3

Reliability – personal growth subscale of psychological well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.593	3

Item Statistics

	Mean	Std. Deviation	N
psychwb11	5.3504	.93472	605
psychwb12	5.1421	.94709	605
psychwb14	4.4562	1.53010	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
psychwb11	9.5983	4.105	.482	.422
psychwb12	9.8066	4.173	.448	.459
psychwb14	10.4926	2.638	.367	.657

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
14.9488	6.804	2.60838	3

Reliability – purpose in life subscale of psychological well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.370	3

Item Statistics

	Mean	Std. Deviation	N
psychwb3	4.6711	1.22444	605
psychwb7	4.4066	1.54725	605
psychwb10	4.7438	1.43126	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
psychwb3	9.1504	5.224	.208	.299
psychwb7	9.4149	3.737	.294	.101
psychwb10	9.0777	4.870	.154	.401

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.8215	7.889	2.80867	3

Reliability – self-acceptance subscale of psychological well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.683	3

Item Statistics

	Mean	Std. Deviation	N
psychwb1	4.8975	.94347	605
psychwb2	4.6347	1.26875	605
psychwb5	4.1140	1.61283	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
psychwb1	8.7488	6.258	.470	.654
psychwb2	9.0116	4.535	.597	.460
psychwb5	9.5322	3.677	.500	.640

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.6463	9.368	3.06073	3

Reliability

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.751	6

Item Statistics

	Mean	Std. Deviation	N
auton	4.9686	.96980	605
mastery	4.5435	.90639	605
pos_rel	4.4378	1.39285	605
p_grow	5.2477	.81075	605
purpose	4.5399	1.10301	605
self_acc	4.5495	1.02025	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
auton	23.3184	14.113	.361	.747
mastery	23.7435	12.899	.609	.688
pos_rel	23.8493	11.579	.439	.745
p_grow	23.0394	14.355	.435	.731
purpose	23.7471	12.557	.500	.712
self_acc	23.7376	11.844	.683	.662

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
28.2871	17.683	4.20507	6

Reliability – subjective vitality

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.919	7

Item Statistics

	Mean	Std. Deviation	N
subvit1	5.0645	1.46283	605
subvit2	4.5620	1.81373	605
subvit3	3.8992	1.81825	605
subvit4	4.7554	1.46922	605
subvit5	5.1471	1.52458	605
subvit6	4.6496	1.49597	605
subvit7	4.3537	1.52154	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
subvit1	27.3669	62.921	.808	.902
subvit2	27.8694	63.064	.606	.924
subvit3	28.5322	61.415	.670	.917
subvit4	27.6760	62.156	.842	.899
subvit5	27.2843	63.091	.760	.906
subvit6	27.7818	63.287	.768	.905
subvit7	28.0777	60.913	.867	.896

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
32.4314	83.815	9.15507	7

Reliability – social coherence subscale of social well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.419	3

Item Statistics

	Mean	Std. Deviation	N
socwb1	4.1031	1.46381	605
socwb8	3.8545	1.53933	605
socwb12	2.9223	1.35279	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
socwb1	6.7769	4.528	.342	.145
socwb8	7.0254	4.079	.379	.052
socwb12	7.9576	6.538	.063	.620

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
10.8800	8.802	2.96690	3

Reliability – social integration subscale of social well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.780	3

Item Statistics

	Mean	Std. Deviation	N
socwb2	4.6198	1.42504	605
socwb6	4.1504	1.28756	605
socwb11	3.8992	1.33772	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
socwb2	8.0496	5.458	.590	.737
socwb6	8.5190	5.661	.668	.650
socwb11	8.7702	5.773	.599	.722

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
12.6694	11.414	3.37842	3

Reliability – social acceptance subscale of social well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.424	3

Item Statistics

	Mean	Std. Deviation	N
socwb3	3.7223	1.41266	605
socwb10	3.5207	1.51646	605
socwb14	4.5058	1.02067	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
socwb3	8.0264	4.301	.195	.446
socwb10	8.2281	3.776	.231	.391
socwb14	7.2430	4.697	.384	.171

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
11.7488	7.437	2.72704	3

Reliability – social contribution subscale of social well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.749	3

Item Statistics

	Mean	Std. Deviation	N
socwb4	4.6397	1.14036	605
socwb7	4.3702	1.42300	605
socwb15	4.7950	1.36573	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
socwb4	9.1653	6.002	.549	.704
socwb7	9.4347	4.918	.543	.713
socwb15	9.0099	4.639	.657	.566

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
13.8050	10.369	3.22012	3

Reliability – social actualisation subscale of social well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.667	3

Item Statistics

	Mean	Std. Deviation	N
socwb5	3.2050	1.36936	605
socwb9	4.1140	1.50558	605
socwb13	3.9240	1.50853	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
socwb5	8.0380	6.570	.444	.617
socwb9	7.1289	5.603	.518	.518
socwb13	7.3190	5.807	.479	.573

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
11.2430	11.562	3.40025	3

Reliability – social well-being

Warnings

The space saver method is used. That is, the covariance matrix is not calculated or used in the analysis.

Case Processing Summary

		N	%
Cases	Valid	605	100.0
	Excluded[a]	0	.0
	Total	605	100.0

a. Listwise deletion based on all variables in the procedure.

Reliability Statistics

Cronbach's Alpha	N of Items
.824	5

Item Statistics

	Mean	Std. Deviation	N
soc_coh	3.9794	1.27814	605
soc_int	4.2260	1.12422	605
soc_acc	4.0163	1.03690	605
soc_con	4.6038	1.06974	605
soc_act	3.7491	1.13230	605

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
soc_coh	16.5952	11.960	.584	.802
soc_int	16.3487	12.710	.596	.795
soc_acc	16.5583	13.217	.592	.796
soc_con	15.9708	12.986	.600	.794
soc_act	16.8255	11.790	.731	.755

Scale Statistics

Mean	Variance	Std. Deviation	N of Items
20.5746	18.755	4.33067	5

Appendix K: AMOS Ouput for Study 2 SEM Analyses

\\rokstaff.staff.ad.cqu.edu.au\cokers$\measurement model.amw

Analysis Summary

Date and Time

Date: Sunday, 24 September 2006
Time: 9:47:31 AM

Title

measurement model: Sunday, 24 September 2006 09:47 AM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 605

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables
SAT1
SAT2
SAT3
SAT6
SAT5
SAT4
SAT7
SAT8
SAT9
WORLD3
WORLD2
WORLD1
CONTR1
CONTR2
CONTR3
OPTIM3
OPTIM2
OPTIM1
EXTREG
INTROREG
IDENTREG
SOMATIC4
SOMATIC3
SOMATIC2
AUTON

MASTERY
POS_REL
VITAL3
VITAL2
VITAL1
SOC_COH
SOC_INT
SOC_ACC
WORLD4
P_GROW
PURPOSE
SELF_ACC
SOC_CON
SOC_ACT
Unobserved, exogenous variables
autonomy
e1
e2
e3
competence
e6
e5
e4
relatedness
e7
e8
e9
world_beliefs
e12
e11
e10
control
e14
e15
e16
optimism
e19
e18
e17
SRWNE
e20
e21
e22
somatic_amp
e25
e24
e23
psych_well-being
e26
e27

e28
physical_well-being
e34
e33
e32
social_well-being
e35
e36
e37
e13
e29
e30
e31
e38
e39

Variable counts (Group number 1)

Number of variables in your model:	89
Number of observed variables:	39
Number of unobserved variables:	50
Number of exogenous variables:	50
Number of endogenous variables:	39

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	50	0	0	0	0	50
Labeled	0	0	0	0	0	0
Unlabeled	28	55	50	0	0	133
Total	78	55	50	0	0	183

Models

Default model (Default model)

Notes for Model (Default model)

Computation of degrees of freedom (Default model)

Number of distinct sample moments:	780
Number of distinct parameters to be estimated:	133
Degrees of freedom (780 - 133):	647

Result (Default model)

Minimum was achieved
Chi-square = 2212.225
Degrees of freedom = 647
Probability level = .000

Group number 1 (Group number 1 - Default model)

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
SAT1	<---	autonomy	1.000				
SAT2	<---	autonomy	1.180	.099	11.936	***	
SAT3	<---	autonomy	1.023	.081	12.671	***	
SAT6	<---	competence	1.064	.087	12.217	***	
SAT5	<---	competence	.946	.074	12.702	***	
SAT4	<---	competence	1.000				
SAT7	<---	relatedness	1.000				
SAT8	<---	relatedness	1.512	.096	15.756	***	
SAT9	<---	relatedness	1.597	.101	15.852	***	
WORLD3	<---	world_beliefs	1.340	.077	17.303	***	
WORLD2	<---	world_beliefs	1.172	.067	17.559	***	
WORLD1	<---	world_beliefs	1.000				
CONTR1	<---	control	1.000				
CONTR2	<---	control	1.021	.080	12.790	***	
CONTR3	<---	control	1.353	.102	13.315	***	
OPTIM3	<---	optimism	1.266	.068	18.700	***	
OPTIM2	<---	optimism	.936	.059	16.003	***	
OPTIM1	<---	optimism	1.000				
EXTREG	<---	SRWNE	1.000				
INTROREG	<---	SRWNE	1.135	.040	28.699	***	
IDENTREG	<---	SRWNE	.652	.032	20.506	***	
SOMATIC4	<---	somatic_amp	.745	.088	8.434	***	
SOMATIC3	<---	somatic_amp	1.198	.140	8.541	***	
SOMATIC2	<---	somatic_amp	1.000				
AUTON	<---	psych_well-being	1.000				
MASTERY	<---	psych_well-being	1.597	.151	10.550	***	
POS_REL	<---	psych_well-being	1.722	.191	9.026	***	
VITAL3	<---	physical_well-being	.971	.033	29.718	***	
VITAL2	<---	physical_well-being	.970	.039	24.727	***	
VITAL1	<---	physical_well-being	1.000				
SOC_COH	<---	social_well-being	1.000				
SOC_INT	<---	social_well-being	.905	.060	14.990	***	
SOC_ACC	<---	social_well-being	.805	.055	14.523	***	
WORLD4	<---	world_beliefs	1.264	.075	16.762	***	
P_GROW	<---	psych_well-being	.986	.110	8.949	***	
PURPOSE	<---	psych_well-being	1.411	.154	9.188	***	

			Estimate	S.E.	C.R.	P	Label
SELF_ACC	<---	psych_well-being	1.879	.175	10.711	***	
SOC_CON	<---	social_well-being	.852	.057	14.845	***	
SOC_ACT	<---	social_well-being	1.043	.062	16.785	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
SAT1	<---	autonomy	.586
SAT2	<---	autonomy	.636
SAT3	<---	autonomy	.697
SAT6	<---	competence	.648
SAT5	<---	competence	.687
SAT4	<---	competence	.593
SAT7	<---	relatedness	.655
SAT8	<---	relatedness	.807
SAT9	<---	relatedness	.818
WORLD3	<---	world_beliefs	.844
WORLD2	<---	world_beliefs	.863
WORLD1	<---	world_beliefs	.654
CONTR1	<---	control	.601
CONTR2	<---	control	.717
CONTR3	<---	control	.791
OPTIM3	<---	optimism	.778
OPTIM2	<---	optimism	.671
OPTIM1	<---	optimism	.766
EXTREG	<---	SRWNE	.861
INTROREG	<---	SRWNE	.963
IDENTREG	<---	SRWNE	.709
SOMATIC4	<---	somatic_amp	.489
SOMATIC3	<---	somatic_amp	.760
SOMATIC2	<---	somatic_amp	.582
AUTON	<---	psych_well-being	.442
MASTERY	<---	psych_well-being	.755
POS_REL	<---	psych_well-being	.530
VITAL3	<---	physical_well-being	.924
VITAL2	<---	physical_well-being	.815
VITAL1	<---	physical_well-being	.855
SOC_COH	<---	social_well-being	.672
SOC_INT	<---	social_well-being	.691
SOC_ACC	<---	social_well-being	.667
WORLD4	<---	world_beliefs	.808
P_GROW	<---	psych_well-being	.521
PURPOSE	<---	psych_well-being	.548
SELF_ACC	<---	psych_well-being	.789
SOC_CON	<---	social_well-being	.684

	Estimate
SOC_ACT <--- social_well-being	.791

Covariances: (Group number 1 - Default model)

		Estimate	S.E.	C.R.	P	Label
autonomy	<--> competence	.443	.051	8.753	***	
autonomy	<--> relatedness	.285	.031	9.136	***	
autonomy	<--> world_beliefs	.175	.026	6.844	***	
autonomy	<--> control	.223	.030	7.398	***	
autonomy	<--> optimism	.330	.035	9.423	***	
autonomy	<--> SRWNE	-.268	.038	-7.123	***	
autonomy	<--> somatic_amp	-.176	.050	-3.504	***	
autonomy	<--> psych_well-being	.245	.031	7.881	***	
autonomy	<--> physical_well-being	.558	.060	9.254	***	
autonomy	<--> social_well-being	.351	.043	8.223	***	
competence	<--> relatedness	.270	.032	8.310	***	
competence	<--> world_beliefs	.235	.031	7.495	***	
competence	<--> control	.313	.038	8.142	***	
competence	<--> optimism	.399	.041	9.634	***	
competence	<--> SRWNE	-.323	.044	-7.289	***	
competence	<--> somatic_amp	-.232	.060	-3.878	***	
competence	<--> psych_well-being	.300	.037	8.006	***	
competence	<--> physical_well-being	.727	.074	9.844	***	
competence	<--> social_well-being	.502	.055	9.137	***	
relatedness	<--> world_beliefs	.112	.017	6.410	***	
relatedness	<--> control	.118	.019	6.186	***	
relatedness	<--> optimism	.225	.024	9.465	***	
relatedness	<--> SRWNE	-.127	.025	-5.179	***	
relatedness	<--> somatic_amp	-.040	.034	-1.195	.232	
relatedness	<--> psych_well-being	.141	.019	7.512	***	
relatedness	<--> physical_well-being	.362	.040	8.975	***	
relatedness	<--> social_well-being	.254	.030	8.469	***	
world_beliefs	<--> control	.143	.021	6.851	***	
world_beliefs	<--> optimism	.189	.023	8.300	***	
world_beliefs	<--> SRWNE	-.161	.026	-6.126	***	
world_beliefs	<--> somatic_amp	-.124	.037	-3.352	***	
world_beliefs	<--> psych_well-being	.118	.017	6.841	***	
world_beliefs	<--> physical_well-being	.313	.040	7.916	***	
world_beliefs	<--> social_well-being	.370	.037	9.989	***	
control	<--> optimism	.264	.029	9.251	***	
control	<--> SRWNE	-.200	.030	-6.660	***	
control	<--> somatic_amp	-.158	.041	-3.819	***	
control	<--> psych_well-being	.173	.023	7.508	***	
control	<--> physical_well-being	.389	.046	8.387	***	
control	<--> social_well-being	.311	.036	8.532	***	

			Estimate	S.E.	C.R.	P	Label
optimism	<-->	SRWNE	-.244	.032	-7.698	***	
optimism	<-->	somatic_amp	-.207	.046	-4.515	***	
optimism	<-->	psych_well-being	.240	.028	8.695	***	
optimism	<-->	physical_well-being	.596	.052	11.485	***	
optimism	<-->	social_well-being	.410	.039	10.407	***	
SRWNE	<-->	somatic_amp	.311	.061	5.112	***	
SRWNE	<-->	psych_well-being	-.158	.024	-6.603	***	
SRWNE	<-->	physical_well-being	-.249	.053	-4.703	***	
SRWNE	<-->	social_well-being	-.302	.041	-7.308	***	
somatic_amp	<-->	psych_well-being	-.118	.030	-3.875	***	
somatic_amp	<-->	physical_well-being	-.273	.079	-3.466	***	
somatic_amp	<-->	social_well-being	-.235	.058	-4.065	***	
psych_well-being	<-->	physical_well-being	.442	.050	8.864	***	
psych_well-being	<-->	social_well-being	.275	.034	8.131	***	
physical_well-being	<-->	social_well-being	.692	.068	10.232	***	

Correlations: (Group number 1 - Default model)

			Estimate
autonomy	<-->	competence	.802
autonomy	<-->	relatedness	.770
autonomy	<-->	world_beliefs	.435
autonomy	<-->	control	.554
autonomy	<-->	optimism	.735
autonomy	<-->	SRWNE	-.425
autonomy	<-->	somatic_amp	-.224
autonomy	<-->	psych_well-being	.834
autonomy	<-->	physical_well-being	.641
autonomy	<-->	social_well-being	.597
competence	<-->	relatedness	.622
competence	<-->	world_beliefs	.498
competence	<-->	control	.660
competence	<-->	optimism	.758
competence	<-->	SRWNE	-.436
competence	<-->	somatic_amp	-.253
competence	<-->	psych_well-being	.870
competence	<-->	physical_well-being	.711
competence	<-->	social_well-being	.727
relatedness	<-->	world_beliefs	.354
relatedness	<-->	control	.373
relatedness	<-->	optimism	.639
relatedness	<-->	SRWNE	-.256
relatedness	<-->	somatic_amp	-.065
relatedness	<-->	psych_well-being	.613
relatedness	<-->	physical_well-being	.529

			Estimate
relatedness	<-->	social_well-being	.550
world_beliefs	<-->	control	.416
world_beliefs	<-->	optimism	.494
world_beliefs	<-->	SRWNE	-.300
world_beliefs	<-->	somatic_amp	-.186
world_beliefs	<-->	psych_well-being	.472
world_beliefs	<-->	physical_well-being	.422
world_beliefs	<-->	social_well-being	.737
control	<-->	optimism	.687
control	<-->	SRWNE	-.369
control	<-->	somatic_amp	-.235
control	<-->	psych_well-being	.687
control	<-->	physical_well-being	.521
control	<-->	social_well-being	.616
optimism	<-->	SRWNE	-.405
optimism	<-->	somatic_amp	-.277
optimism	<-->	psych_well-being	.857
optimism	<-->	physical_well-being	.718
optimism	<-->	social_well-being	.731
SRWNE	<-->	somatic_amp	.296
SRWNE	<-->	psych_well-being	-.402
SRWNE	<-->	physical_well-being	-.213
SRWNE	<-->	social_well-being	-.383
somatic_amp	<-->	psych_well-being	-.241
somatic_amp	<-->	physical_well-being	-.188
somatic_amp	<-->	social_well-being	-.240
psych_well-being	<-->	physical_well-being	.813
psych_well-being	<-->	social_well-being	.748
physical_well-being	<-->	social_well-being	.635

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
autonomy	.470	.065	7.203	***	
competence	.648	.089	7.310	***	
relatedness	.290	.034	8.416	***	
world_beliefs	.342	.040	8.664	***	
control	.346	.047	7.348	***	
optimism	.428	.041	10.468	***	
SRWNE	.845	.066	12.725	***	
somatic_amp	1.303	.219	5.955	***	
psych_well-being	.183	.034	5.458	***	
physical_well-being	1.614	.126	12.804	***	
social_well-being	.736	.083	8.904	***	
e1	.900	.058	15.412	***	

	Estimate	S.E.	C.R.	P	Label
e2	.964	.065	14.730	***	
e3	.519	.039	13.448	***	
e6	1.014	.070	14.547	***	
e5	.649	.047	13.737	***	
e4	1.196	.078	15.341	***	
e7	.386	.026	15.017	***	
e8	.354	.032	11.209	***	
e9	.367	.034	10.768	***	
e12	.247	.020	12.257	***	
e11	.161	.014	11.366	***	
e10	.458	.029	15.896	***	
e14	.610	.041	15.007	***	
e15	.339	.027	12.779	***	
e16	.378	.037	10.194	***	
e19	.448	.034	13.009	***	
e18	.459	.030	15.147	***	
e17	.302	.023	13.364	***	
e20	.294	.026	11.248	***	
e21	.086	.026	3.312	***	
e22	.355	.022	15.881	***	
e25	2.300	.157	14.664	***	
e24	1.365	.212	6.435	***	
e23	2.550	.204	12.471	***	
e26	.756	.045	16.942	***	
e27	.353	.024	14.765	***	
e28	1.394	.084	16.669	***	
e34	.259	.031	8.443	***	
e33	.764	.053	14.290	***	
e32	.593	.046	12.980	***	
e35	.895	.058	15.504	***	
e36	.659	.043	15.287	***	
e37	.596	.038	15.555	***	
e13	.290	.021	13.534	***	
e29	.478	.029	16.701	***	
e30	.850	.051	16.595	***	
e31	.392	.028	14.016	***	
e38	.608	.040	15.376	***	
e39	.479	.036	13.481	***	

Squared Multiple Correlations: (Group number 1 - Default model)

	Estimate
SOC_ACT	.626
SOC_CON	.468
SELF_ACC	.622

	Estimate
PURPOSE	.300
P_GROW	.272
WORLD4	.653
SOC_ACC	.445
SOC_INT	.478
SOC_COH	.451
VITAL1	.731
VITAL2	.665
VITAL3	.854
POS_REL	.280
MASTERY	.569
AUTON	.195
SOMATIC2	.338
SOMATIC3	.578
SOMATIC4	.239
IDENTREG	.503
INTROREG	.927
EXTREG	.742
OPTIM1	.586
OPTIM2	.450
OPTIM3	.605
CONTR3	.626
CONTR2	.515
CONTR1	.362
WORLD1	.428
WORLD2	.745
WORLD3	.713
SAT9	.668
SAT8	.652
SAT7	.429
SAT4	.352
SAT5	.472
SAT6	.420
SAT3	.486
SAT2	.405
SAT1	.343

Modification Indices (Group number 1 - Default model)

Covariances: (Group number 1 - Default model)

	M.I.	Par Change
e38 <--> world_beliefs	32.107	-.089
e38 <--> competence	31.148	.127
e30 <--> optimism	25.806	-.092

	M.I.	Par Change
e37 <--> e39	41.178	.161
e37 <--> e38	29.073	-.145
e36 <--> relatedness	28.279	.083
e35 <--> SRWNE	20.471	-.152
e33 <--> SRWNE	20.075	-.143
e28 <--> relatedness	72.874	.188
e27 <--> autonomy	27.920	.079
e22 <--> e26	20.687	.100
e9 <--> e28	20.561	.161
e8 <--> e28	21.270	.158
e7 <--> e17	21.152	.075
e4 <--> e29	32.897	.188
e5 <--> e7	21.309	.108
e3 <--> e4	29.370	.198
e2 <--> e19	22.887	.152
e2 <--> e4	20.390	-.219
e2 <--> e6	31.602	.255

Variances: (Group number 1 - Default model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Default model)

			M.I.	Par Change
SOC_ACT	<---	SOC_ACC	21.271	.139
SOC_ACT	<---	AUTON	28.824	-.173
SOC_ACT	<---	SAT5	21.405	-.131
SOC_CON	<---	control	21.442	.292
SOC_CON	<---	competence	21.968	.213
SOC_CON	<---	P_GROW	26.682	.213
SOC_CON	<---	CONTR3	21.995	.156
SOC_CON	<---	SAT4	24.162	.121
SOC_CON	<---	SAT5	20.442	.136
SOC_CON	<---	SAT6	24.322	.125
P_GROW	<---	SAT4	21.557	.098
SOC_INT	<---	relatedness	39.308	.440
SOC_INT	<---	POS_REL	23.411	.121
SOC_INT	<---	SAT9	36.017	.199
SOC_INT	<---	SAT8	32.719	.198
SOC_INT	<---	SAT7	20.111	.190
SOC_COH	<---	SRWNE	21.709	-.211
SOC_COH	<---	INTROREG	21.933	-.175
SOC_COH	<---	SAT8	20.275	-.180
VITAL3	<---	IDENTREG	22.807	.157
POS_REL	<---	relatedness	32.927	.565

			M.I.	Par Change
POS_REL	<---	SAT9	42.409	.303
POS_REL	<---	SAT8	43.359	.319
IDENTREG	<---	physical_well-being	43.168	.134
IDENTREG	<---	psych_well-being	49.194	.429
IDENTREG	<---	optimism	40.895	.262
IDENTREG	<---	control	26.321	.242
IDENTREG	<---	competence	37.817	.208
IDENTREG	<---	autonomy	31.728	.224
IDENTREG	<---	SELF_ACC	21.246	.113
IDENTREG	<---	P_GROW	45.854	.209
IDENTREG	<---	SOC_INT	21.928	.104
IDENTREG	<---	VITAL2	22.817	.079
IDENTREG	<---	VITAL3	46.312	.127
IDENTREG	<---	MASTERY	46.731	.188
IDENTREG	<---	AUTON	48.815	.180
IDENTREG	<---	OPTIM1	38.921	.182
IDENTREG	<---	OPTIM2	25.554	.138
IDENTREG	<---	SAT4	23.992	.090
IDENTREG	<---	SAT5	20.235	.101
EXTREG	<---	psych_well-being	29.968	-.323
EXTREG	<---	optimism	25.046	-.198
EXTREG	<---	relatedness	22.526	-.230
EXTREG	<---	competence	21.256	-.151
EXTREG	<---	autonomy	32.690	-.220
EXTREG	<---	MASTERY	34.139	-.155
EXTREG	<---	OPTIM1	23.695	-.137
EXTREG	<---	SAT2	29.259	-.102
EXTREG	<---	SAT1	26.231	-.105
SAT4	<---	P_GROW	28.395	.306
SAT2	<---	SAT6	23.428	.155

Minimization History (Default model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	57		-.665	9999.000	13323.564	0	9999.000
1	e	42		-.888	4.051	7018.028	20	.483
2	e*	20		-.295	.661	5646.105	6	.957
3	e*	3		-.145	.960	4203.541	5	.772
4	e	2		-.160	.674	3319.605	5	.843
5	e	0	934.532		1.044	2594.628	6	.805
6	e	0	856.297		.904	2346.518	2	.000
7	e	0	1426.788		.815	2226.804	1	1.115
8	e	0	3139.955		.398	2213.713	1	1.123
9	e	0	5022.932		.215	2212.359	1	1.109
10	e	0	6849.761		.070	2212.228	1	1.084
11	e	0	7079.569		.016	2212.225	1	1.018

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
12	e	0	7053.022		.000	2212.225	1	1.001

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	133	2212.225	647	.000	3.419
Saturated model	780	.000	0		
Independence model	39	12862.380	741	.000	17.358

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.082	.826	.791	.685
Saturated model	.000	1.000		
Independence model	.391	.209	.167	.198

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.828	.803	.872	.852	.871
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.873	.723	.760
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	1565.225	1425.984	1712.010
Saturated model	.000	.000	.000
Independence model	12121.380	11756.909	12492.256

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	3.663	2.591	2.361	2.834
Saturated model	.000	.000	.000	.000
Independence model	21.295	20.069	19.465	20.683

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.063	.060	.066	.000

Model	RMSEA	LO 90	HI 90	PCLOSE
Independence model	.165	.162	.167	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	2478.225	2497.090	3064.120	3197.120
Saturated model	1560.000	1670.638	4996.078	5776.078
Independence model	12940.380	12945.912	13112.184	13151.184

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	4.103	3.872	4.346	4.134
Saturated model	2.583	2.583	2.583	2.766
Independence model	21.424	20.821	22.039	21.434

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	194	201
Independence model	38	40

Execution time summary

Minimization: .240
Miscellaneous: .250
Bootstrap: .000
Total: .490

E:\Study 2\Multi-model Psych_wb.amw

Analysis Summary

Date and Time

Date: Tuesday, 28 November 2006
Time: 2:41:28 PM

Title

Multi-model psych_wb: Tuesday, 28 November 2006 02:41 PM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 605

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables
SAT3
SAT2
SAT1
SAT4
SAT5
SAT6
SAT7
SAT8
SAT9
WORLD4
WORLD3
WORLD2
WORLD1
CONTR3
CONTR2
CONTR1
OPTIM1
OPTIM2
OPTIM3
EXTREG
INTROREG
IDENTREG
SOMATIC2
SOMATIC3
SOMATIC4
AUTON

MASTERY
POS_REL
P_GROW
PURPOSE
SELF_ACC
Observed, exogenous variables
MASC_POS
FEM_POS
TRAUMA
Unobserved, endogenous variables
Psych well_being
autonomy
competence
relatedness
world_beliefs
perceived_control
dispositional_optimism
SRWNE
somatic_amplifica
Unobserved, exogenous variables
e3
e2
e1
e4
e5
e6
e7
e8
e9
e13
e12
e11
e10
e16
e15
e14
e17
e18
e19
e20
e21
e22
e23
e24
e25
e26
e27
e28
e29
e30

e31
z1
z2
z3
z4
z5
z7
z6
z8
z9

Variable counts (Group number 1)

Number of variables in your model: 83
Number of observed variables: 34
Number of unobserved variables: 49
Number of exogenous variables: 43
Number of endogenous variables: 40

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	49	0	0	0	0	49
Labeled	57	0	0	0	0	57
Unlabeled	22	3	43	0	0	68
Total	128	3	43	0	0	174

Models

Stage 1 model (Stage 1 model)

Notes for Model (Stage 1 model)

Computation of degrees of freedom (Stage 1 model)

Number of distinct sample moments: 595
Number of distinct parameters to be estimated: 71
Degrees of freedom (595 - 71): 524

Result (Stage 1 model)

Minimum was achieved
Chi-square = 3726.658
Degrees of freedom = 524
Probability level = .000

Group number 1 (Group number 1 - Stage 1 model)

Estimates (Group number 1 - Stage 1 model)

Scalar Estimates (Group number 1 - Stage 1 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 1 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.000				
competence	<---	MASC_POS	.000				
autonomy	<---	FEM_POS	.000				
competence	<---	FEM_POS	.000				
relatedness	<---	FEM_POS	.000				
autonomy	<---	TRAUMA	.000				
competence	<---	TRAUMA	.000				
relatedness	<---	TRAUMA	.000				
relatedness	<---	MASC_POS	.000				
world_beliefs	<---	MASC_POS	.000				
world_beliefs	<---	FEM_POS	.000				
perceived_control	<---	MASC_POS	.000				
perceived_control	<---	FEM_POS	.000				
perceived_control	<---	TRAUMA	.000				
world_beliefs	<---	autonomy	.000				
dispositional_optimism	<---	MASC_POS	.000				
dispositional_optimism	<---	FEM_POS	.000				
dispositional_optimism	<---	TRAUMA	.000				
perceived_control	<---	autonomy	.000				
dispositional_optimism	<---	autonomy	.000				
perceived_control	<---	competence	.000				
perceived_control	<---	relatedness	.000				
world_beliefs	<---	competence	.000				
world_beliefs	<---	relatedness	.000				
dispositional_optimism	<---	competence	.000				
dispositional_optimism	<---	relatedness	.000				
world_beliefs	<---	TRAUMA	.000				
SRWNE	<---	MASC_POS	.000				
SRWNE	<---	FEM_POS	.000				
SRWNE	<---	TRAUMA	.000				
SRWNE	<---	autonomy	.000				
SRWNE	<---	competence	.000				
SRWNE	<---	relatedness	.000				
SRWNE	<---	world_beliefs	.000				
SRWNE	<---	perceived_control	.000				
SRWNE	<---	dispositional_optimism	.000				
somatic_amplifica	<---	MASC_POS	.000				
somatic_amplifica	<---	FEM_POS	.000				
somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				

		Estimate	S.E.	C.R.	P	Label
somatic_amplifica	<--- relatedness	.000				
somatic_amplifica	<--- world_beliefs	.000				
somatic_amplifica	<--- perceived_control	.000				
somatic_amplifica	<--- dispositional_optimism	.000				
somatic_amplifica	<--- SRWNE	.000				
Psych well_being	<--- MASC_POS	.024	.003	7.775	***	pwb_m
Psych well_being	<--- autonomy	.000				
Psych well_being	<--- competence	.000				
Psych well_being	<--- world_beliefs	.000				
Psych well_being	<--- perceived_control	.000				
Psych well_being	<--- TRAUMA	-.127	.024	-5.197	***	pwb_t
Psych well_being	<--- relatedness	.000				
Psych well_being	<--- dispositional_optimism	.000				
Psych well_being	<--- SRWNE	.000				
Psych well_being	<--- somatic_amplifica	.000				
Psych well_being	<--- FEM_POS	.012	.003	4.319	***	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.233	.127	9.709	***	
SAT1	<--- autonomy	1.410	.153	9.232	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	1.368	.174	7.856	***	
SAT6	<--- competence	1.127	.120	9.413	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.529	.105	14.533	***	
SAT9	<--- relatedness	1.660	.115	14.405	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.060	.046	22.917	***	
WORLD2	<--- world_beliefs	.913	.040	23.076	***	
WORLD1	<--- world_beliefs	.779	.047	16.512	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.131	.096	11.746	***	
CONTR3	<--- perceived_control	1.118	.091	12.311	***	
OPTIM1	<--- dispositional_optimism	1.000				
OPTIM2	<--- dispositional_optimism	.904	.067	13.577	***	
OPTIM3	<--- dispositional_optimism	1.270	.090	14.090	***	
EXTREG	<--- SRWNE	1.000				
IDENTREG	<--- SRWNE	.664	.033	20.291	***	
SOMATIC2	<--- somatic_amplifica	1.000				
SOMATIC3	<--- somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<--- somatic_amplifica	.803	.097	8.317	***	
AUTON	<--- Psych well_being	1.000				
MASTERY	<--- Psych well_being	1.538	.156	9.838	***	
POS_REL	<--- Psych well_being	1.732	.201	8.609	***	
P_GROW	<--- Psych well_being	.927	.113	8.231	***	

			Estimate	S.E.	C.R.	P	Label
PURPOSE	<---	Psych well_being	1.497	.167	8.988	***	
SELF_ACC	<---	Psych well_being	1.925	.190	10.119	***	
INTROREG	<---	SRWNE	1.182	.046	25.939	***	

Standardized Regression Weights: (Group number 1 - Stage 1 model)

			Estimate
autonomy	<---	MASC_POS	.000
competence	<---	MASC_POS	.000
autonomy	<---	FEM_POS	.000
competence	<---	FEM_POS	.000
relatedness	<---	FEM_POS	.000
autonomy	<---	TRAUMA	.000
competence	<---	TRAUMA	.000
relatedness	<---	TRAUMA	.000
relatedness	<---	MASC_POS	.000
world_beliefs	<---	MASC_POS	.000
world_beliefs	<---	FEM_POS	.000
perceived_control	<---	MASC_POS	.000
perceived_control	<---	FEM_POS	.000
perceived_control	<---	TRAUMA	.000
world_beliefs	<---	autonomy	.000
dispositional_optimism	<---	MASC_POS	.000
dispositional_optimism	<---	FEM_POS	.000
dispositional_optimism	<---	TRAUMA	.000
perceived_control	<---	autonomy	.000
dispositional_optimism	<---	autonomy	.000
perceived_control	<---	competence	.000
perceived_control	<---	relatedness	.000
world_beliefs	<---	competence	.000
world_beliefs	<---	relatedness	.000
dispositional_optimism	<---	competence	.000
dispositional_optimism	<---	relatedness	.000
world_beliefs	<---	TRAUMA	.000
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000
SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000

			Estimate
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Psych well_being	<---	MASC_POS	.426
Psych well_being	<---	autonomy	.000
Psych well_being	<---	competence	.000
Psych well_being	<---	world_beliefs	.000
Psych well_being	<---	perceived_control	.000
Psych well_being	<---	TRAUMA	-.229
Psych well_being	<---	relatedness	.000
Psych well_being	<---	dispositional_optimism	.000
Psych well_being	<---	SRWNE	.000
Psych well_being	<---	somatic_amplifica	.000
Psych well_being	<---	FEM_POS	.184
SAT3	<---	autonomy	.611
SAT2	<---	autonomy	.595
SAT1	<---	autonomy	.740
SAT4	<---	competence	.504
SAT5	<---	competence	.845
SAT6	<---	competence	.584
SAT7	<---	relatedness	.642
SAT8	<---	relatedness	.800
SAT9	<---	relatedness	.833
WORLD4	<---	world_beliefs	.814
WORLD3	<---	world_beliefs	.850
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.649
CONTR1	<---	perceived_control	.625
CONTR2	<---	perceived_control	.827
CONTR3	<---	perceived_control	.680
OPTIM1	<---	dispositional_optimism	.772
OPTIM2	<---	dispositional_optimism	.653
OPTIM3	<---	dispositional_optimism	.786
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
AUTON	<---	Psych well_being	.442

			Estimate
MASTERY	<---	Psych well_being	.728
POS_REL	<---	Psych well_being	.534
P_GROW	<---	Psych well_being	.491
PURPOSE	<---	Psych well_being	.582
SELF_ACC	<---	Psych well_being	.809
INTROREG	<---	SRWNE	.981

Covariances: (Group number 1 - Stage 1 model)

		Estimate	S.E.	C.R.	P	Label
MASC_POS	<--> FEM_POS	7.803	2.108	3.701	***	
MASC_POS	<--> TRAUMA	-.473	.244	-1.941	.052	
FEM_POS	<--> TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 1 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 1 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.377	.059	6.410	***	
z2	.469	.088	5.317	***	
z3	.279	.035	8.027	***	
z4	.554	.048	11.628	***	
z5	.374	.051	7.308	***	
z6	.435	.046	9.369	***	
z7	.809	.067	12.134	***	
z8	1.055	.212	4.977	***	
z9	.127	.025	5.176	***	
e3	.634	.052	12.123	***	
e2	1.046	.083	12.616	***	
e1	.620	.083	7.510	***	
e4	1.376	.095	14.467	***	
e5	.351	.101	3.487	***	
e6	1.152	.094	12.233	***	
e7	.398	.027	14.625	***	
e8	.366	.040	9.084	***	
e9	.338	.045	7.534	***	
e13	.282	.022	12.853	***	
e12	.239	.021	11.300	***	

	Estimate	S.E.	C.R.	P	Label
e11	.168	.015	10.974	***	
e10	.463	.029	15.772	***	
e16	.544	.046	11.901	***	
e15	.221	.036	6.077	***	
e14	.582	.043	13.596	***	
e17	.295	.031	9.496	***	
e18	.479	.035	13.753	***	
e19	.433	.049	8.868	***	
e20	.331	.029	11.242	***	
e21	.044	.031	1.401	.161	
e22	.357	.023	15.660	***	
e23	2.798	.218	12.820	***	
e24	.975	.321	3.043	.002	
e25	2.344	.165	14.212	***	
e26	.755	.046	16.513	***	
e27	.385	.029	13.171	***	
e28	1.385	.087	15.953	***	
e29	.498	.031	16.246	***	
e30	.803	.052	15.528	***	
e31	.358	.034	10.450	***	

Squared Multiple Correlations: (Group number 1 - Stage 1 model)

	Estimate
relatedness	.000
competence	.000
autonomy	.000
dispositional_optimism	.000
perceived_control	.000
world_beliefs	.000
SRWNE	.000
somatic_amplifica	.000
Psych well_being	.307
SELF_ACC	.655
PURPOSE	.339
P_GROW	.241
POS_REL	.285
MASTERY	.530
AUTON	.196
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710

	Estimate
OPTIM3	.618
OPTIM2	.426
OPTIM1	.596
CONTR1	.391
CONTR2	.683
CONTR3	.462
WORLD1	.421
WORLD2	.733
WORLD3	.722
WORLD4	.663
SAT9	.694
SAT8	.641
SAT7	.412
SAT6	.341
SAT5	.714
SAT4	.254
SAT1	.547
SAT2	.354
SAT3	.373

Modification Indices (Group number 1 - Stage 1 model)

Covariances: (Group number 1 - Stage 1 model)

	M.I.	Par Change
z3 <--> FEM_POS	63.886	1.239
z2 <--> MASC_POS	104.665	2.469
z2 <--> z3	120.957	.203
z1 <--> MASC_POS	40.454	1.442
z1 <--> z3	176.716	.230
z1 <--> z2	130.234	.265
z6 <--> MASC_POS	63.073	1.819
z6 <--> z3	158.415	.220
z6 <--> z2	163.774	.301
z6 <--> z1	159.132	.279
z5 <--> MASC_POS	49.749	1.505
z5 <--> z3	41.047	.104
z5 <--> z2	94.493	.213
z5 <--> z1	80.296	.184
z5 <--> z6	153.798	.258
z4 <--> z3	54.761	.138
z4 <--> z2	75.694	.218
z4 <--> z1	56.978	.178
z4 <--> z6	103.065	.241
z4 <--> z5	57.218	.168

	M.I.	Par Change
z7 <--> MASC_POS	43.379	-1.864
z7 <--> z2	68.357	-.240
z7 <--> z1	62.733	-.216
z7 <--> z6	74.038	-.237
z7 <--> z5	49.636	-.181
z7 <--> z4	45.323	-.198
z9 <--> z3	69.831	.081
z9 <--> z2	116.762	.141
z9 <--> z1	130.569	.140
z9 <--> z6	175.235	.164
z9 <--> z5	95.853	.113
z9 <--> z4	59.322	.101
z9 <--> z7	53.136	-.111
e28 <--> z3	66.638	.235
e27 <--> z1	55.783	.154
e20 <--> z1	42.363	-.117
e19 <--> z5	40.124	.143
e16 <--> z2	59.797	.200
e16 <--> z6	53.528	.180
e16 <--> z9	68.012	.112
e6 <--> z6	42.124	.224
e2 <--> z2	51.990	.256
e2 <--> z6	51.509	.242
e2 <--> z9	53.547	.137
e2 <--> e19	41.214	.236
e2 <--> e6	48.219	.361
e3 <--> MASC_POS	76.316	2.373
e3 <--> z3	79.617	.185
e3 <--> z2	62.302	.220
e3 <--> e4	54.472	.322

Variances: (Group number 1 - Stage 1 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 1 model)

		M.I.	Par Change
relatedness	<--- FEM_POS	77.249	.031
relatedness	<--- MASC_POS	40.781	.020
relatedness	<--- competence	120.957	.433
relatedness	<--- autonomy	176.716	.611
competence	<--- MASC_POS	119.711	.045
competence	<--- relatedness	120.957	.727
competence	<--- autonomy	130.234	.704
autonomy	<--- MASC_POS	52.892	.028

			M.I.	Par Change
autonomy	<---	relatedness	176.716	.826
autonomy	<---	competence	130.234	.566
dispositional_optimism	<---	MASC_POS	79.665	.035
dispositional_optimism	<---	relatedness	158.415	.790
dispositional_optimism	<---	competence	163.774	.641
dispositional_optimism	<---	autonomy	159.132	.739
dispositional_optimism	<---	perceived_control	153.798	.690
dispositional_optimism	<---	world_beliefs	103.065	.436
perceived_control	<---	MASC_POS	55.913	.027
perceived_control	<---	relatedness	41.047	.374
perceived_control	<---	competence	94.493	.454
perceived_control	<---	autonomy	80.296	.489
perceived_control	<---	dispositional_optimism	153.798	.593
perceived_control	<---	world_beliefs	57.218	.302
world_beliefs	<---	relatedness	54.761	.495
world_beliefs	<---	competence	75.694	.465
world_beliefs	<---	autonomy	56.978	.472
world_beliefs	<---	dispositional_optimism	103.065	.555
world_beliefs	<---	perceived_control	57.218	.449
SRWNE	<---	competence	68.357	-.512
SRWNE	<---	autonomy	62.733	-.573
SRWNE	<---	dispositional_optimism	74.038	-.545
SRWNE	<---	perceived_control	49.636	-.484
SRWNE	<---	world_beliefs	45.323	-.357
Psych well_being	<---	relatedness	69.831	.290
Psych well_being	<---	competence	116.762	.300
Psych well_being	<---	autonomy	130.569	.371
Psych well_being	<---	dispositional_optimism	175.235	.376
Psych well_being	<---	perceived_control	95.853	.302
Psych well_being	<---	world_beliefs	59.322	.183
Psych well_being	<---	SRWNE	53.136	-.138
POS_REL	<---	relatedness	66.638	.843
POS_REL	<---	SAT9	58.963	.362
POS_REL	<---	SAT8	60.785	.383
MASTERY	<---	autonomy	55.783	.408
MASTERY	<---	SAT1	41.288	.154
MASTERY	<---	SAT2	44.306	.147
IDENTREG	<---	P_GROW	43.244	.201
IDENTREG	<---	AUTON	44.184	.170
EXTREG	<---	autonomy	42.363	-.309
OPTIM3	<---	perceived_control	40.124	.384
OPTIM3	<---	SAT2	46.069	.175
OPTIM2	<---	MASC_POS	41.074	.025
OPTIM2	<---	Psych well_being	41.788	.506

		M.I.	Par Change
OPTIM1	<--- SAT7	54.201	.237
CONTR3	<--- competence	59.797	.428
CONTR3	<--- dispositional_optimism	53.528	.414
CONTR3	<--- Psych well_being	85.403	.785
CONTR3	<--- SELF_ACC	62.146	.257
CONTR3	<--- PURPOSE	54.128	.222
CONTR3	<--- POS_REL	48.007	.165
CONTR3	<--- MASTERY	56.337	.275
CONTR3	<--- OPTIM3	48.105	.216
CONTR3	<--- OPTIM1	42.678	.254
CONTR3	<--- SAT6	52.197	.182
CONTR3	<--- SAT5	46.228	.204
SAT6	<--- dispositional_optimism	42.124	.514
SAT6	<--- OPTIM3	47.045	.300
SAT6	<--- SAT2	61.674	.287
SAT5	<--- SAT7	41.191	.288
SAT4	<--- Psych well_being	55.033	.943
SAT4	<--- P_GROW	64.243	.492
SAT4	<--- SAT3	51.040	.353
SAT2	<--- competence	51.990	.546
SAT2	<--- dispositional_optimism	51.509	.556
SAT2	<--- MASTERY	41.308	.323
SAT2	<--- EXTREG	46.515	-.291
SAT2	<--- OPTIM3	68.236	.353
SAT2	<--- WORLD4	40.851	.318
SAT2	<--- SAT6	80.782	.309
SAT3	<--- MASC_POS	91.846	.044
SAT3	<--- relatedness	79.617	.664
SAT3	<--- competence	62.302	.469
SAT3	<--- Psych well_being	68.710	.757
SAT3	<--- OPTIM2	54.876	.290
SAT3	<--- SAT9	61.214	.266
SAT3	<--- SAT8	76.459	.310
SAT3	<--- SAT5	49.257	.226
SAT3	<--- SAT4	92.404	.253

Minimization History (Stage 1 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.482	9999.000	9842.209	0	9999.000
1	e	8		-.274	2.892	6390.541	20	.586
2	e*	2		-.032	1.157	4974.580	5	.878
3	e	2		-.083	1.322	4198.858	5	.746
4	e	0	537.027		1.168	3895.402	6	.813
5	e	1		-.081	1.264	3874.983	2	.000

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
6	e	1		-.028	.735	3760.732	5	.669
7	e	0	697.445		.593	3733.368	10	.983
8	e	0	550.285		.368	3727.472	1	1.160
9	e	0	747.432		.183	3726.702	1	1.131
10	e	0	914.576		.055	3726.658	1	1.052
11	e	0	945.400		.005	3726.658	1	1.005
12	e	0	944.783		.000	3726.658	1	1.000

Stage 2 model (Stage 2 model)

Notes for Model (Stage 2 model)

Computation of degrees of freedom (Stage 2 model)

Number of distinct sample moments:	595
Number of distinct parameters to be estimated:	83
Degrees of freedom (595 - 83):	512

Result (Stage 2 model)

Minimum was achieved
Chi-square = 3024.810
Degrees of freedom = 512
Probability level = .000

Group number 1 (Group number 1 - Stage 2 model)

Estimates (Group number 1 - Stage 2 model)

Scalar Estimates (Group number 1 - Stage 2 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 2 model)

		Estimate	S.E.	C.R.	P	Label
autonomy	<--- MASC_POS	.035	.004	7.891	***	am
competence	<--- MASC_POS	.054	.006	9.769	***	cm
autonomy	<--- FEM_POS	.018	.005	3.710	***	af
competence	<--- FEM_POS	.014	.005	2.632	.008	cf
relatedness	<--- FEM_POS	.030	.004	8.271	***	rf
autonomy	<--- TRAUMA	-.196	.042	-4.667	***	at
competence	<--- TRAUMA	-.139	.046	-3.003	.003	ct
relatedness	<--- TRAUMA	-.162	.029	-5.641	***	rt
relatedness	<--- MASC_POS	.015	.003	5.127	***	rm
world_beliefs	<--- MASC_POS	.000				
world_beliefs	<--- FEM_POS	.000				

			Estimate	S.E.	C.R.	P	Label
perceived_control	<---	MASC_POS	.000				
perceived_control	<---	FEM_POS	.000				
perceived_control	<---	TRAUMA	.000				
world_beliefs	<---	autonomy	.000				
dispositional_optimism	<---	MASC_POS	.000				
dispositional_optimism	<---	FEM_POS	.000				
dispositional_optimism	<---	TRAUMA	.000				
perceived_control	<---	autonomy	.000				
dispositional_optimism	<---	autonomy	.000				
perceived_control	<---	competence	.000				
perceived_control	<---	relatedness	.000				
world_beliefs	<---	competence	.000				
world_beliefs	<---	relatedness	.000				
dispositional_optimism	<---	competence	.000				
dispositional_optimism	<---	relatedness	.000				
world_beliefs	<---	TRAUMA	.000				
SRWNE	<---	MASC_POS	.000				
SRWNE	<---	FEM_POS	.000				
SRWNE	<---	TRAUMA	.000				
SRWNE	<---	autonomy	.000				
SRWNE	<---	competence	.000				
SRWNE	<---	relatedness	.000				
SRWNE	<---	world_beliefs	.000				
SRWNE	<---	perceived_control	.000				
SRWNE	<---	dispositional_optimism	.000				
somatic_amplifica	<---	MASC_POS	.000				
somatic_amplifica	<---	FEM_POS	.000				
somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				
somatic_amplifica	<---	relatedness	.000				
somatic_amplifica	<---	world_beliefs	.000				
somatic_amplifica	<---	perceived_control	.000				
somatic_amplifica	<---	dispositional_optimism	.000				
somatic_amplifica	<---	SRWNE	.000				
Psych well_being	<---	MASC_POS	-.003	.003	-1.026	.305	pwb_m
Psych well_being	<---	autonomy	.268	.040	6.655	***	pwb_a
Psych well_being	<---	competence	.309	.044	7.028	***	pwb_c
Psych well_being	<---	world_beliefs	.000				
Psych well_being	<---	perceived_control	.000				
Psych well_being	<---	TRAUMA	-.020	.021	-.944	.345	pwb_t
Psych well_being	<---	relatedness	.089	.034	2.595	.009	pwb_r
Psych well_being	<---	dispositional_optimism	.000				
Psych well_being	<---	SRWNE	.000				

		Estimate	S.E.	C.R.	P	Label
Psych well_being	<--- somatic_amplifica	.000				
Psych well_being	<--- FEM_POS	.001	.002	.222	.824	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.011	.093	10.864	***	
SAT1	<--- autonomy	1.066	.090	11.851	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	.991	.082	12.136	***	
SAT6	<--- competence	.976	.089	10.948	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.511	.100	15.174	***	
SAT9	<--- relatedness	1.607	.105	15.232	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.060	.046	22.917	***	
WORLD2	<--- world_beliefs	.913	.040	23.076	***	
WORLD1	<--- world_beliefs	.779	.047	16.512	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.131	.096	11.746	***	
CONTR3	<--- perceived_control	1.118	.091	12.311	***	
OPTIM1	<--- dispositional_optimism	1.000				
OPTIM2	<--- dispositional_optimism	.904	.067	13.577	***	
OPTIM3	<--- dispositional_optimism	1.270	.090	14.090	***	
EXTREG	<--- SRWNE	1.000				
IDENTREG	<--- SRWNE	.664	.033	20.291	***	
SOMATIC2	<--- somatic_amplifica	1.000				
SOMATIC3	<--- somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<--- somatic_amplifica	.803	.097	8.317	***	
AUTON	<--- Psych well_being	1.000				
MASTERY	<--- Psych well_being	1.527	.158	9.648	***	
POS_REL	<--- Psych well_being	1.674	.203	8.267	***	
P_GROW	<--- Psych well_being	.909	.114	7.947	***	
PURPOSE	<--- Psych well_being	1.416	.165	8.559	***	
SELF_ACC	<--- Psych well_being	1.826	.185	9.846	***	
INTROREG	<--- SRWNE	1.182	.046	25.939	***	

Standardized Regression Weights: (Group number 1 - Stage 2 model)

		Estimate
autonomy	<--- MASC_POS	.377
competence	<--- MASC_POS	.514
autonomy	<--- FEM_POS	.169
competence	<--- FEM_POS	.116
relatedness	<--- FEM_POS	.365
autonomy	<--- TRAUMA	-.213
competence	<--- TRAUMA	-.131
relatedness	<--- TRAUMA	-.234

			Estimate
relatedness	<---	MASC_POS	.214
world_beliefs	<---	MASC_POS	.000
world_beliefs	<---	FEM_POS	.000
perceived_control	<---	MASC_POS	.000
perceived_control	<---	FEM_POS	.000
perceived_control	<---	TRAUMA	.000
world_beliefs	<---	autonomy	.000
dispositional_optimism	<---	MASC_POS	.000
dispositional_optimism	<---	FEM_POS	.000
dispositional_optimism	<---	TRAUMA	.000
perceived_control	<---	autonomy	.000
dispositional_optimism	<---	autonomy	.000
perceived_control	<---	competence	.000
perceived_control	<---	relatedness	.000
world_beliefs	<---	competence	.000
world_beliefs	<---	relatedness	.000
dispositional_optimism	<---	competence	.000
dispositional_optimism	<---	relatedness	.000
world_beliefs	<---	TRAUMA	.000
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000
SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Psych well_being	<---	MASC_POS	-.053
Psych well_being	<---	autonomy	.466
Psych well_being	<---	competence	.614
Psych well_being	<---	world_beliefs	.000
Psych well_being	<---	perceived_control	.000
Psych well_being	<---	TRAUMA	-.037

			Estimate
Psych well_being	<---	relatedness	.116
Psych well_being	<---	dispositional_optimism	.000
Psych well_being	<---	SRWNE	.000
Psych well_being	<---	somatic_amplifica	.000
Psych well_being	<---	FEM_POS	.009
SAT3	<---	autonomy	.711
SAT2	<---	autonomy	.568
SAT1	<---	autonomy	.651
SAT4	<---	competence	.601
SAT5	<---	competence	.730
SAT6	<---	competence	.603
SAT7	<---	relatedness	.653
SAT8	<---	relatedness	.805
SAT9	<---	relatedness	.821
WORLD4	<---	world_beliefs	.814
WORLD3	<---	world_beliefs	.850
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.649
CONTR1	<---	perceived_control	.625
CONTR2	<---	perceived_control	.827
CONTR3	<---	perceived_control	.680
OPTIM1	<---	dispositional_optimism	.772
OPTIM2	<---	dispositional_optimism	.653
OPTIM3	<---	dispositional_optimism	.786
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
AUTON	<---	Psych well_being	.430
MASTERY	<---	Psych well_being	.721
POS_REL	<---	Psych well_being	.504
P_GROW	<---	Psych well_being	.469
PURPOSE	<---	Psych well_being	.540
SELF_ACC	<---	Psych well_being	.770
INTROREG	<---	SRWNE	.981

Covariances: (Group number 1 - Stage 2 model)

			Estimate	S.E.	C.R.	P	Label
MASC_POS	<-->	FEM_POS	7.803	2.108	3.701	***	
MASC_POS	<-->	TRAUMA	-.473	.244	-1.941	.052	
FEM_POS	<-->	TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 2 model)

	Estimate
MASC_POS <--> FEM_POS	.152
MASC_POS <--> TRAUMA	-.079
FEM_POS <--> TRAUMA	.004

Variances: (Group number 1 - Stage 2 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.385	.050	7.761	***	
z2	.451	.067	6.735	***	
z3	.213	.026	8.109	***	
z4	.554	.048	11.628	***	
z5	.374	.051	7.308	***	
z6	.435	.046	9.369	***	
z7	.809	.067	12.134	***	
z8	1.055	.212	4.977	***	
z9	.036	.010	3.617	***	
e3	.500	.046	10.980	***	
e2	1.097	.076	14.459	***	
e1	.789	.062	12.772	***	
e4	1.178	.082	14.412	***	
e5	.575	.051	11.204	***	
e6	1.113	.077	14.391	***	
e7	.388	.026	14.673	***	
e8	.358	.036	10.072	***	
e9	.361	.039	9.333	***	
e13	.282	.022	12.853	***	
e12	.239	.021	11.300	***	
e11	.168	.015	10.974	***	
e10	.463	.029	15.772	***	
e16	.544	.046	11.901	***	
e15	.221	.036	6.077	***	
e14	.582	.043	13.596	***	
e17	.295	.031	9.496	***	
e18	.479	.035	13.753	***	
e19	.433	.049	8.868	***	
e20	.331	.029	11.242	***	
e21	.044	.031	1.401	.161	
e22	.357	.023	15.660	***	
e23	2.798	.218	12.820	***	
e24	.975	.321	3.043	.002	
e25	2.344	.165	14.212	***	

	Estimate	S.E.	C.R.	P	Label
e26	.743	.045	16.652	***	
e27	.364	.026	13.818	***	
e28	1.388	.085	16.284	***	
e29	.495	.030	16.475	***	
e30	.823	.051	16.054	***	
e31	.387	.031	12.545	***	

Squared Multiple Correlations: (Group number 1 - Stage 2 model)

	Estimate
relatedness	.264
competence	.324
autonomy	.247
dispositional_optimism	.000
perceived_control	.000
world_beliefs	.000
SRWNE	.000
somatic_amplifica	.000
Psych well_being	.789
SELF_ACC	.593
PURPOSE	.291
P_GROW	.220
POS_REL	.254
MASTERY	.519
AUTON	.185
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710
OPTIM3	.618
OPTIM2	.426
OPTIM1	.596
CONTR1	.391
CONTR2	.683
CONTR3	.462
WORLD1	.421
WORLD2	.733
WORLD3	.722
WORLD4	.663
SAT9	.674
SAT8	.648
SAT7	.427
SAT6	.363

	Estimate
SAT5	.532
SAT4	.362
SAT1	.424
SAT2	.322
SAT3	.506

Modification Indices (Group number 1 - Stage 2 model)

Covariances: (Group number 1 - Stage 2 model)

	M.I.	Par Change
z2 <--> z3	78.928	.156
z1 <--> z3	142.115	.194
z1 <--> z2	90.934	.242
z6 <--> MASC_POS	63.073	1.819
z6 <--> z3	92.617	.152
z6 <--> z2	135.800	.288
z6 <--> z1	119.109	.250
z5 <--> MASC_POS	49.749	1.505
z5 <--> z2	84.017	.211
z5 <--> z1	60.739	.167
z5 <--> z6	153.798	.258
z4 <--> z2	64.058	.211
z4 <--> z1	41.230	.157
z4 <--> z6	103.065	.241
z4 <--> z5	57.218	.168
z7 <--> MASC_POS	43.379	-1.864
z7 <--> z2	52.139	-.221
z7 <--> z1	52.204	-.205
z7 <--> z6	74.038	-.237
z7 <--> z5	49.636	-.181
z7 <--> z4	45.323	-.198
z9 <--> z6	56.787	.074
e28 <--> z3	42.843	.169
e19 <--> z5	40.124	.143
e16 <--> z2	64.210	.219
e16 <--> z6	53.528	.180
e2 <--> z2	73.804	.321
e2 <--> e6	60.969	.401

Variances: (Group number 1 - Stage 2 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 2 model)

	M.I.	Par Change

			M.I.	Par Change
relatedness	<---	competence	45.989	.201
relatedness	<---	autonomy	94.989	.336
competence	<---	relatedness	53.936	.500
competence	<---	autonomy	60.879	.422
autonomy	<---	relatedness	97.115	.622
autonomy	<---	competence	53.094	.314
dispositional_optimism	<---	MASC_POS	79.665	.035
dispositional_optimism	<---	relatedness	173.718	.809
dispositional_optimism	<---	competence	239.960	.649
dispositional_optimism	<---	autonomy	225.173	.732
dispositional_optimism	<---	perceived_control	153.798	.690
dispositional_optimism	<---	world_beliefs	103.065	.436
perceived_control	<---	MASC_POS	55.913	.027
perceived_control	<---	relatedness	48.064	.396
perceived_control	<---	competence	144.628	.469
perceived_control	<---	autonomy	114.130	.486
perceived_control	<---	dispositional_optimism	153.798	.593
perceived_control	<---	world_beliefs	57.218	.302
world_beliefs	<---	relatedness	58.981	.503
world_beliefs	<---	competence	102.116	.451
world_beliefs	<---	autonomy	79.469	.464
world_beliefs	<---	dispositional_optimism	103.065	.555
world_beliefs	<---	perceived_control	57.218	.449
SRWNE	<---	competence	80.729	-.465
SRWNE	<---	autonomy	69.655	-.503
SRWNE	<---	dispositional_optimism	74.038	-.545
SRWNE	<---	perceived_control	49.636	-.484
SRWNE	<---	world_beliefs	45.323	-.357
Psych well_being	<---	dispositional_optimism	56.787	.171
POS_REL	<---	relatedness	43.912	.665
POS_REL	<---	SAT9	42.605	.306
POS_REL	<---	SAT8	44.645	.326
IDENTREG	<---	Psych well_being	46.151	.445
IDENTREG	<---	P_GROW	44.763	.208
IDENTREG	<---	MASTERY	41.923	.184
IDENTREG	<---	AUTON	45.491	.175
EXTREG	<---	autonomy	45.843	-.268
EXTREG	<---	Psych well_being	49.190	-.454
EXTREG	<---	MASTERY	43.009	-.184
OPTIM3	<---	perceived_control	40.124	.384
OPTIM3	<---	SAT2	46.069	.175
OPTIM2	<---	MASC_POS	41.074	.025
OPTIM2	<---	competence	42.381	.277
OPTIM2	<---	Psych well_being	48.023	.562

			M.I.	Par Change
OPTIM1	<---	relatedness	41.306	.347
OPTIM1	<---	SAT7	54.201	.237
CONTR3	<---	relatedness	42.336	.440
CONTR3	<---	competence	78.538	.410
CONTR3	<---	autonomy	44.692	.360
CONTR3	<---	dispositional_optimism	53.528	.414
CONTR3	<---	Psych well_being	105.501	.904
CONTR3	<---	SELF_ACC	68.038	.281
CONTR3	<---	PURPOSE	56.650	.232
CONTR3	<---	POS_REL	49.958	.172
CONTR3	<---	MASTERY	61.018	.298
CONTR3	<---	OPTIM3	48.105	.216
CONTR3	<---	OPTIM1	42.678	.254
CONTR3	<---	SAT6	52.197	.182
CONTR3	<---	SAT5	46.228	.204
SAT6	<---	SAT2	61.483	.283
SAT2	<---	OPTIM3	46.390	.291
SAT2	<---	SAT6	69.043	.286
SAT3	<---	relatedness	50.813	.485
SAT3	<---	SAT8	48.730	.231
SAT3	<---	SAT4	58.054	.188

Minimization History (Stage 2 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.487	9999.000	9746.840	0	9999.000
1	e	11		-.273	3.256	6140.990	20	.489
2	e*	1		-.225	1.322	4254.245	5	.871
3	e*	1		-.148	.946	3613.797	5	.739
4	e	1		-.004	1.159	3188.413	8	.845
5	e	0	292.611		.839	3062.075	4	.938
6	e	0	839.806		.592	3028.958	1	1.130
7	e	0	1514.810		.322	3025.209	1	1.018
8	e	0	1834.114		.090	3024.812	1	1.012
9	e	0	1883.555		.010	3024.810	1	1.001
10	e	0	1865.096		.000	3024.810	1	1.000

Stage 3 model (Stage 3 model)

Notes for Model (Stage 3 model)

Computation of degrees of freedom (Stage 3 model)

Number of distinct sample moments:	595
Number of distinct parameters to be estimated:	104
Degrees of freedom (595 - 104):	491

Result (Stage 3 model)

Minimum was achieved
Chi-square = 2188.461
Degrees of freedom = 491
Probability level = .000

Group number 1 (Group number 1 - Stage 3 model)

Estimates (Group number 1 - Stage 3 model)

Scalar Estimates (Group number 1 - Stage 3 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 3 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.033	.004	7.564	***	am
competence	<---	MASC_POS	.055	.006	10.041	***	cm
autonomy	<---	FEM_POS	.017	.005	3.531	***	af
competence	<---	FEM_POS	.014	.005	2.560	.010	cf
relatedness	<---	FEM_POS	.030	.004	8.288	***	rf
autonomy	<---	TRAUMA	-.193	.041	-4.706	***	at
competence	<---	TRAUMA	-.147	.046	-3.183	.001	ct
relatedness	<---	TRAUMA	-.163	.029	-5.643	***	rt
relatedness	<---	MASC_POS	.015	.003	5.133	***	rm
world_beliefs	<---	MASC_POS	-.011	.005	-2.074	.038	wb_m
world_beliefs	<---	FEM_POS	-.009	.005	-1.782	.075	wb_f
perceived_control	<---	MASC_POS	-.009	.004	-1.989	.047	pc_m
perceived_control	<---	FEM_POS	-.005	.004	-1.139	.255	pc_f
perceived_control	<---	TRAUMA	.043	.034	1.258	.208	pc_t
world_beliefs	<---	autonomy	.167	.061	2.735	.006	wb_a
dispositional_optimism	<---	MASC_POS	-.009	.004	-2.103	.035	do_m
dispositional_optimism	<---	FEM_POS	-.006	.004	-1.432	.152	do_f
dispositional_optimism	<---	TRAUMA	-.008	.034	-.232	.817	do_t
perceived_control	<---	autonomy	.230	.051	4.509	***	pc_a
dispositional_optimism	<---	autonomy	.289	.050	5.755	***	do_a
perceived_control	<---	competence	.491	.064	7.713	***	pc_c
perceived_control	<---	relatedness	-.011	.055	-.198	.843	pc_r
world_beliefs	<---	competence	.444	.065	6.858	***	wb_c
world_beliefs	<---	relatedness	.159	.071	2.229	.026	wb_r
dispositional_optimism	<---	competence	.489	.057	8.508	***	do_c
dispositional_optimism	<---	relatedness	.306	.057	5.376	***	do_r
world_beliefs	<---	TRAUMA	-.022	.042	-.507	.612	wb_t
SRWNE	<---	MASC_POS	.000				
SRWNE	<---	FEM_POS	.000				
SRWNE	<---	TRAUMA	.000				

		Estimate	S.E.	C.R.	P	Label
SRWNE	<--- autonomy	.000				
SRWNE	<--- competence	.000				
SRWNE	<--- relatedness	.000				
SRWNE	<--- world_beliefs	.000				
SRWNE	<--- perceived_control	.000				
SRWNE	<--- dispositional_optimism	.000				
somatic_amplifica	<--- MASC_POS	.000				
somatic_amplifica	<--- FEM_POS	.000				
somatic_amplifica	<--- TRAUMA	.000				
somatic_amplifica	<--- autonomy	.000				
somatic_amplifica	<--- competence	.000				
somatic_amplifica	<--- relatedness	.000				
somatic_amplifica	<--- world_beliefs	.000				
somatic_amplifica	<--- perceived_control	.000				
somatic_amplifica	<--- dispositional_optimism	.000				
somatic_amplifica	<--- SRWNE	.000				
Psych well_being	<--- MASC_POS	-.005	.003	-1.624	.104	pwb_m
Psych well_being	<--- autonomy	.247	.049	5.009	***	pwb_a
Psych well_being	<--- competence	.310	.078	3.967	***	pwb_c
Psych well_being	<--- world_beliefs	-.031	.024	-1.249	.212	pwb_wb
Psych well_being	<--- perceived_control	-.006	.053	-.107	.915	pwb_pc
Psych well_being	<--- TRAUMA	-.007	.020	-.345	.730	pwb_t
Psych well_being	<--- relatedness	.024	.038	.616	.538	pwb_r
Psych well_being	<--- dispositional_optimism	.164	.069	2.380	.017	pwb_do
Psych well_being	<--- SRWNE	.000				
Psych well_being	<--- somatic_amplifica	.000				
Psych well_being	<--- FEM_POS	.001	.003	.433	.665	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.079	.098	10.974	***	
SAT1	<--- autonomy	1.121	.095	11.828	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	.918	.077	11.975	***	
SAT6	<--- competence	.997	.089	11.244	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.507	.099	15.287	***	
SAT9	<--- relatedness	1.600	.104	15.355	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.047	.047	22.212	***	
WORLD2	<--- world_beliefs	.917	.040	22.744	***	
WORLD1	<--- world_beliefs	.779	.048	16.125	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.041	.087	12.027	***	
CONTR3	<--- perceived_control	1.384	.111	12.419	***	
OPTIM1	<--- dispositional_optimism	1.000				

			Estimate	S.E.	C.R.	P	Label
OPTIM2	<---	dispositional_optimism	.956	.066	14.500	***	
OPTIM3	<---	dispositional_optimism	1.246	.077	16.158	***	
EXTREG	<---	SRWNE	1.000				
IDENTREG	<---	SRWNE	.664	.033	20.291	***	
SOMATIC2	<---	somatic_amplifica	1.000				
SOMATIC3	<---	somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<---	somatic_amplifica	.803	.097	8.317	***	
AUTON	<---	Psych well_being	1.000				
MASTERY	<---	Psych well_being	1.540	.154	10.003	***	
POS_REL	<---	Psych well_being	1.646	.195	8.438	***	
P_GROW	<---	Psych well_being	.906	.111	8.169	***	
PURPOSE	<---	Psych well_being	1.355	.157	8.618	***	
SELF_ACC	<---	Psych well_being	1.808	.178	10.156	***	
INTROREG	<---	SRWNE	1.182	.046	25.939	***	

Standardized Regression Weights: (Group number 1 - Stage 3 model)

			Estimate
autonomy	<---	MASC_POS	.367
competence	<---	MASC_POS	.539
autonomy	<---	FEM_POS	.163
competence	<---	FEM_POS	.116
relatedness	<---	FEM_POS	.365
autonomy	<---	TRAUMA	-.217
competence	<---	TRAUMA	-.144
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.214
world_beliefs	<---	MASC_POS	-.120
world_beliefs	<---	FEM_POS	-.084
perceived_control	<---	MASC_POS	-.122
perceived_control	<---	FEM_POS	-.055
perceived_control	<---	TRAUMA	.059
world_beliefs	<---	autonomy	.158
dispositional_optimism	<---	MASC_POS	-.118
dispositional_optimism	<---	FEM_POS	-.064
dispositional_optimism	<---	TRAUMA	-.010
perceived_control	<---	autonomy	.282
dispositional_optimism	<---	autonomy	.330
perceived_control	<---	competence	.696
perceived_control	<---	relatedness	-.010
world_beliefs	<---	competence	.485
world_beliefs	<---	relatedness	.118
dispositional_optimism	<---	competence	.644
dispositional_optimism	<---	relatedness	.274
world_beliefs	<---	TRAUMA	-.023

			Estimate
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000
SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Psych well_being	<---	MASC_POS	-.098
Psych well_being	<---	autonomy	.410
Psych well_being	<---	competence	.595
Psych well_being	<---	world_beliefs	-.054
Psych well_being	<---	perceived_control	-.008
Psych well_being	<---	TRAUMA	-.013
Psych well_being	<---	relatedness	.031
Psych well_being	<---	dispositional_optimism	.239
Psych well_being	<---	SRWNE	.000
Psych well_being	<---	somatic_amplifica	.000
Psych well_being	<---	FEM_POS	.018
SAT3	<---	autonomy	.684
SAT2	<---	autonomy	.583
SAT1	<---	autonomy	.658
SAT4	<---	competence	.585
SAT5	<---	competence	.657
SAT6	<---	competence	.598
SAT7	<---	relatedness	.655
SAT8	<---	relatedness	.805
SAT9	<---	relatedness	.819
WORLD4	<---	world_beliefs	.808
WORLD3	<---	world_beliefs	.835
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.640
CONTR1	<---	perceived_control	.580

			Estimate
CONTR2	<---	perceived_control	.709
CONTR3	<---	perceived_control	.787
OPTIM1	<---	dispositional_optimism	.739
OPTIM2	<---	dispositional_optimism	.654
OPTIM3	<---	dispositional_optimism	.738
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
AUTON	<---	Psych well_being	.433
MASTERY	<---	Psych well_being	.733
POS_REL	<---	Psych well_being	.499
P_GROW	<---	Psych well_being	.471
PURPOSE	<---	Psych well_being	.519
SELF_ACC	<---	Psych well_being	.768
INTROREG	<---	SRWNE	.981

Covariances: (Group number 1 - Stage 3 model)

			Estimate	S.E.	C.R.	P	Label
MASC_POS	<-->	FEM_POS	7.803	2.108	3.701	***	
MASC_POS	<-->	TRAUMA	-.473	.244	-1.941	.052	
FEM_POS	<-->	TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 3 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 3 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.360	.048	7.545	***	
z2	.406	.062	6.551	***	
z3	.214	.026	8.145	***	
z4	.388	.036	10.651	***	
z5	.149	.026	5.829	***	
z6	.112	.020	5.715	***	
z7	.809	.067	12.134	***	
z8	1.055	.212	4.977	***	
z9	.019	.007	2.499	.012	

	Estimate	S.E.	C.R.	P	Label
e3	.538	.045	11.931	***	
e2	1.069	.075	14.235	***	
e1	.776	.061	12.640	***	
e4	1.214	.080	15.252	***	
e5	.698	.049	14.126	***	
e6	1.122	.074	15.077	***	
e7	.386	.026	14.696	***	
e8	.358	.035	10.261	***	
e9	.364	.038	9.613	***	
e13	.280	.022	12.972	***	
e12	.251	.021	11.942	***	
e11	.162	.015	10.959	***	
e10	.462	.029	15.822	***	
e16	.371	.038	9.642	***	
e15	.337	.027	12.446	***	
e14	.622	.041	15.027	***	
e17	.302	.023	12.929	***	
e18	.443	.030	14.677	***	
e19	.471	.036	12.949	***	
e20	.331	.029	11.242	***	
e21	.044	.031	1.401	.161	
e22	.357	.023	15.660	***	
e23	2.798	.218	12.820	***	
e24	.975	.321	3.043	.002	
e25	2.344	.165	14.212	***	
e26	.740	.044	16.792	***	
e27	.349	.024	14.267	***	
e28	1.398	.085	16.533	***	
e29	.493	.030	16.654	***	
e30	.850	.052	16.435	***	
e31	.389	.029	13.457	***	

Squared Multiple Correlations: (Group number 1 - Stage 3 model)

	Estimate
relatedness	.265
competence	.356
autonomy	.239
dispositional_optimism	.692
perceived_control	.525
world_beliefs	.265
SRWNE	.000
somatic_amplifica	.000
Psych well_being	.891
SELF_ACC	.590

	Estimate
PURPOSE	.270
P_GROW	.222
POS_REL	.249
MASTERY	.538
AUTON	.188
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710
OPTIM3	.544
OPTIM2	.428
OPTIM1	.546
CONTR1	.336
CONTR2	.502
CONTR3	.619
WORLD1	.409
WORLD2	.732
WORLD3	.697
WORLD4	.654
SAT9	.671
SAT8	.648
SAT7	.429
SAT6	.358
SAT5	.432
SAT4	.342
SAT1	.433
SAT2	.340
SAT3	.467

Modification Indices (Group number 1 - Stage 3 model)

Covariances: (Group number 1 - Stage 3 model)

	M.I.	Par Change
z2 <--> z3	67.430	.131
z1 <--> z3	137.784	.184
z1 <--> z2	72.567	.189
z7 <--> MASC_POS	43.379	-1.864
z7 <--> z2	66.115	-.227
z7 <--> z1	58.053	-.208
e28 <--> z3	43.188	.169
e2 <--> z2	78.702	.299
e2 <--> e6	57.996	.383

	M.I.	Par Change
e3 <--> e4	45.645	.264

Variances: (Group number 1 - Stage 3 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 3 model)

			M.I.	Par Change
relatedness	<---	autonomy	93.703	.348
competence	<---	relatedness	46.106	.420
competence	<---	autonomy	49.589	.360
autonomy	<---	relatedness	94.200	.588
autonomy	<---	competence	41.351	.266
SRWNE	<---	competence	93.397	-.500
SRWNE	<---	autonomy	74.940	-.542
SRWNE	<---	dispositional_optimism	110.762	-.713
SRWNE	<---	perceived_control	88.371	-.700
SRWNE	<---	world_beliefs	55.316	-.404
POS_REL	<---	relatedness	44.647	.666
POS_REL	<---	SAT9	43.947	.310
POS_REL	<---	SAT8	45.227	.328
IDENTREG	<---	dispositional_optimism	41.540	.290
IDENTREG	<---	Psych well_being	48.398	.445
IDENTREG	<---	P_GROW	44.783	.208
IDENTREG	<---	MASTERY	42.047	.185
IDENTREG	<---	AUTON	45.517	.175
EXTREG	<---	autonomy	47.984	-.285
EXTREG	<---	dispositional_optimism	42.176	-.289
EXTREG	<---	Psych well_being	49.106	-.442
EXTREG	<---	MASTERY	43.137	-.185
SAT6	<---	SAT2	58.259	.273
SAT2	<---	SAT6	69.953	.285
SAT3	<---	relatedness	52.837	.499
SAT3	<---	SAT9	42.570	.210
SAT3	<---	SAT8	51.596	.241
SAT3	<---	SAT4	64.966	.201

Minimization History (Stage 3 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.502	9999.000	9636.463	0	9999.000
1	e	12		-.221	2.471	6051.181	19	.633
2	e*	1		-.630	2.024	3649.913	5	.732
3	e	2		-.005	.819	2977.283	5	.670
4	e	1		-.009	1.221	2418.399	5	.831
5	e	0	347.675		.995	2246.516	6	.906

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
6	e	0	2393.277		.693	2197.076	1	.980
7	e	0	1980.414		.453	2192.933	1	.476
8	e	0	3742.058		.129	2189.088	1	1.058
9	e	0	2737.411		.248	2188.576	1	.818
10	e	0	2735.497		.030	2188.461	1	.990
11	e	0	2736.517		.001	2188.461	1	1.000

Stage 4 model (Stage 4 model)

Notes for Model (Stage 4 model)

Computation of degrees of freedom (Stage 4 model)

Number of distinct sample moments:	595
Number of distinct parameters to be estimated:	114
Degrees of freedom (595 - 114):	481

Result (Stage 4 model)

Minimum was achieved
Chi-square = 2036.107
Degrees of freedom = 481
Probability level = .000

Group number 1 (Group number 1 - Stage 4 model)

Estimates (Group number 1 - Stage 4 model)

Scalar Estimates (Group number 1 - Stage 4 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 4 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.031	.004	7.375	***	am
competence	<---	MASC_POS	.055	.005	9.951	***	cm
autonomy	<---	FEM_POS	.016	.005	3.422	***	af
competence	<---	FEM_POS	.013	.005	2.492	.013	cf
relatedness	<---	FEM_POS	.030	.004	8.286	***	rf
autonomy	<---	TRAUMA	-.191	.040	-4.714	***	at
competence	<---	TRAUMA	-.147	.046	-3.215	.001	ct
relatedness	<---	TRAUMA	-.163	.029	-5.641	***	rt
relatedness	<---	MASC_POS	.015	.003	5.133	***	rm
world_beliefs	<---	MASC_POS	-.011	.005	-2.034	.042	wb_m
world_beliefs	<---	FEM_POS	-.009	.005	-1.739	.082	wb_f
perceived_control	<---	MASC_POS	-.009	.004	-1.947	.052	pc_m

			Estimate	S.E.	C.R.	P	Label
perceived_control	<---	FEM_POS	-.004	.004	-1.062	.288	pc_f
perceived_control	<---	TRAUMA	.044	.034	1.294	.195	pc_t
world_beliefs	<---	autonomy	.174	.062	2.804	.005	wb_a
dispositional_optimism	<---	MASC_POS	-.009	.004	-2.081	.037	do_m
dispositional_optimism	<---	FEM_POS	-.006	.004	-1.384	.166	do_f
dispositional_optimism	<---	TRAUMA	-.007	.034	-.194	.846	do_t
perceived_control	<---	autonomy	.238	.052	4.592	***	pc_a
dispositional_optimism	<---	autonomy	.302	.051	5.872	***	do_a
perceived_control	<---	competence	.494	.064	7.674	***	pc_c
perceived_control	<---	relatedness	-.012	.055	-.220	.826	pc_r
world_beliefs	<---	competence	.446	.065	6.805	***	wb_c
world_beliefs	<---	relatedness	.157	.071	2.211	.027	wb_r
dispositional_optimism	<---	competence	.493	.058	8.459	***	do_c
dispositional_optimism	<---	relatedness	.305	.057	5.356	***	do_r
world_beliefs	<---	TRAUMA	-.021	.042	-.484	.628	wb_t
SRWNE	<---	MASC_POS	-.001	.008	-.126	.899	sm
SRWNE	<---	FEM_POS	.025	.006	3.949	***	sf
SRWNE	<---	TRAUMA	-.183	.050	-3.648	***	st
SRWNE	<---	autonomy	-.312	.112	-2.777	.005	sa
SRWNE	<---	competence	-.265	.177	-1.500	.134	sc
SRWNE	<---	relatedness	-.076	.102	-.742	.458	sr
SRWNE	<---	world_beliefs	-.090	.063	-1.420	.155	s_wb
SRWNE	<---	perceived_control	-.065	.133	-.489	.625	s_pc
SRWNE	<---	dispositional_optimism	-.084	.173	-.484	.628	s_do
somatic_amplifica	<---	MASC_POS	.000				
somatic_amplifica	<---	FEM_POS	.000				
somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				
somatic_amplifica	<---	relatedness	.000				
somatic_amplifica	<---	world_beliefs	.000				
somatic_amplifica	<---	perceived_control	.000				
somatic_amplifica	<---	dispositional_optimism	.000				
somatic_amplifica	<---	SRWNE	.000				
Psych well_being	<---	MASC_POS	-.005	.003	-1.518	.129	pwb_m
Psych well_being	<---	autonomy	.258	.052	4.923	***	pwb_a
Psych well_being	<---	competence	.316	.080	3.942	***	pwb_c
Psych well_being	<---	world_beliefs	-.028	.024	-1.165	.244	pwb_wb
Psych well_being	<---	perceived_control	-.004	.053	-.069	.945	pwb_pc
Psych well_being	<---	TRAUMA	-.003	.021	-.169	.866	pwb_t
Psych well_being	<---	relatedness	.026	.039	.678	.497	pwb_r
Psych well_being	<---	dispositional_optimism	.164	.069	2.387	.017	pwb_do
Psych well_being	<---	SRWNE	.017	.019	.874	.382	pwb_s
Psych well_being	<---	somatic_amplifica	.000				

		Estimate	S.E.	C.R.	P	Label
Psych well_being	<--- FEM_POS	.001	.003	.363	.717	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.124	.101	11.089	***	
SAT1	<--- autonomy	1.153	.097	11.849	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	.933	.079	11.885	***	
SAT6	<--- competence	1.021	.091	11.235	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.509	.099	15.283	***	
SAT9	<--- relatedness	1.601	.104	15.349	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.049	.047	22.251	***	
WORLD2	<--- world_beliefs	.916	.040	22.727	***	
WORLD1	<--- world_beliefs	.778	.048	16.099	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.039	.086	12.011	***	
CONTR3	<--- perceived_control	1.389	.112	12.433	***	
OPTIM1	<--- dispositional_optimism	1.000				
OPTIM2	<--- dispositional_optimism	.943	.065	14.404	***	
OPTIM3	<--- dispositional_optimism	1.247	.077	16.301	***	
EXTREG	<--- SRWNE	1.000				
IDENTREG	<--- SRWNE	.657	.033	19.817	***	
SOMATIC2	<--- somatic_amplifica	1.000				
SOMATIC3	<--- somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<--- somatic_amplifica	.803	.097	8.317	***	
AUTON	<--- Psych well_being	1.000				
MASTERY	<--- Psych well_being	1.537	.154	10.012	***	
POS_REL	<--- Psych well_being	1.654	.195	8.472	***	
P_GROW	<--- Psych well_being	.903	.111	8.162	***	
PURPOSE	<--- Psych well_being	1.348	.157	8.609	***	
SELF_ACC	<--- Psych well_being	1.805	.178	10.165	***	
INTROREG	<--- SRWNE	1.162	.043	27.049	***	

Standardized Regression Weights: (Group number 1 - Stage 4 model)

		Estimate
autonomy	<--- MASC_POS	.360
competence	<--- MASC_POS	.538
autonomy	<--- FEM_POS	.158
competence	<--- FEM_POS	.113
relatedness	<--- FEM_POS	.365
autonomy	<--- TRAUMA	-.219
competence	<--- TRAUMA	-.145
relatedness	<--- TRAUMA	-.234
relatedness	<--- MASC_POS	.214

			Estimate
world_beliefs	<---	MASC_POS	-.117
world_beliefs	<---	FEM_POS	-.081
perceived_control	<---	MASC_POS	-.119
perceived_control	<---	FEM_POS	-.052
perceived_control	<---	TRAUMA	.061
world_beliefs	<---	autonomy	.161
dispositional_optimism	<---	MASC_POS	-.116
dispositional_optimism	<---	FEM_POS	-.062
dispositional_optimism	<---	TRAUMA	-.008
perceived_control	<---	autonomy	.286
dispositional_optimism	<---	autonomy	.336
perceived_control	<---	competence	.692
perceived_control	<---	relatedness	-.012
world_beliefs	<---	competence	.481
world_beliefs	<---	relatedness	.117
dispositional_optimism	<---	competence	.640
dispositional_optimism	<---	relatedness	.272
world_beliefs	<---	TRAUMA	-.022
SRWNE	<---	MASC_POS	-.008
SRWNE	<---	FEM_POS	.187
SRWNE	<---	TRAUMA	-.160
SRWNE	<---	autonomy	-.237
SRWNE	<---	competence	-.234
SRWNE	<---	relatedness	-.046
SRWNE	<---	world_beliefs	-.074
SRWNE	<---	perceived_control	-.041
SRWNE	<---	dispositional_optimism	-.057
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Psych well_being	<---	MASC_POS	-.091
Psych well_being	<---	autonomy	.419
Psych well_being	<---	competence	.598
Psych well_being	<---	world_beliefs	-.050
Psych well_being	<---	perceived_control	-.005
Psych well_being	<---	TRAUMA	-.007
Psych well_being	<---	relatedness	.034

			Estimate
Psych well_being	<---	dispositional_optimism	.239
Psych well_being	<---	SRWNE	.036
Psych well_being	<---	somatic_amplifica	.000
Psych well_being	<---	FEM_POS	.015
SAT3	<---	autonomy	.670
SAT2	<---	autonomy	.595
SAT1	<---	autonomy	.664
SAT4	<---	competence	.577
SAT5	<---	competence	.660
SAT6	<---	competence	.605
SAT7	<---	relatedness	.655
SAT8	<---	relatedness	.806
SAT9	<---	relatedness	.819
WORLD4	<---	world_beliefs	.808
WORLD3	<---	world_beliefs	.836
WORLD2	<---	world_beliefs	.855
WORLD1	<---	world_beliefs	.639
CONTR1	<---	perceived_control	.579
CONTR2	<---	perceived_control	.706
CONTR3	<---	perceived_control	.789
OPTIM1	<---	dispositional_optimism	.741
OPTIM2	<---	dispositional_optimism	.647
OPTIM3	<---	dispositional_optimism	.741
EXTREG	<---	SRWNE	.845
IDENTREG	<---	SRWNE	.697
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
AUTON	<---	Psych well_being	.434
MASTERY	<---	Psych well_being	.733
POS_REL	<---	Psych well_being	.502
P_GROW	<---	Psych well_being	.470
PURPOSE	<---	Psych well_being	.518
SELF_ACC	<---	Psych well_being	.767
INTROREG	<---	SRWNE	.972

Covariances: (Group number 1 - Stage 4 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS <--> FEM_POS	7.803	2.108	3.701	***	
MASC_POS <--> TRAUMA	-.473	.244	-1.941	.052	
FEM_POS <--> TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 4 model)

	Estimate
MASC_POS <--> FEM_POS	.152
MASC_POS <--> TRAUMA	-.079
FEM_POS <--> TRAUMA	.004

Variances: (Group number 1 - Stage 4 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.348	.047	7.448	***	
z2	.397	.061	6.482	***	
z3	.213	.026	8.141	***	
z4	.388	.036	10.658	***	
z5	.149	.026	5.828	***	
z6	.113	.020	5.753	***	
z7	.610	.051	11.898	***	
z8	1.055	.212	4.977	***	
z9	.019	.008	2.502	.012	
e3	.557	.045	12.408	***	
e2	1.046	.074	14.080	***	
e1	.767	.061	12.575	***	
e4	1.230	.080	15.342	***	
e5	.694	.049	14.083	***	
e6	1.107	.074	14.990	***	
e7	.387	.026	14.702	***	
e8	.357	.035	10.249	***	
e9	.364	.038	9.616	***	
e13	.280	.022	12.991	***	
e12	.249	.021	11.894	***	
e11	.163	.015	11.016	***	
e10	.463	.029	15.832	***	
e16	.368	.038	9.600	***	
e15	.340	.027	12.544	***	
e14	.622	.041	15.050	***	
e17	.299	.023	12.885	***	
e18	.451	.030	14.799	***	
e19	.464	.036	12.878	***	
e20	.315	.027	11.651	***	
e21	.061	.027	2.246	.025	
e22	.358	.022	15.922	***	
e23	2.798	.218	12.820	***	
e24	.975	.321	3.043	.002	
e25	2.344	.165	14.212	***	

	Estimate	S.E.	C.R.	P	Label
e26	.740	.044	16.791	***	
e27	.349	.024	14.273	***	
e28	1.392	.084	16.519	***	
e29	.494	.030	16.660	***	
e30	.852	.052	16.445	***	
e31	.390	.029	13.471	***	

Squared Multiple Correlations: (Group number 1 - Stage 4 model)

	Estimate
relatedness	.265
competence	.354
autonomy	.232
dispositional_optimism	.691
perceived_control	.525
world_beliefs	.264
SRWNE	.223
somatic_amplifica	.000
Psych well_being	.890
SELF_ACC	.589
PURPOSE	.268
P_GROW	.221
POS_REL	.252
MASTERY	.537
AUTON	.188
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.486
INTROREG	.946
EXTREG	.714
OPTIM3	.550
OPTIM2	.418
OPTIM1	.549
CONTR1	.335
CONTR2	.499
CONTR3	.622
WORLD1	.408
WORLD2	.731
WORLD3	.700
WORLD4	.653
SAT9	.671
SAT8	.649
SAT7	.429
SAT6	.367

	Estimate
SAT5	.435
SAT4	.333
SAT1	.440
SAT2	.354
SAT3	.448

Modification Indices (Group number 1 - Stage 4 model)

Covariances: (Group number 1 - Stage 4 model)

	M.I.	Par Change
z2 <--> z3	67.592	.130
z1 <--> z3	135.767	.179
z1 <--> z2	72.132	.183
e28 <--> z3	43.238	.169
e2 <--> z2	79.522	.295
e2 <--> e6	55.502	.371
e3 <--> e4	48.064	.274

Variances: (Group number 1 - Stage 4 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 4 model)

			M.I.	Par Change
relatedness	<---	autonomy	93.683	.354
competence	<---	relatedness	46.221	.416
competence	<---	autonomy	50.023	.364
autonomy	<---	relatedness	92.830	.572
autonomy	<---	competence	41.320	.263
POS_REL	<---	relatedness	44.362	.663
POS_REL	<---	SAT9	43.494	.307
POS_REL	<---	SAT8	44.739	.325
IDENTREG	<---	dispositional_optimism	46.745	.308
IDENTREG	<---	Psych well_being	54.863	.476
IDENTREG	<---	P_GROW	47.480	.215
IDENTREG	<---	MASTERY	47.278	.197
IDENTREG	<---	AUTON	48.571	.182
SAT6	<---	SAT2	57.346	.269
SAT2	<---	SAT6	67.794	.279
SAT3	<---	relatedness	54.797	.512
SAT3	<---	SAT9	43.906	.214
SAT3	<---	SAT8	52.708	.245
SAT3	<---	SAT4	68.252	.207

Minimization History (Stage 4 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.541	9999.000	9784.702	0	9999.000
1	e	15		-.243	2.649	6012.061	19	.575
2	e	3		-.176	1.405	3812.581	4	.927
3	e	1		-.542	.679	3213.113	4	.726
4	e	0	1024.418		.625	2684.949	5	.864
5	e	0	430.186		.873	2340.451	3	.000
6	e	0	592.352		1.391	2124.207	1	.872
7	e	1		-.063	.882	2065.553	1	.677
8	e	0	2835.034		.144	2046.146	5	.844
9	e	0	2216.936		.582	2037.721	1	.862
10	e	0	2621.248		.166	2036.146	1	1.028
11	e	0	2740.650		.047	2036.107	1	.987
12	e	0	2766.336		.001	2036.107	1	1.000

Stage 5 model (Stage 5 model)

Notes for Model (Stage 5 model)

Computation of degrees of freedom (Stage 5 model)

Number of distinct sample moments: 595
Number of distinct parameters to be estimated: 125
Degrees of freedom (595 - 125): 470

Result (Stage 5 model)

Minimum was achieved
Chi-square = 1970.626
Degrees of freedom = 470
Probability level = .000

Group number 1 (Group number 1 - Stage 5 model)

Estimates (Group number 1 - Stage 5 model)

Scalar Estimates (Group number 1 - Stage 5 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 5 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.031	.004	7.356	***	am
competence	<---	MASC_POS	.055	.005	9.939	***	cm
autonomy	<---	FEM_POS	.016	.005	3.409	***	af
competence	<---	FEM_POS	.013	.005	2.484	.013	cf
relatedness	<---	FEM_POS	.030	.004	8.279	***	rf

		Estimate	S.E.	C.R.	P	Label
autonomy	<--- TRAUMA	-.190	.040	-4.715	***	at
competence	<--- TRAUMA	-.147	.046	-3.218	.001	ct
relatedness	<--- TRAUMA	-.162	.029	-5.639	***	rt
relatedness	<--- MASC_POS	.015	.003	5.133	***	rm
world_beliefs	<--- MASC_POS	-.011	.005	-2.029	.042	wb_m
world_beliefs	<--- FEM_POS	-.009	.005	-1.730	.084	wb_f
perceived_control	<--- MASC_POS	-.009	.004	-1.939	.053	pc_m
perceived_control	<--- FEM_POS	-.004	.004	-1.053	.292	pc_f
perceived_control	<--- TRAUMA	.044	.034	1.298	.194	pc_t
world_beliefs	<--- autonomy	.175	.062	2.818	.005	wb_a
dispositional_optimism	<--- MASC_POS	-.009	.004	-2.077	.038	do_m
dispositional_optimism	<--- FEM_POS	-.006	.004	-1.378	.168	do_f
dispositional_optimism	<--- TRAUMA	-.007	.034	-.195	.846	do_t
perceived_control	<--- autonomy	.240	.052	4.605	***	pc_a
dispositional_optimism	<--- autonomy	.304	.052	5.884	***	do_a
perceived_control	<--- competence	.495	.065	7.670	***	pc_c
perceived_control	<--- relatedness	-.012	.055	-.226	.821	pc_r
world_beliefs	<--- competence	.446	.066	6.794	***	wb_c
world_beliefs	<--- relatedness	.157	.071	2.207	.027	wb_r
dispositional_optimism	<--- competence	.494	.058	8.454	***	do_c
dispositional_optimism	<--- relatedness	.307	.057	5.368	***	do_r
world_beliefs	<--- TRAUMA	-.021	.042	-.484	.628	wb_t
SRWNE	<--- MASC_POS	-.001	.008	-.117	.907	sm
SRWNE	<--- FEM_POS	.025	.006	3.961	***	sf
SRWNE	<--- TRAUMA	-.183	.050	-3.631	***	st
SRWNE	<--- autonomy	-.319	.113	-2.808	.005	sa
SRWNE	<--- competence	-.266	.177	-1.498	.134	sc
SRWNE	<--- relatedness	-.078	.103	-.755	.450	sr
SRWNE	<--- world_beliefs	-.090	.064	-1.417	.157	s_wb
SRWNE	<--- perceived_control	-.065	.133	-.490	.624	s_pc
SRWNE	<--- dispositional_optimism	-.084	.173	-.483	.629	s_do
somatic_amplifica	<--- MASC_POS	-.007	.013	-.587	.557	sa_m
somatic_amplifica	<--- FEM_POS	.027	.011	2.548	.011	sa_f
somatic_amplifica	<--- TRAUMA	.113	.084	1.345	.179	sa_t
somatic_amplifica	<--- autonomy	-.069	.187	-.370	.711	sa_a
somatic_amplifica	<--- competence	-.013	.291	-.044	.965	sa_c
somatic_amplifica	<--- relatedness	.283	.171	1.654	.098	sa_r
somatic_amplifica	<--- world_beliefs	-.051	.103	-.493	.622	sa_wb
somatic_amplifica	<--- perceived_control	-.066	.216	-.304	.761	sa_pc
somatic_amplifica	<--- dispositional_optimism	-.379	.284	-1.335	.182	sa_do
somatic_amplifica	<--- SRWNE	.241	.078	3.093	.002	sa_s
Psych well_being	<--- MASC_POS	-.005	.003	-1.495	.135	pwb_m
Psych well_being	<--- autonomy	.259	.053	4.921	***	pwb_a
Psych well_being	<--- competence	.316	.080	3.943	***	pwb_c

		Estimate	S.E.	C.R.	P	Label
Psych well_being	<--- world_beliefs	-.028	.024	-1.146	.252	pwb_wb
Psych well_being	<--- perceived_control	-.003	.053	-.058	.954	pwb_pc
Psych well_being	<--- TRAUMA	-.004	.021	-.191	.848	pwb_t
Psych well_being	<--- relatedness	.025	.039	.641	.522	pwb_r
Psych well_being	<--- dispositional_optimism	.165	.069	2.398	.017	pwb_do
Psych well_being	<--- SRWNE	.016	.019	.802	.422	pwb_s
Psych well_being	<--- somatic_amplifica	.004	.016	.270	.787	pwb_sa
Psych well_being	<--- FEM_POS	.001	.003	.325	.745	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.129	.102	11.102	***	
SAT1	<--- autonomy	1.156	.098	11.844	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	.935	.079	11.874	***	
SAT6	<--- competence	1.024	.091	11.229	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.513	.099	15.272	***	
SAT9	<--- relatedness	1.604	.105	15.336	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.049	.047	22.234	***	
WORLD2	<--- world_beliefs	.917	.040	22.736	***	
WORLD1	<--- world_beliefs	.778	.048	16.095	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.037	.086	12.018	***	
CONTR3	<--- perceived_control	1.388	.112	12.444	***	
OPTIM1	<--- dispositional_optimism	1.000				
OPTIM2	<--- dispositional_optimism	.938	.065	14.418	***	
OPTIM3	<--- dispositional_optimism	1.242	.076	16.351	***	
EXTREG	<--- SRWNE	1.000				
IDENTREG	<--- SRWNE	.655	.033	19.859	***	
SOMATIC2	<--- somatic_amplifica	1.000				
SOMATIC3	<--- somatic_amplifica	1.125	.127	8.862	***	
SOMATIC4	<--- somatic_amplifica	.721	.086	8.423	***	
AUTON	<--- Psych well_being	1.000				
MASTERY	<--- Psych well_being	1.538	.154	10.010	***	
POS_REL	<--- Psych well_being	1.656	.195	8.474	***	
P_GROW	<--- Psych well_being	.902	.111	8.156	***	
PURPOSE	<--- Psych well_being	1.349	.157	8.608	***	
SELF_ACC	<--- Psych well_being	1.805	.178	10.163	***	
INTROREG	<--- SRWNE	1.153	.042	27.304	***	

Standardized Regression Weights: (Group number 1 - Stage 5 model)

		Estimate
autonomy	<--- MASC_POS	.359
competence	<--- MASC_POS	.538

			Estimate
autonomy	<---	FEM_POS	.158
competence	<---	FEM_POS	.112
relatedness	<---	FEM_POS	.365
autonomy	<---	TRAUMA	-.219
competence	<---	TRAUMA	-.145
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.214
world_beliefs	<---	MASC_POS	-.117
world_beliefs	<---	FEM_POS	-.081
perceived_control	<---	MASC_POS	-.118
perceived_control	<---	FEM_POS	-.051
perceived_control	<---	TRAUMA	.061
world_beliefs	<---	autonomy	.162
dispositional_optimism	<---	MASC_POS	-.116
dispositional_optimism	<---	FEM_POS	-.061
dispositional_optimism	<---	TRAUMA	-.008
perceived_control	<---	autonomy	.287
dispositional_optimism	<---	autonomy	.337
perceived_control	<---	competence	.691
perceived_control	<---	relatedness	-.012
world_beliefs	<---	competence	.480
world_beliefs	<---	relatedness	.116
dispositional_optimism	<---	competence	.638
dispositional_optimism	<---	relatedness	.273
world_beliefs	<---	TRAUMA	-.022
SRWNE	<---	MASC_POS	-.008
SRWNE	<---	FEM_POS	.188
SRWNE	<---	TRAUMA	-.160
SRWNE	<---	autonomy	-.241
SRWNE	<---	competence	-.234
SRWNE	<---	relatedness	-.047
SRWNE	<---	world_beliefs	-.074
SRWNE	<---	perceived_control	-.041
SRWNE	<---	dispositional_optimism	-.057
somatic_amplifica	<---	MASC_POS	-.048
somatic_amplifica	<---	FEM_POS	.155
somatic_amplifica	<---	TRAUMA	.074
somatic_amplifica	<---	autonomy	-.039
somatic_amplifica	<---	competence	-.008
somatic_amplifica	<---	relatedness	.129
somatic_amplifica	<---	world_beliefs	-.031
somatic_amplifica	<---	perceived_control	-.031
somatic_amplifica	<---	dispositional_optimism	-.195
somatic_amplifica	<---	SRWNE	.182

			Estimate
Psych well_being	<---	MASC_POS	-.089
Psych well_being	<---	autonomy	.420
Psych well_being	<---	competence	.597
Psych well_being	<---	world_beliefs	-.049
Psych well_being	<---	perceived_control	-.004
Psych well_being	<---	TRAUMA	-.007
Psych well_being	<---	relatedness	.033
Psych well_being	<---	dispositional_optimism	.241
Psych well_being	<---	SRWNE	.034
Psych well_being	<---	somatic_amplifica	.012
Psych well_being	<---	FEM_POS	.014
SAT3	<---	autonomy	.668
SAT2	<---	autonomy	.596
SAT1	<---	autonomy	.664
SAT4	<---	competence	.576
SAT5	<---	competence	.661
SAT6	<---	competence	.606
SAT7	<---	relatedness	.654
SAT8	<---	relatedness	.806
SAT9	<---	relatedness	.820
WORLD4	<---	world_beliefs	.808
WORLD3	<---	world_beliefs	.836
WORLD2	<---	world_beliefs	.855
WORLD1	<---	world_beliefs	.639
CONTR1	<---	perceived_control	.579
CONTR2	<---	perceived_control	.706
CONTR3	<---	perceived_control	.789
OPTIM1	<---	dispositional_optimism	.744
OPTIM2	<---	dispositional_optimism	.645
OPTIM3	<---	dispositional_optimism	.740
EXTREG	<---	SRWNE	.848
IDENTREG	<---	SRWNE	.698
SOMATIC2	<---	somatic_amplifica	.600
SOMATIC3	<---	somatic_amplifica	.737
SOMATIC4	<---	somatic_amplifica	.489
AUTON	<---	Psych well_being	.434
MASTERY	<---	Psych well_being	.733
POS_REL	<---	Psych well_being	.503
P_GROW	<---	Psych well_being	.469
PURPOSE	<---	Psych well_being	.518
SELF_ACC	<---	Psych well_being	.767
INTROREG	<---	SRWNE	.969

Covariances: (Group number 1 - Stage 5 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS <--> FEM_POS	7.803	2.108	3.701	***	
MASC_POS <--> TRAUMA	-.473	.244	-1.941	.052	
FEM_POS <--> TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 5 model)

	Estimate
MASC_POS <--> FEM_POS	.152
MASC_POS <--> TRAUMA	-.079
FEM_POS <--> TRAUMA	.004

Variances: (Group number 1 - Stage 5 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.347	.047	7.435	***	
z2	.396	.061	6.473	***	
z3	.213	.026	8.126	***	
z4	.388	.036	10.657	***	
z5	.149	.026	5.833	***	
z6	.114	.020	5.770	***	
z7	.614	.051	11.938	***	
z8	1.150	.189	6.087	***	
z9	.019	.008	2.507	.012	
e3	.560	.045	12.456	***	
e2	1.043	.074	14.057	***	
e1	.766	.061	12.575	***	
e4	1.232	.080	15.350	***	
e5	.693	.049	14.069	***	
e6	1.106	.074	14.977	***	
e7	.388	.026	14.730	***	
e8	.356	.035	10.241	***	
e9	.363	.038	9.627	***	
e13	.280	.022	12.998	***	
e12	.250	.021	11.915	***	
e11	.163	.015	10.987	***	
e10	.463	.029	15.833	***	
e16	.368	.038	9.604	***	
e15	.340	.027	12.560	***	
e14	.622	.041	15.044	***	
e17	.297	.023	12.842	***	
e18	.453	.031	14.836	***	
e19	.466	.036	12.933	***	

	Estimate	S.E.	C.R.	P	Label
e20	.308	.027	11.556	***	
e21	.069	.027	2.581	.010	
e22	.357	.022	15.917	***	
e23	2.462	.203	12.099	***	
e24	1.475	.197	7.473	***	
e25	2.300	.156	14.713	***	
e26	.740	.044	16.791	***	
e27	.349	.024	14.274	***	
e28	1.391	.084	16.518	***	
e29	.494	.030	16.662	***	
e30	.852	.052	16.445	***	
e31	.390	.029	13.471	***	

Squared Multiple Correlations: (Group number 1 - Stage 5 model)

	Estimate
relatedness	.264
competence	.354
autonomy	.232
dispositional_optimism	.690
perceived_control	.525
world_beliefs	.264
SRWNE	.224
somatic_amplifica	.170
Psych well_being	.890
SELF_ACC	.589
PURPOSE	.268
P_GROW	.220
POS_REL	.253
MASTERY	.537
AUTON	.188
SOMATIC4	.239
SOMATIC3	.543
SOMATIC2	.360
IDENTREG	.488
INTROREG	.939
EXTREG	.719
OPTIM3	.548
OPTIM2	.416
OPTIM1	.553
CONTR1	.336
CONTR2	.498
CONTR3	.622
WORLD1	.408
WORLD2	.732

	Estimate
WORLD3	.699
WORLD4	.653
SAT9	.672
SAT8	.650
SAT7	.427
SAT6	.367
SAT5	.436
SAT4	.332
SAT1	.441
SAT2	.355
SAT3	.446

Modification Indices (Group number 1 - Stage 5 model)

Covariances: (Group number 1 - Stage 5 model)

	M.I.	Par Change
z2 <--> z3	67.581	.129
z1 <--> z3	135.487	.178
z1 <--> z2	72.195	.182
e28 <--> z3	42.922	.168
e2 <--> z2	79.645	.295
e2 <--> e6	55.233	.369
e3 <--> e4	48.402	.275

Variances: (Group number 1 - Stage 5 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 5 model)

			M.I.	Par Change
relatedness	<---	autonomy	93.624	.354
competence	<---	relatedness	46.237	.416
competence	<---	autonomy	50.138	.364
autonomy	<---	relatedness	92.689	.571
autonomy	<---	competence	41.377	.263
POS_REL	<---	relatedness	44.062	.662
POS_REL	<---	SAT9	43.442	.307
POS_REL	<---	SAT8	44.690	.325
IDENTREG	<---	dispositional_optimism	47.916	.311
IDENTREG	<---	Psych well_being	56.252	.482
IDENTREG	<---	P_GROW	47.642	.216
IDENTREG	<---	MASTERY	48.401	.199
IDENTREG	<---	AUTON	49.230	.183
IDENTREG	<---	OPTIM1	40.772	.195
SAT6	<---	SAT2	57.252	.269

		M.I.	Par Change
SAT2	<--- SAT6	67.523	.278
SAT3	<--- relatedness	55.234	.515
SAT3	<--- SAT9	44.084	.215
SAT3	<--- SAT8	52.928	.246
SAT3	<--- SAT4	68.666	.208

Minimization History (Stage 5 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.577	9999.000	9865.285	0	9999.000
1	e	15		-.241	2.699	6041.368	19	.550
2	e	3		-.169	1.423	3778.613	4	.927
3	e	1		-.617	.692	3184.420	4	.698
4	e	0	1239.277		.623	2633.269	5	.860
5	e	0	368.649		.932	2270.850	3	.000
6	e	0	662.484		1.206	2037.437	1	.970
7	e	0	1558.295		.599	1978.991	1	1.031
8	e	0	1906.998		.353	1971.245	1	1.024
9	e	0	2699.935		.132	1970.641	1	1.013
10	e	0	2743.144		.021	1970.626	1	1.005
11	e	0	2703.334		.001	1970.626	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Stage 1 model	71	3726.658	524	.000	7.112
Stage 2 model	83	3024.810	512	.000	5.908
Stage 3 model	104	2188.461	491	.000	4.457
Stage 4 model	114	2036.107	481	.000	4.233
Stage 5 model	125	1970.626	470	.000	4.193
Saturated model	595	.000	0		
Independence model	34	9435.225	561	.000	16.819

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Stage 1 model	.555	.649	.601	.571
Stage 2 model	.413	.729	.685	.627
Stage 3 model	.289	.812	.772	.670
Stage 4 model	.251	.826	.785	.668
Stage 5 model	.197	.832	.788	.657
Saturated model	.000	1.000		
Independence model	.709	.280	.236	.264

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Stage 1 model	.605	.577	.641	.614	.639
Stage 2 model	.679	.649	.718	.690	.717
Stage 3 model	.768	.735	.810	.781	.809
Stage 4 model	.784	.748	.826	.796	.825
Stage 5 model	.791	.751	.833	.798	.831
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Stage 1 model	.934	.565	.597
Stage 2 model	.913	.620	.654
Stage 3 model	.875	.672	.708
Stage 4 model	.857	.672	.707
Stage 5 model	.838	.663	.696
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Stage 1 model	3202.658	3012.634	3400.048
Stage 2 model	2512.810	2343.360	2689.679
Stage 3 model	1697.461	1556.154	1846.258
Stage 4 model	1555.107	1419.415	1698.303
Stage 5 model	1500.626	1367.285	1641.475
Saturated model	.000	.000	.000
Independence model	8874.225	8562.679	9192.181

FMIN

Model	FMIN	F0	LO 90	HI 90
Stage 1 model	6.170	5.302	4.988	5.629
Stage 2 model	5.008	4.160	3.880	4.453
Stage 3 model	3.623	2.810	2.576	3.057
Stage 4 model	3.371	2.575	2.350	2.812
Stage 5 model	3.263	2.484	2.264	2.718
Saturated model	.000	.000	.000	.000
Independence model	15.621	14.692	14.177	15.219

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Stage 1 model	.101	.098	.104	.000
Stage 2 model	.090	.087	.093	.000

Model	RMSEA	LO 90	HI 90	PCLOSE
Stage 3 model	.076	.072	.079	.000
Stage 4 model	.073	.070	.076	.000
Stage 5 model	.073	.069	.076	.000
Independence model	.162	.159	.165	.000

AIC

Model	AIC	BCC	BIC	CAIC
Stage 1 model	3868.658	3877.392	4181.429	4252.429
Stage 2 model	3190.810	3201.021	3556.444	3639.444
Stage 3 model	2396.461	2409.255	2854.604	2958.604
Stage 4 model	2264.107	2278.132	2766.303	2880.303
Stage 5 model	2220.626	2236.004	2771.279	2896.279
Saturated model	1190.000	1263.199	3811.111	4406.111
Independence model	9503.225	9507.408	9653.003	9687.003

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Stage 1 model	6.405	6.090	6.732	6.420
Stage 2 model	5.283	5.002	5.576	5.300
Stage 3 model	3.968	3.734	4.214	3.989
Stage 4 model	3.749	3.524	3.986	3.772
Stage 5 model	3.677	3.456	3.910	3.702
Saturated model	1.970	1.970	1.970	2.091
Independence model	15.734	15.218	16.260	15.741

HOELTER

Model	HOELTER .05	HOELTER .01
Stage 1 model	94	98
Stage 2 model	113	118
Stage 3 model	151	157
Stage 4 model	159	165
Stage 5 model	160	167
Independence model	40	42

Nested Model Comparisons

Assuming model Stage 2 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	12	701.848	.000	.074	.079	.072	.076

Assuming model Stage 3 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	33	1538.197	.000	.163	.172	.158	.168
Stage 2 model	21	836.349	.000	.089	.094	.086	.092

Assuming model Stage 4 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	43	1690.551	.000	.179	.189	.171	.182
Stage 2 model	31	988.703	.000	.105	.110	.100	.106
Stage 3 model	10	152.354	.000	.016	.017	.013	.014

Assuming model Stage 5 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	54	1756.032	.000	.186	.196	.174	.185
Stage 2 model	42	1054.184	.000	.112	.118	.102	.108
Stage 3 model	21	217.835	.000	.023	.024	.016	.017
Stage 4 model	11	65.481	.000	.007	.007	.002	.003

Execution time summary

Minimization: .120
Miscellaneous: 2.163
Bootstrap: .000
Total: 2.283

E:\Study 2\Multi-model Physical_wb.amw

Analysis Summary

Date and Time

Date: Tuesday, 28 November 2006
Time: 2:53:39 PM

Title

Multi-model physical_wb: Tuesday, 28 November 2006 02:53 PM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 605

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables
SAT3
SAT2
SAT1
SAT4
SAT5
SAT6
SAT7
SAT8
SAT9
WORLD4
WORLD3
WORLD2
WORLD1
CONTR3
CONTR2
CONTR1
OPTIM1
OPTIM2
OPTIM3
EXTREG
INTROREG
IDENTREG
SOMATIC2
SOMATIC3
SOMATIC4
VITAL1
VITAL2
VITAL3
Observed, exogenous variables
MASC_POS
FEM_POS
TRAUMA

Unobserved, endogenous variables
Physical well_being
autonomy
competence
relatedness
world_beliefs
perceived_control
dispositional_optimism
SRWNE
somatic_amplifica
Unobserved, exogenous variables
e3
e2
e1
e4
e5
e6
e7
e8
e9
e13
e12
e11
e10
e16
e15
e14
e17
e18
e19
e20
e21
e22
e23
e24
e25
e26
e27
e28
z1
z2
z3
z4
z5
z7
z6
z8
z9

Variable counts (Group number 1)

Number of variables in your model: 77

Number of observed variables:	31
Number of unobserved variables:	46
Number of exogenous variables:	40
Number of endogenous variables:	37

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	46	0	0	0	0	46
Labeled	57	0	0	0	0	57
Unlabeled	19	3	40	0	0	62
Total	122	3	40	0	0	165

Models

Stage 1 model (Stage 1 model)

Notes for Model (Stage 1 model)

Computation of degrees of freedom (Stage 1 model)

Number of distinct sample moments:	496
Number of distinct parameters to be estimated:	65
Degrees of freedom (496 - 65):	431

Result (Stage 1 model)

Minimum was achieved
Chi-square = 3162.034
Degrees of freedom = 431
Probability level = .000

Group number 1 (Group number 1 - Stage 1 model)

Estimates (Group number 1 - Stage 1 model)

Scalar Estimates (Group number 1 - Stage 1 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 1 model)

			Estimate	S.E.	C.R.	PLabel
autonomy	<---	MASC_POS	.000			
competence	<---	MASC_POS	.000			
autonomy	<---	FEM_POS	.000			
competence	<---	FEM_POS	.000			
relatedness	<---	FEM_POS	.000			
autonomy	<---	TRAUMA	.000			
competence	<---	TRAUMA	.000			
relatedness	<---	TRAUMA	.000			
relatedness	<---	MASC_POS	.000			
world_beliefs	<---	MASC_POS	.000			
world_beliefs	<---	FEM_POS	.000			
perceived_control	<---	MASC_POS	.000			
perceived_control	<---	FEM_POS	.000			
perceived_control	<---	TRAUMA	.000			
world_beliefs	<---	autonomy	.000			
dispositional_optimism	<---	MASC_POS	.000			
dispositional_optimism	<---	FEM_POS	.000			
dispositional_optimism	<---	TRAUMA	.000			

perceived_control	<---	autonomy	.000			
dispositional_optimism	<---	autonomy	.000			
perceived_control	<---	competence	.000			
perceived_control	<---	relatedness	.000			
world_beliefs	<---	competence	.000			
world_beliefs	<---	relatedness	.000			
dispositional_optimism	<---	competence	.000			
dispositional_optimism	<---	relatedness	.000			
world_beliefs	<---	TRAUMA	.000			
SRWNE	<---	MASC_POS	.000			
SRWNE	<---	FEM_POS	.000			
SRWNE	<---	TRAUMA	.000			
SRWNE	<---	autonomy	.000			
SRWNE	<---	competence	.000			
SRWNE	<---	relatedness	.000			
SRWNE	<---	world_beliefs	.000			
SRWNE	<---	perceived_control	.000			
SRWNE	<---	dispositional_optimism	.000			
somatic_amplifica	<---	MASC_POS	.000			
somatic_amplifica	<---	FEM_POS	.000			
somatic_amplifica	<---	TRAUMA	.000			
somatic_amplifica	<---	autonomy	.000			
somatic_amplifica	<---	competence	.000			
somatic_amplifica	<---	relatedness	.000			
somatic_amplifica	<---	world_beliefs	.000			
somatic_amplifica	<---	perceived_control	.000			
somatic_amplifica	<---	dispositional_optimism	.000			
somatic_amplifica	<---	SRWNE	.000			
Physical well_being	<---	MASC_POS	.071	.006	11.008	***pwb_m
Physical well_being	<---	autonomy	.000			
Physical well_being	<---	competence	.000			
Physical well_being	<---	world_beliefs	.000			
Physical well_being	<---	perceived_control	.000			
Physical well_being	<---	TRAUMA	-.209	.061	-3.398	***pwb_t
Physical well_being	<---	relatedness	.000			
Physical well_being	<---	dispositional_optimism	.000			
Physical well_being	<---	SRWNE	.000			
Physical well_being	<---	somatic_amplifica	.000			
Physical well_being	<---	FEM_POS	.034	.007	4.630	***pwb_f
SAT3	<---	autonomy	1.000			
SAT2	<---	autonomy	1.233	.127	9.709	***
SAT1	<---	autonomy	1.410	.153	9.232	***
SAT4	<---	competence	1.000			
SAT5	<---	competence	1.368	.174	7.856	***
SAT6	<---	competence	1.127	.120	9.413	***
SAT7	<---	relatedness	1.000			
SAT8	<---	relatedness	1.529	.105	14.533	***
SAT9	<---	relatedness	1.660	.115	14.405	***
WORLD4	<---	world_beliefs	1.000			

WORLD3	<---	world_beliefs	1.060	.046	22.917	***
WORLD2	<---	world_beliefs	.913	.040	23.076	***
WORLD1	<---	world_beliefs	.779	.047	16.512	***
CONTR1	<---	perceived_control	1.000			
CONTR2	<---	perceived_control	1.131	.096	11.746	***
CONTR3	<---	perceived_control	1.118	.091	12.311	***
OPTIM1	<---	dispositional_optimism	1.000			
OPTIM2	<---	dispositional_optimism	.904	.067	13.577	***
OPTIM3	<---	dispositional_optimism	1.270	.090	14.090	***
EXTREG	<---	SRWNE	1.000			
IDENTREG	<---	SRWNE	.664	.033	20.291	***
SOMATIC2	<---	somatic_amplifica	1.000			
SOMATIC3	<---	somatic_amplifica	1.463	.221	6.636	***
SOMATIC4	<---	somatic_amplifica	.803	.097	8.317	***
VITAL1	<---	Physical well_being	1.000			
VITAL2	<---	Physical well_being	1.003	.040	25.370	***
VITAL3	<---	Physical well_being	.953	.035	27.525	***
INTROREG	<---	SRWNE	1.182	.046	25.939	***

Standardized Regression Weights: (Group number 1 - Stage 1 model)

			Estimate
autonomy	<---	MASC_POS	.000
competence	<---	MASC_POS	.000
autonomy	<---	FEM_POS	.000
competence	<---	FEM_POS	.000
relatedness	<---	FEM_POS	.000
autonomy	<---	TRAUMA	.000
competence	<---	TRAUMA	.000
relatedness	<---	TRAUMA	.000
relatedness	<---	MASC_POS	.000
world_beliefs	<---	MASC_POS	.000
world_beliefs	<---	FEM_POS	.000
perceived_control	<---	MASC_POS	.000
perceived_control	<---	FEM_POS	.000
perceived_control	<---	TRAUMA	.000
world_beliefs	<---	autonomy	.000
dispositional_optimism	<---	MASC_POS	.000
dispositional_optimism	<---	FEM_POS	.000
dispositional_optimism	<---	TRAUMA	.000
perceived_control	<---	autonomy	.000
dispositional_optimism	<---	autonomy	.000
perceived_control	<---	competence	.000
perceived_control	<---	relatedness	.000
world_beliefs	<---	competence	.000
world_beliefs	<---	relatedness	.000
dispositional_optimism	<---	competence	.000
dispositional_optimism	<---	relatedness	.000
world_beliefs	<---	TRAUMA	.000
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000

SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Physical well_being	<---	MASC_POS	.431
Physical well_being	<---	autonomy	.000
Physical well_being	<---	competence	.000
Physical well_being	<---	world_beliefs	.000
Physical well_being	<---	perceived_control	.000
Physical well_being	<---	TRAUMA	-.127
Physical well_being	<---	relatedness	.000
Physical well_being	<---	dispositional_optimism	.000
Physical well_being	<---	SRWNE	.000
Physical well_being	<---	somatic_amplifica	.000
Physical well_being	<---	FEM_POS	.176
SAT3	<---	autonomy	.611
SAT2	<---	autonomy	.595
SAT1	<---	autonomy	.740
SAT4	<---	competence	.504
SAT5	<---	competence	.845
SAT6	<---	competence	.584
SAT7	<---	relatedness	.642
SAT8	<---	relatedness	.800
SAT9	<---	relatedness	.833
WORLD4	<---	world_beliefs	.814
WORLD3	<---	world_beliefs	.850
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.649
CONTR1	<---	perceived_control	.625
CONTR2	<---	perceived_control	.827
CONTR3	<---	perceived_control	.680
OPTIM1	<---	dispositional_optimism	.772
OPTIM2	<---	dispositional_optimism	.653
OPTIM3	<---	dispositional_optimism	.786
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836

SOMATIC4	<---	somatic_amplifica	.474
VITAL1	<---	Physical well_being	.854
VITAL2	<---	Physical well_being	.842
VITAL3	<---	Physical well_being	.906
INTROREG	<---	SRWNE	.981

Covariances: (Group number 1 - Stage 1 model)

			Estimate	S.E.	C.R.	PLabel
MASC_POS	<-->	FEM_POS	7.803	2.108	3.701	***
MASC_POS	<-->	TRAUMA	-.473	.244	-1.941	.052
FEM_POS	<-->	TRAUMA	.021	.209	.099	.921

Correlations: (Group number 1 - Stage 1 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 1 model)

	Estimate	S.E.	C.R.	PLabel
MASC_POS	59.581	3.428	17.378	***
FEM_POS	44.033	2.534	17.378	***
TRAUMA	.599	.034	17.378	***
z1	.377	.059	6.410	***
z2	.469	.088	5.317	***
z3	.279	.035	8.027	***
z4	.554	.048	11.628	***
z5	.374	.051	7.308	***
z6	.435	.046	9.369	***
z7	.809	.067	12.134	***
z8	1.055	.212	4.977	***
z9	1.183	.096	12.384	***
e3	.634	.052	12.123	***
e2	1.046	.083	12.616	***
e1	.620	.083	7.510	***
e4	1.376	.095	14.467	***
e5	.351	.101	3.487	***
e6	1.152	.094	12.233	***
e7	.398	.027	14.625	***
e8	.366	.040	9.084	***
e9	.338	.045	7.534	***
e13	.282	.022	12.853	***
e12	.239	.021	11.300	***
e11	.168	.015	10.974	***
e10	.463	.029	15.772	***
e16	.544	.046	11.901	***
e15	.221	.036	6.077	***
e14	.582	.043	13.596	***
e17	.295	.031	9.496	***
e18	.479	.035	13.753	***
e19	.433	.049	8.868	***

e20	.331	.029	11.242	***
e21	.044	.031	1.401	.161
e22	.357	.023	15.660	***
e23	2.798	.218	12.820	***
e24	.975	.321	3.043	.002
e25	2.344	.165	14.212	***
e26	.598	.049	12.130	***
e27	.663	.052	12.686	***
e28	.318	.036	8.732	***

Squared Multiple Correlations: (Group number 1 - Stage 1 model)

	Estimate
relatedness	.000
competence	.000
autonomy	.000
dispositional_optimism	.000
perceived_control	.000
world_beliefs	.000
SRWNE	.000
somatic_amplifica	.000
Physical well_being	.265
VITAL3	.821
VITAL2	.709
VITAL1	.729
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710
OPTIM3	.618
OPTIM2	.426
OPTIM1	.596
CONTR1	.391
CONTR2	.683
CONTR3	.462
WORLD1	.421
WORLD2	.733
WORLD3	.722
WORLD4	.663
SAT9	.694
SAT8	.641
SAT7	.412
SAT6	.341
SAT5	.714
SAT4	.254
SAT1	.547
SAT2	.354
SAT3	.373

Modification Indices (Group number 1 - Stage 1 model)

Covariances: (Group number 1 - Stage 1 model)

			M.I.	Par Change
z3	<-->	FEM_POS	63.886	1.239
z2	<-->	MASC_POS	104.665	2.469
z2	<-->	z3	120.957	.203
z1	<-->	MASC_POS	40.454	1.442
z1	<-->	z3	176.716	.230
z1	<-->	z2	130.234	.265
z6	<-->	MASC_POS	63.073	1.819
z6	<-->	z3	158.415	.220
z6	<-->	z2	163.774	.301
z6	<-->	z1	159.132	.279
z5	<-->	MASC_POS	49.749	1.505
z5	<-->	z3	41.047	.104
z5	<-->	z2	94.493	.213
z5	<-->	z1	80.296	.184
z5	<-->	z6	153.798	.258
z4	<-->	z3	54.761	.138
z4	<-->	z2	75.694	.218
z4	<-->	z1	56.978	.178
z4	<-->	z6	103.065	.241
z4	<-->	z5	57.218	.168
z7	<-->	MASC_POS	43.379	-1.864
z7	<-->	z2	68.357	-.240
z7	<-->	z1	62.733	-.216
z7	<-->	z6	74.038	-.237
z7	<-->	z5	49.636	-.181
z7	<-->	z4	45.323	-.198
z9	<-->	z3	53.685	.201
z9	<-->	z2	71.048	.311
z9	<-->	z1	70.200	.290
z9	<-->	z6	126.087	.393
z9	<-->	z5	47.504	.225
z9	<-->	z4	51.884	.269
e20	<-->	z1	42.363	-.117
e19	<-->	z5	40.124	.143
e16	<-->	z2	59.797	.200
e16	<-->	z6	53.528	.180
e6	<-->	z6	42.124	.224
e2	<-->	z2	51.990	.256
e2	<-->	z6	51.509	.242
e2	<-->	e19	41.214	.236
e2	<-->	e6	48.219	.361
e3	<-->	MASC_POS	76.316	2.373
e3	<-->	z3	79.617	.185
e3	<-->	z2	62.302	.220
e3	<-->	e4	54.472	.322

Variances: (Group number 1 - Stage 1 model)

M.I. Par Change

Regression Weights: (Group number 1 - Stage 1 model)

			M.I.	Par Change
relatedness	<---	FEM_POS	77.249	.031
relatedness	<---	MASC_POS	40.781	.020
relatedness	<---	competence	120.957	.433
relatedness	<---	autonomy	176.716	.611
competence	<---	MASC_POS	119.711	.045
competence	<---	relatedness	120.957	.727
competence	<---	autonomy	130.234	.704
autonomy	<---	MASC_POS	52.892	.028
autonomy	<---	relatedness	176.716	.826
autonomy	<---	competence	130.234	.566
dispositional_optimism	<---	MASC_POS	79.665	.035
dispositional_optimism	<---	relatedness	158.415	.790
dispositional_optimism	<---	competence	163.774	.641
dispositional_optimism	<---	autonomy	159.132	.739
dispositional_optimism	<---	perceived_control	153.798	.690
dispositional_optimism	<---	world_beliefs	103.065	.436
perceived_control	<---	MASC_POS	55.913	.027
perceived_control	<---	relatedness	41.047	.374
perceived_control	<---	competence	94.493	.454
perceived_control	<---	autonomy	80.296	.489
perceived_control	<---	dispositional_optimism	153.798	.593
perceived_control	<---	world_beliefs	57.218	.302
world_beliefs	<---	relatedness	54.761	.495
world_beliefs	<---	competence	75.694	.465
world_beliefs	<---	autonomy	56.978	.472
world_beliefs	<---	dispositional_optimism	103.065	.555
world_beliefs	<---	perceived_control	57.218	.449
SRWNE	<---	competence	68.357	-.512
SRWNE	<---	autonomy	62.733	-.573
SRWNE	<---	dispositional_optimism	74.038	-.545
SRWNE	<---	perceived_control	49.636	-.484
SRWNE	<---	world_beliefs	45.323	-.357
Physical well_being	<---	relatedness	53.685	.721
Physical well_being	<---	competence	71.048	.663
Physical well_being	<---	autonomy	70.200	.770
Physical well_being	<---	dispositional_optimism	126.087	.903
Physical well_being	<---	perceived_control	47.504	.601
Physical well_being	<---	world_beliefs	51.884	.485
IDENTREG	<---	VITAL3	40.988	.119
EXTREG	<---	autonomy	42.363	-.309
OPTIM3	<---	perceived_control	40.124	.384
OPTIM3	<---	SAT2	46.069	.175
OPTIM2	<---	MASC_POS	41.074	.025
OPTIM2	<---	Physical well_being	43.720	.167
OPTIM2	<---	VITAL3	47.911	.159

OPTIM1	<---	SAT7	54.201	.237
CONTR3	<---	competence	59.797	.428
CONTR3	<---	dispositional_optimism	53.528	.414
CONTR3	<---	Physical well_being	55.522	.205
CONTR3	<---	VITAL3	56.154	.187
CONTR3	<---	VITAL1	54.343	.165
CONTR3	<---	OPTIM3	48.105	.216
CONTR3	<---	OPTIM1	42.678	.254
CONTR3	<---	SAT6	52.197	.182
CONTR3	<---	SAT5	46.228	.204
SAT6	<---	dispositional_optimism	42.124	.514
SAT6	<---	OPTIM3	47.045	.300
SAT6	<---	SAT2	61.674	.287
SAT5	<---	SAT7	41.191	.288
SAT4	<---	Physical well_being	55.543	.306
SAT4	<---	VITAL3	50.758	.265
SAT4	<---	VITAL2	61.030	.257
SAT4	<---	SAT3	51.040	.353
SAT2	<---	competence	51.990	.546
SAT2	<---	dispositional_optimism	51.509	.556
SAT2	<---	EXTREG	46.515	-.291
SAT2	<---	OPTIM3	68.236	.353
SAT2	<---	WORLD4	40.851	.318
SAT2	<---	SAT6	80.782	.309
SAT3	<---	MASC_POS	91.846	.044
SAT3	<---	relatedness	79.617	.664
SAT3	<---	competence	62.302	.469
SAT3	<---	Physical well_being	55.415	.220
SAT3	<---	VITAL3	45.724	.181
SAT3	<---	VITAL2	57.643	.180
SAT3	<---	OPTIM2	54.876	.290
SAT3	<---	SAT9	61.214	.266
SAT3	<---	SAT8	76.459	.310
SAT3	<---	SAT5	49.257	.226
SAT3	<---	SAT4	92.404	.253

Minimization History (Stage 1 model)

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0e	18		-.482	9999.000	9602.292	0	9999.000
1e	10		-.274	2.951	5871.251	20	.604
2e	1		-.013	.881	4588.162	6	.941
3e	1		-.002	.458	4126.824	4	.876
4e	4		-.115	1.292	3517.123	7	.718
5e	0	448.799		1.055	3283.985	6	.764
6e	1		-.002	1.081	3238.009	2	.000
7e	1		-.009	.578	3174.818	5	.782
8e	0	424.615		.412	3163.247	8	.984
9e	0	447.442		.180	3162.094	1	1.045
10e	0	454.801		.043	3162.035	1	1.043

11e	0	446.199	.004	3162.034	1	1.005
12e	0	455.312	.000	3162.034	1	1.000

Stage 2 model (Stage 2 model)

Notes for Model (Stage 2 model)

Computation of degrees of freedom (Stage 2 model)

Number of distinct sample moments:	496
Number of distinct parameters to be estimated:	77
Degrees of freedom (496 - 77):	419

Result (Stage 2 model)

Minimum was achieved
Chi-square = 2595.791
Degrees of freedom = 419
Probability level = .000

Group number 1 (Group number 1 - Stage 2 model)

Estimates (Group number 1 - Stage 2 model)

Scalar Estimates (Group number 1 - Stage 2 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 2 model)

			Estimate	S.E.	C.R.	PLabel
autonomy	<---	MASC_POS	.040	.005	8.655	***am
competence	<---	MASC_POS	.053	.006	9.495	***cm
autonomy	<---	FEM_POS	.021	.005	4.100	***af
competence	<---	FEM_POS	.014	.005	2.647	.008cf
relatedness	<---	FEM_POS	.029	.004	8.242	***rf
autonomy	<---	TRAUMA	-.200	.044	-4.555	***at
competence	<---	TRAUMA	-.133	.045	-2.959	.003ct
relatedness	<---	TRAUMA	-.161	.029	-5.633	***rt
relatedness	<---	MASC_POS	.015	.003	5.127	***rm
world_beliefs	<---	MASC_POS	.000			
world_beliefs	<---	FEM_POS	.000			
perceived_control	<---	MASC_POS	.000			
perceived_control	<---	FEM_POS	.000			
perceived_control	<---	TRAUMA	.000			
world_beliefs	<---	autonomy	.000			
dispositional_optimism	<---	MASC_POS	.000			
dispositional_optimism	<---	FEM_POS	.000			
dispositional_optimism	<---	TRAUMA	.000			
perceived_control	<---	autonomy	.000			
dispositional_optimism	<---	autonomy	.000			
perceived_control	<---	competence	.000			
perceived_control	<---	relatedness	.000			
world_beliefs	<---	competence	.000			
world_beliefs	<---	relatedness	.000			
dispositional_optimism	<---	competence	.000			
dispositional_optimism	<---	relatedness	.000			
world_beliefs	<---	TRAUMA	.000			
SRWNE	<---	MASC_POS	.000			

SRWNE	<---	FEM_POS	.000				
SRWNE	<---	TRAUMA	.000				
SRWNE	<---	autonomy	.000				
SRWNE	<---	competence	.000				
SRWNE	<---	relatedness	.000				
SRWNE	<---	world_beliefs	.000				
SRWNE	<---	perceived_control	.000				
SRWNE	<---	dispositional_optimism	.000				
somatic_amplifica	<---	MASC_POS	.000				
somatic_amplifica	<---	FEM_POS	.000				
somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				
somatic_amplifica	<---	relatedness	.000				
somatic_amplifica	<---	world_beliefs	.000				
somatic_amplifica	<---	perceived_control	.000				
somatic_amplifica	<---	dispositional_optimism	.000				
somatic_amplifica	<---	SRWNE	.000				
Physical well_being	<---	MASC_POS	.014	.008	1.734	.083	pwb_m
Physical well_being	<---	autonomy	.385	.084	4.582	***	pwb_a
Physical well_being	<---	competence	.669	.095	7.076	***	pwb_c
Physical well_being	<---	world_beliefs	.000				
Physical well_being	<---	perceived_control	.000				
Physical well_being	<---	TRAUMA	.020	.061	.333	.739	pwb_t
Physical well_being	<---	relatedness	.398	.104	3.805	***	pwb_r
Physical well_being	<---	dispositional_optimism	.000				
Physical well_being	<---	SRWNE	.000				
Physical well_being	<---	somatic_amplifica	.000				
Physical well_being	<---	FEM_POS	.005	.007	.622	.534	pwb_f
SAT3	<---	autonomy	1.000				
SAT2	<---	autonomy	.882	.088	10.018	***	
SAT1	<---	autonomy	.942	.086	10.948	***	
SAT4	<---	competence	1.000				
SAT5	<---	competence	1.046	.091	11.542	***	
SAT6	<---	competence	.982	.094	10.474	***	
SAT7	<---	relatedness	1.000				
SAT8	<---	relatedness	1.526	.101	15.116	***	
SAT9	<---	relatedness	1.621	.107	15.171	***	
WORLD4	<---	world_beliefs	1.000				
WORLD3	<---	world_beliefs	1.060	.046	22.917	***	
WORLD2	<---	world_beliefs	.913	.040	23.076	***	
WORLD1	<---	world_beliefs	.779	.047	16.512	***	
CONTR1	<---	perceived_control	1.000				
CONTR2	<---	perceived_control	1.131	.096	11.746	***	
CONTR3	<---	perceived_control	1.118	.091	12.311	***	
OPTIM1	<---	dispositional_optimism	1.000				
OPTIM2	<---	dispositional_optimism	.904	.067	13.577	***	
OPTIM3	<---	dispositional_optimism	1.270	.090	14.090	***	
EXTREG	<---	SRWNE	1.000				

IDENTREG	<---	SRWNE	.664	.033	20.291	***
SOMATIC2	<---	somatic_amplifica	1.000			
SOMATIC3	<---	somatic_amplifica	1.463	.221	6.636	***
SOMATIC4	<---	somatic_amplifica	.803	.097	8.317	***
VITAL1	<---	Physical well_being	1.000			
VITAL2	<---	Physical well_being	.999	.042	24.005	***
VITAL3	<---	Physical well_being	.963	.036	26.668	***
INTROREG	<---	SRWNE	1.182	.046	25.939	***

Standardized Regression Weights: (Group number 1 - Stage 2 model)

			Estimate
autonomy	<---	MASC_POS	.401
competence	<---	MASC_POS	.511
autonomy	<---	FEM_POS	.183
competence	<---	FEM_POS	.116
relatedness	<---	FEM_POS	.364
autonomy	<---	TRAUMA	-.202
competence	<---	TRAUMA	-.129
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.214
world_beliefs	<---	MASC_POS	.000
world_beliefs	<---	FEM_POS	.000
perceived_control	<---	MASC_POS	.000
perceived_control	<---	FEM_POS	.000
perceived_control	<---	TRAUMA	.000
world_beliefs	<---	autonomy	.000
dispositional_optimism	<---	MASC_POS	.000
dispositional_optimism	<---	FEM_POS	.000
dispositional_optimism	<---	TRAUMA	.000
perceived_control	<---	autonomy	.000
dispositional_optimism	<---	autonomy	.000
perceived_control	<---	competence	.000
perceived_control	<---	relatedness	.000
world_beliefs	<---	competence	.000
world_beliefs	<---	relatedness	.000
dispositional_optimism	<---	competence	.000
dispositional_optimism	<---	relatedness	.000
world_beliefs	<---	TRAUMA	.000
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000
SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000

somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Physical well_being	<---	MASC_POS	.089
Physical well_being	<---	autonomy	.243
Physical well_being	<---	competence	.441
Physical well_being	<---	world_beliefs	.000
Physical well_being	<---	perceived_control	.000
Physical well_being	<---	TRAUMA	.013
Physical well_being	<---	relatedness	.175
Physical well_being	<---	dispositional_optimism	.000
Physical well_being	<---	SRWNE	.000
Physical well_being	<---	somatic_amplifica	.000
Physical well_being	<---	FEM_POS	.025
SAT3	<---	autonomy	.761
SAT2	<---	autonomy	.530
SAT1	<---	autonomy	.615
SAT4	<---	competence	.588
SAT5	<---	competence	.754
SAT6	<---	competence	.594
SAT7	<---	relatedness	.649
SAT8	<---	relatedness	.807
SAT9	<---	relatedness	.822
WORLD4	<---	world_beliefs	.814
WORLD3	<---	world_beliefs	.850
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.649
CONTR1	<---	perceived_control	.625
CONTR2	<---	perceived_control	.827
CONTR3	<---	perceived_control	.680
OPTIM1	<---	dispositional_optimism	.772
OPTIM2	<---	dispositional_optimism	.653
OPTIM3	<---	dispositional_optimism	.786
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
VITAL1	<---	Physical well_being	.841
VITAL2	<---	Physical well_being	.825
VITAL3	<---	Physical well_being	.906
INTROREG	<---	SRWNE	.981

Covariances: (Group number 1 - Stage 2 model)

			Estimate	S.E.	C.R.	PLabel
MASC_POS	<-->	FEM_POS	7.803	2.108	3.701	***
MASC_POS	<-->	TRAUMA	-.473	.244	-1.941	.052
FEM_POS	<-->	TRAUMA	.021	.209	.099	.921

Correlations: (Group number 1 - Stage 2 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 2 model)

	Estimate	S.E.	C.R.	PLabel
MASC_POS	59.581	3.428	17.378	***
FEM_POS	44.033	2.534	17.378	***
TRAUMA	.599	.034	17.378	***
z1	.427	.055	7.732	***
z2	.435	.066	6.540	***
z3	.210	.026	8.050	***
z4	.554	.048	11.628	***
z5	.374	.051	7.308	***
z6	.435	.046	9.369	***
z7	.809	.067	12.134	***
z8	1.055	.212	4.977	***
z9	.753	.073	10.332	***
e3	.426	.051	8.423	***
e2	1.163	.079	14.805	***
e1	.851	.065	13.173	***
e4	1.206	.084	14.306	***
e5	.531	.055	9.701	***
e6	1.131	.080	14.213	***
e7	.392	.027	14.771	***
e8	.355	.035	10.031	***
e9	.359	.038	9.330	***
e13	.282	.022	12.853	***
e12	.239	.021	11.300	***
e11	.168	.015	10.974	***
e10	.463	.029	15.772	***
e16	.544	.046	11.901	***
e15	.221	.036	6.077	***
e14	.582	.043	13.596	***
e17	.295	.031	9.496	***
e18	.479	.035	13.753	***
e19	.433	.049	8.868	***
e20	.331	.029	11.242	***
e21	.044	.031	1.401	.161
e22	.357	.023	15.660	***
e23	2.798	.218	12.820	***
e24	.975	.321	3.043	.002
e25	2.344	.165	14.212	***
e26	.608	.048	12.582	***
e27	.685	.052	13.200	***
e28	.296	.034	8.649	***

Squared Multiple Correlations: (Group number 1 - Stage 2 model)

	Estimate
relatedness	.264
competence	.319
autonomy	.270
dispositional_optimism	.000
perceived_control	.000
world_beliefs	.000
SRWNE	.000
somatic_amplifica	.000
Physical well_being	.486
VITAL3	.821
VITAL2	.681
VITAL1	.707
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710
OPTIM3	.618
OPTIM2	.426
OPTIM1	.596
CONTR1	.391
CONTR2	.683
CONTR3	.462
WORLD1	.421
WORLD2	.733
WORLD3	.722
WORLD4	.663
SAT9	.676
SAT8	.651
SAT7	.421
SAT6	.353
SAT5	.568
SAT4	.346
SAT1	.379
SAT2	.281
SAT3	.579

Modification Indices (Group number 1 - Stage 2 model)

Covariances: (Group number 1 - Stage 2 model)

			M.I.	Par Change
z2	<-->	z3	82.059	.157
z1	<-->	z3	150.476	.211
z1	<-->	z2	98.711	.270
z6	<-->	MASC_POS	63.073	1.819
z6	<-->	z3	93.258	.151
z6	<-->	z2	116.668	.267

z6	<-->	z1	95.432	.240
z5	<-->	MASC_POS	49.749	1.505
z5	<-->	z2	67.042	.188
z5	<-->	z1	45.640	.155
z5	<-->	z6	153.798	.258
z4	<-->	z2	61.437	.206
z4	<-->	z6	103.065	.241
z4	<-->	z5	57.218	.168
z7	<-->	MASC_POS	43.379	-1.864
z7	<-->	z6	74.038	-.237
z7	<-->	z5	49.636	-.181
z7	<-->	z4	45.323	-.198
e19	<-->	z5	40.124	.143
e16	<-->	z2	52.114	.197
e16	<-->	z6	53.528	.180
e2	<-->	z2	75.568	.330
e2	<-->	z6	40.465	.218
e2	<-->	e6	64.866	.426

Variances: (Group number 1 - Stage 2 model)

M.I. Par Change

Regression Weights: (Group number 1 - Stage 2 model)

			M.I.	Par Change
relatedness	<---	competence	47.582	.209
relatedness	<---	autonomy	95.511	.314
competence	<---	relatedness	56.182	.512
competence	<---	autonomy	62.666	.401
autonomy	<---	relatedness	103.022	.690
autonomy	<---	competence	57.249	.360
dispositional_optimism	<---	MASC_POS	79.665	.035
dispositional_optimism	<---	relatedness	174.425	.816
dispositional_optimism	<---	competence	220.185	.642
dispositional_optimism	<---	autonomy	200.286	.648
dispositional_optimism	<---	perceived_control	153.798	.690
dispositional_optimism	<---	world_beliefs	103.065	.436
perceived_control	<---	MASC_POS	55.913	.027
perceived_control	<---	relatedness	47.549	.397
perceived_control	<---	competence	127.245	.454
perceived_control	<---	autonomy	98.585	.424
perceived_control	<---	dispositional_optimism	153.798	.593
perceived_control	<---	world_beliefs	57.218	.302
world_beliefs	<---	relatedness	59.742	.509
world_beliefs	<---	competence	99.470	.460
world_beliefs	<---	autonomy	74.594	.422
world_beliefs	<---	dispositional_optimism	103.065	.555
world_beliefs	<---	perceived_control	57.218	.449
SRWNE	<---	competence	68.510	-.442
SRWNE	<---	autonomy	57.202	-.428
SRWNE	<---	dispositional_optimism	74.038	-.545
SRWNE	<---	perceived_control	49.636	-.484

SRWNE	<---	world_beliefs	45.323	-.357
IDENTREG	<---	VITAL3	44.019	.127
OPTIM3	<---	perceived_control	40.124	.384
OPTIM3	<---	SAT2	46.069	.175
OPTIM2	<---	MASC_POS	41.074	.025
OPTIM2	<---	competence	42.229	.285
OPTIM2	<---	Physical well_being	48.560	.185
OPTIM2	<---	VITAL3	51.454	.171
OPTIM2	<---	VITAL2	41.707	.135
OPTIM1	<---	relatedness	40.898	.347
OPTIM1	<---	SAT7	54.201	.237
CONTR3	<---	relatedness	42.010	.441
CONTR3	<---	competence	68.101	.394
CONTR3	<---	dispositional_optimism	53.528	.414
CONTR3	<---	Physical well_being	65.991	.234
CONTR3	<---	VITAL3	60.306	.200
CONTR3	<---	VITAL1	57.803	.175
CONTR3	<---	OPTIM3	48.105	.216
CONTR3	<---	OPTIM1	42.678	.254
CONTR3	<---	SAT6	52.197	.182
CONTR3	<---	SAT5	46.228	.204
SAT6	<---	SAT2	62.808	.289
SAT2	<---	dispositional_optimism	40.465	.502
SAT2	<---	EXTREG	49.832	-.306
SAT2	<---	OPTIM3	56.863	.328
SAT2	<---	SAT6	73.616	.301
SAT3	<---	relatedness	44.471	.453
SAT3	<---	SAT8	44.797	.220
SAT3	<---	SAT4	56.008	.183

Minimization History (Stage 2 model)

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0e	18		-.482	9999.000	9507.390	0	9999.000
1e	11		-.274	3.214	5494.483	20	.550
2e	1		-.043	.945	4039.215	5	.901
3e	0	1800.997		.465	3539.110	4	.893
4e	2		-.394	.784	3476.322	6	.000
5e	0	751.158		.909	2895.437	9	.836
6e	0	203.489		.935	2747.370	3	.000
7e	0	514.912		.887	2624.277	1	.953
8e	0	321.375		.364	2604.470	2	.000
9e	0	481.465		.185	2595.976	1	1.063
10e	0	452.583		.050	2595.792	1	1.026
11e	0	471.707		.003	2595.791	1	1.002
12e	0	463.033		.000	2595.791	1	1.000

Stage 3 model (Stage 3 model)

Notes for Model (Stage 3 model)

Computation of degrees of freedom (Stage 3 model)

Number of distinct sample moments: 496
Number of distinct parameters to be estimated: 98
Degrees of freedom (496 - 98): 398

Result (Stage 3 model)

Minimum was achieved
Chi-square = 1819.155
Degrees of freedom = 398
Probability level = .000

Group number 1 (Group number 1 - Stage 3 model)

Estimates (Group number 1 - Stage 3 model)

Scalar Estimates (Group number 1 - Stage 3 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 3 model)

			Estimate	S.E.	C.R.	PLabel
autonomy	<---	MASC_POS	.034	.004	7.686	***am
competence	<---	MASC_POS	.055	.006	9.914	***cm
autonomy	<---	FEM_POS	.017	.005	3.598	***af
competence	<---	FEM_POS	.014	.005	2.523	.012cf
relatedness	<---	FEM_POS	.029	.004	8.266	***rf
autonomy	<---	TRAUMA	-.195	.042	-4.691	***at
competence	<---	TRAUMA	-.147	.046	-3.198	.001ct
relatedness	<---	TRAUMA	-.162	.029	-5.637	***rt
relatedness	<---	MASC_POS	.015	.003	5.132	***rm
world_beliefs	<---	MASC_POS	-.011	.005	-2.071	.038wb_m
world_beliefs	<---	FEM_POS	-.009	.005	-1.766	.077wb_f
perceived_control	<---	MASC_POS	-.009	.005	-1.930	.054pc_m
perceived_control	<---	FEM_POS	-.005	.004	-1.144	.252pc_f
perceived_control	<---	TRAUMA	.044	.035	1.247	.212pc_t
world_beliefs	<---	autonomy	.165	.061	2.729	.006wb_a
dispositional_optimism	<---	MASC_POS	-.009	.004	-2.142	.032do_m
dispositional_optimism	<---	FEM_POS	-.006	.004	-1.424	.154do_f
dispositional_optimism	<---	TRAUMA	-.008	.033	-.229	.819do_t
perceived_control	<---	autonomy	.235	.052	4.524	***pc_a
dispositional_optimism	<---	autonomy	.284	.050	5.703	***do_a
perceived_control	<---	competence	.505	.066	7.690	***pc_c
perceived_control	<---	relatedness	-.018	.057	-.325	.745pc_r
world_beliefs	<---	competence	.447	.066	6.807	***wb_c
world_beliefs	<---	relatedness	.159	.071	2.230	.026wb_r
dispositional_optimism	<---	competence	.494	.059	8.436	***do_c
dispositional_optimism	<---	relatedness	.304	.057	5.331	***do_r
world_beliefs	<---	TRAUMA	-.022	.042	-.508	.612wb_t
SRWNE	<---	MASC_POS	.000			
SRWNE	<---	FEM_POS	.000			
SRWNE	<---	TRAUMA	.000			
SRWNE	<---	autonomy	.000			

SRWNE	<---	competence	.000				
SRWNE	<---	relatedness	.000				
SRWNE	<---	world_beliefs	.000				
SRWNE	<---	perceived_control	.000				
SRWNE	<---	dispositional_optimism	.000				
somatic_amplifica	<---	MASC_POS	.000				
somatic_amplifica	<---	FEM_POS	.000				
somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				
somatic_amplifica	<---	relatedness	.000				
somatic_amplifica	<---	world_beliefs	.000				
somatic_amplifica	<---	perceived_control	.000				
somatic_amplifica	<---	dispositional_optimism	.000				
somatic_amplifica	<---	SRWNE	.000				
Physical well_being	<---	MASC_POS	.010	.009	1.060	.289	pwb_m
Physical well_being	<---	autonomy	.300	.125	2.387	.017	pwb_a
Physical well_being	<---	competence	.586	.214	2.735	.006	pwb_c
Physical well_being	<---	world_beliefs	.044	.074	.598	.550	pwb_wb
Physical well_being	<---	perceived_control	-.157	.154	-1.014	.311	pwb_pc
Physical well_being	<---	TRAUMA	.064	.059	1.079	.280	pwb_t
Physical well_being	<---	relatedness	.150	.120	1.252	.211	pwb_r
Physical well_being	<---	dispositional_optimism	.609	.207	2.946	.003	pwb_do
Physical well_being	<---	SRWNE	.000				
Physical well_being	<---	somatic_amplifica	.000				
Physical well_being	<---	FEM_POS	.008	.007	1.047	.295	pwb_f
SAT3	<---	autonomy	1.000				
SAT2	<---	autonomy	1.055	.099	10.613	***	
SAT1	<---	autonomy	1.091	.096	11.316	***	
SAT4	<---	competence	1.000				
SAT5	<---	competence	.935	.080	11.686	***	
SAT6	<---	competence	1.012	.092	10.990	***	
SAT7	<---	relatedness	1.000				
SAT8	<---	relatedness	1.518	.100	15.237	***	
SAT9	<---	relatedness	1.610	.105	15.301	***	
WORLD4	<---	world_beliefs	1.000				
WORLD3	<---	world_beliefs	1.047	.047	22.193	***	
WORLD2	<---	world_beliefs	.918	.040	22.739	***	
WORLD1	<---	world_beliefs	.780	.048	16.137	***	
CONTR1	<---	perceived_control	1.000				
CONTR2	<---	perceived_control	1.032	.084	12.275	***	
CONTR3	<---	perceived_control	1.321	.106	12.517	***	
OPTIM1	<---	dispositional_optimism	1.000				
OPTIM2	<---	dispositional_optimism	.959	.067	14.325	***	
OPTIM3	<---	dispositional_optimism	1.257	.079	15.987	***	
EXTREG	<---	SRWNE	1.000				
IDENTREG	<---	SRWNE	.664	.033	20.291	***	

SOMATIC2	<---	somatic_amplifica	1.000			
SOMATIC3	<---	somatic_amplifica	1.463	.221	6.636	***
SOMATIC4	<---	somatic_amplifica	.803	.097	8.317	***
VITAL1	<---	Physical well_being	1.000			
VITAL2	<---	Physical well_being	.990	.041	23.960	***
VITAL3	<---	Physical well_being	.963	.035	27.194	***
INTROREG	<---	SRWNE	1.182	.046	25.939	***

Standardized Regression Weights: (Group number 1 - Stage 3 model)

			Estimate
autonomy	<---	MASC_POS	.373
competence	<---	MASC_POS	.539
autonomy	<---	FEM_POS	.166
competence	<---	FEM_POS	.114
relatedness	<---	FEM_POS	.364
autonomy	<---	TRAUMA	-.216
competence	<---	TRAUMA	-.145
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.214
world_beliefs	<---	MASC_POS	-.120
world_beliefs	<---	FEM_POS	-.083
perceived_control	<---	MASC_POS	-.119
perceived_control	<---	FEM_POS	-.056
perceived_control	<---	TRAUMA	.059
world_beliefs	<---	autonomy	.159
dispositional_optimism	<---	MASC_POS	-.121
dispositional_optimism	<---	FEM_POS	-.064
dispositional_optimism	<---	TRAUMA	-.010
perceived_control	<---	autonomy	.285
dispositional_optimism	<---	autonomy	.330
perceived_control	<---	competence	.689
perceived_control	<---	relatedness	-.017
world_beliefs	<---	competence	.483
world_beliefs	<---	relatedness	.118
dispositional_optimism	<---	competence	.646
dispositional_optimism	<---	relatedness	.271
world_beliefs	<---	TRAUMA	-.023
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000
SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000

somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Physical well_being	<---	MASC_POS	.063
Physical well_being	<---	autonomy	.172
Physical well_being	<---	competence	.380
Physical well_being	<---	world_beliefs	.027
Physical well_being	<---	perceived_control	-.074
Physical well_being	<---	TRAUMA	.041
Physical well_being	<---	relatedness	.066
Physical well_being	<---	dispositional_optimism	.301
Physical well_being	<---	SRWNE	.000
Physical well_being	<---	somatic_amplifica	.000
Physical well_being	<---	FEM_POS	.043
SAT3	<---	autonomy	.693
SAT2	<---	autonomy	.578
SAT1	<---	autonomy	.650
SAT4	<---	competence	.578
SAT5	<---	competence	.662
SAT6	<---	competence	.601
SAT7	<---	relatedness	.652
SAT8	<---	relatedness	.807
SAT9	<---	relatedness	.820
WORLD4	<---	world_beliefs	.808
WORLD3	<---	world_beliefs	.835
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.640
CONTR1	<---	perceived_control	.595
CONTR2	<---	perceived_control	.721
CONTR3	<---	perceived_control	.769
OPTIM1	<---	dispositional_optimism	.735
OPTIM2	<---	dispositional_optimism	.653
OPTIM3	<---	dispositional_optimism	.742
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
VITAL1	<---	Physical well_being	.843
VITAL2	<---	Physical well_being	.820
VITAL3	<---	Physical well_being	.908
INTROREG	<---	SRWNE	.981

Covariances: (Group number 1 - Stage 3 model)

			Estimate	S.E.	C.R.	PLabel
MASC_POS	<-->	FEM_POS	7.803	2.108	3.701	***
MASC_POS	<-->	TRAUMA	-.473	.244	-1.941	.052
FEM_POS	<-->	TRAUMA	.021	.209	.099	.921

Correlations: (Group number 1 - Stage 3 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 3 model)

	Estimate	S.E.	C.R.	PLabel
MASC_POS	59.581	3.428	17.378	***
FEM_POS	44.033	2.534	17.378	***
TRAUMA	.599	.034	17.378	***
z1	.367	.049	7.451	***
z2	.397	.062	6.430	***
z3	.211	.026	8.101	***
z4	.388	.036	10.647	***
z5	.159	.027	5.944	***
z6	.111	.019	5.696	***
z7	.809	.067	12.134	***
z8	1.055	.212	4.977	***
z9	.632	.064	9.851	***
e3	.525	.047	11.150	***
e2	1.078	.077	14.055	***
e1	.791	.064	12.442	***
e4	1.228	.081	15.138	***
e5	.690	.050	13.777	***
e6	1.116	.075	14.836	***
e7	.389	.026	14.761	***
e8	.355	.035	10.216	***
e9	.362	.038	9.585	***
e13	.280	.022	12.995	***
e12	.251	.021	11.957	***
e11	.162	.015	10.948	***
e10	.462	.029	15.819	***
e16	.398	.039	10.173	***
e15	.326	.027	11.913	***
e14	.605	.041	14.736	***
e17	.306	.024	12.860	***
e18	.444	.030	14.579	***
e19	.464	.037	12.668	***
e20	.331	.029	11.242	***
e21	.044	.031	1.401	.161
e22	.357	.023	15.660	***
e23	2.798	.218	12.820	***
e24	.975	.321	3.043	.002
e25	2.344	.165	14.212	***
e26	.599	.047	12.711	***
e27	.705	.052	13.578	***
e28	.290	.033	8.823	***

Squared Multiple Correlations: (Group number 1 - Stage 3 model)

	Estimate

relatedness	.264
competence	.355
autonomy	.244
dispositional_optimism	.692
perceived_control	.520
world_beliefs	.264
SRWNE	.000
somatic_amplifica	.000
Physical well_being	.570
VITAL3	.825
VITAL2	.672
VITAL1	.711
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710
OPTIM3	.551
OPTIM2	.427
OPTIM1	.541
CONTR1	.354
CONTR2	.520
CONTR3	.592
WORLD1	.410
WORLD2	.733
WORLD3	.697
WORLD4	.653
SAT9	.673
SAT8	.651
SAT7	.425
SAT6	.361
SAT5	.438
SAT4	.334
SAT1	.423
SAT2	.334
SAT3	.481

Modification Indices (Group number 1 - Stage 3 model)

Covariances: (Group number 1 - Stage 3 model)

			M.I.	Par Change
z2	<-->	z3	70.074	.134
z1	<-->	z3	143.115	.191
z1	<-->	z2	78.938	.205
z7	<-->	MASC_POS	43.379	-1.864
z7	<-->	z2	57.162	-.213
z7	<-->	z1	52.992	-.204
e2	<-->	z2	84.039	.314
e2	<-->	e6	58.182	.388
e3	<-->	e4	49.596	.279

Variances: (Group number 1 - Stage 3 model)

M.I.	Par Change

Regression Weights: (Group number 1 - Stage 3 model)

			M.I.	Par Change
relatedness	<---	autonomy	95.341	.347
competence	<---	relatedness	47.976	.434
competence	<---	autonomy	52.729	.373
autonomy	<---	relatedness	97.970	.620
autonomy	<---	competence	44.193	.289
SRWNE	<---	competence	85.196	-.488
SRWNE	<---	autonomy	70.206	-.523
SRWNE	<---	dispositional_optimism	101.441	-.687
SRWNE	<---	perceived_control	85.583	-.674
SRWNE	<---	world_beliefs	54.553	-.402
IDENTREG	<---	dispositional_optimism	40.055	.287
IDENTREG	<---	VITAL3	44.146	.128
EXTREG	<---	autonomy	43.604	-.270
SAT6	<---	SAT2	58.109	.273
SAT2	<---	EXTREG	40.646	-.271
SAT2	<---	SAT6	70.179	.288
SAT3	<---	relatedness	52.108	.500
SAT3	<---	SAT9	42.410	.210
SAT3	<---	SAT8	51.564	.242
SAT3	<---	SAT4	67.498	.206

Minimization History (Stage 3 model)

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0e	18		-.473	9999.000	9388.802	0	9999.000
1e*	12		-.278	3.834	5347.229	20	.404
2e	3		-.079	1.100	3398.694	6	.851
3e	2		-.386	.682	2884.379	5	.625
4e	1		-.076	.656	2359.950	5	.827
5e	0	5870.089		1.058	1976.132	6	.785
6e	0	702.791		.650	1947.629	6	.000
7e	0	316.554		.838	1839.781	1	1.010
8e	0	307.403		.521	1821.515	1	.966
9e	0	494.427		.134	1819.200	1	1.036
10e	0	461.339		.044	1819.156	1	1.013
11e	0	467.136		.001	1819.155	1	1.001
12e	0	452.575		.000	1819.155	1	.994

Stage 4 model (Stage 4 model)

Notes for Model (Stage 4 model)

Computation of degrees of freedom (Stage 4 model)

Number of distinct sample moments:	496
Number of distinct parameters to be estimated:	108
Degrees of freedom (496 - 108):	388

Result (Stage 4 model)

Minimum was achieved
Chi-square = 1657.050
Degrees of freedom = 388
Probability level = .000

Group number 1 (Group number 1 - Stage 4 model)

Estimates (Group number 1 - Stage 4 model)

Scalar Estimates (Group number 1 - Stage 4 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 4 model)

			Estimate	S.E.	C.R.	PLabel
autonomy	<---	MASC_POS	.032	.004	7.375	***am
competence	<---	MASC_POS	.054	.005	9.783	***cm
autonomy	<---	FEM_POS	.016	.005	3.418	***af
competence	<---	FEM_POS	.013	.005	2.419	.016cf
relatedness	<---	FEM_POS	.029	.004	8.262	***rf
autonomy	<---	TRAUMA	-.191	.041	-4.707	***at
competence	<---	TRAUMA	-.146	.045	-3.244	.001ct
relatedness	<---	TRAUMA	-.162	.029	-5.634	***rt
relatedness	<---	MASC_POS	.015	.003	5.133	***rm
world_beliefs	<---	MASC_POS	-.011	.005	-2.008	.045wb_m
world_beliefs	<---	FEM_POS	-.009	.005	-1.698	.090wb_f
perceived_control	<---	MASC_POS	-.008	.005	-1.863	.062pc_m
perceived_control	<---	FEM_POS	-.004	.004	-1.025	.305pc_f
perceived_control	<---	TRAUMA	.046	.035	1.306	.192pc_t
world_beliefs	<---	autonomy	.177	.062	2.848	.004wb_a
dispositional_optimism	<---	MASC_POS	-.009	.004	-2.105	.035do_m
dispositional_optimism	<---	FEM_POS	-.005	.004	-1.350	.177do_f
dispositional_optimism	<---	TRAUMA	-.006	.034	-.167	.867do_t
perceived_control	<---	autonomy	.249	.053	4.667	***pc_a
dispositional_optimism	<---	autonomy	.304	.052	5.906	***do_a
perceived_control	<---	competence	.508	.067	7.627	***pc_c
perceived_control	<---	relatedness	-.020	.057	-.356	.722pc_r
world_beliefs	<---	competence	.449	.067	6.725	***wb_c
world_beliefs	<---	relatedness	.157	.071	2.199	.028wb_r
dispositional_optimism	<---	competence	.499	.060	8.362	***do_c
dispositional_optimism	<---	relatedness	.303	.057	5.296	***do_r
world_beliefs	<---	TRAUMA	-.020	.042	-.473	.636wb_t
SRWNE	<---	MASC_POS	-.001	.008	-.092	.926sm
SRWNE	<---	FEM_POS	.025	.006	3.956	***sf
SRWNE	<---	TRAUMA	-.184	.050	-3.655	***st
SRWNE	<---	autonomy	-.314	.113	-2.768	.006sa
SRWNE	<---	competence	-.278	.178	-1.565	.118sc
SRWNE	<---	relatedness	-.076	.102	-.744	.457sr
SRWNE	<---	world_beliefs	-.089	.063	-1.402	.161s_wb
SRWNE	<---	perceived_control	-.056	.129	-.435	.664s_pc
SRWNE	<---	dispositional_optimism	-.083	.173	-.482	.630s_do
somatic_amplifica	<---	MASC_POS	.000			
somatic_amplifica	<---	FEM_POS	.000			

somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				
somatic_amplifica	<---	relatedness	.000				
somatic_amplifica	<---	world_beliefs	.000				
somatic_amplifica	<---	perceived_control	.000				
somatic_amplifica	<---	dispositional_optimism	.000				
somatic_amplifica	<---	SRWNE	.000				
Physical well_being	<---	MASC_POS	.011	.009	1.196	.232	pwb_m
Physical well_being	<---	autonomy	.385	.136	2.841	.004	pwb_a
Physical well_being	<---	competence	.648	.219	2.961	.003	pwb_c
Physical well_being	<---	world_beliefs	.068	.073	.931	.352	pwb_wb
Physical well_being	<---	perceived_control	-.137	.154	-.885	.376	pwb_pc
Physical well_being	<---	TRAUMA	.108	.061	1.774	.076	pwb_t
Physical well_being	<---	relatedness	.173	.118	1.457	.145	pwb_r
Physical well_being	<---	dispositional_optimism	.618	.202	3.059	.002	pwb_do
Physical well_being	<---	SRWNE	.239	.056	4.272	***	pwb_s
Physical well_being	<---	somatic_amplifica	.000				
Physical well_being	<---	FEM_POS	.003	.008	.359	.719	pwb_f
SAT3	<---	autonomy	1.000				
SAT2	<---	autonomy	1.126	.104	10.819	***	
SAT1	<---	autonomy	1.144	.100	11.409	***	
SAT4	<---	competence	1.000				
SAT5	<---	competence	.957	.083	11.577	***	
SAT6	<---	competence	1.050	.095	10.998	***	
SAT7	<---	relatedness	1.000				
SAT8	<---	relatedness	1.521	.100	15.227	***	
SAT9	<---	relatedness	1.612	.105	15.287	***	
WORLD4	<---	world_beliefs	1.000				
WORLD3	<---	world_beliefs	1.049	.047	22.233	***	
WORLD2	<---	world_beliefs	.917	.040	22.721	***	
WORLD1	<---	world_beliefs	.779	.048	16.112	***	
CONTR1	<---	perceived_control	1.000				
CONTR2	<---	perceived_control	1.030	.084	12.232	***	
CONTR3	<---	perceived_control	1.333	.106	12.523	***	
OPTIM1	<---	dispositional_optimism	1.000				
OPTIM2	<---	dispositional_optimism	.939	.066	14.208	***	
OPTIM3	<---	dispositional_optimism	1.259	.077	16.253	***	
EXTREG	<---	SRWNE	1.000				
IDENTREG	<---	SRWNE	.657	.033	19.843	***	
SOMATIC2	<---	somatic_amplifica	1.000				
SOMATIC3	<---	somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<---	somatic_amplifica	.803	.097	8.317	***	
VITAL1	<---	Physical well_being	1.000				
VITAL2	<---	Physical well_being	.988	.042	23.738	***	
VITAL3	<---	Physical well_being	.970	.036	27.286	***	
INTROREG	<---	SRWNE	1.160	.043	27.187	***	

Standardized Regression Weights: (Group number 1 - Stage 4 model)

			Estimate
autonomy	<---	MASC_POS	.361
competence	<---	MASC_POS	.537
autonomy	<---	FEM_POS	.158
competence	<---	FEM_POS	.109
relatedness	<---	FEM_POS	.364
autonomy	<---	TRAUMA	-.219
competence	<---	TRAUMA	-.147
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.214
world_beliefs	<---	MASC_POS	-.116
world_beliefs	<---	FEM_POS	-.079
perceived_control	<---	MASC_POS	-.114
perceived_control	<---	FEM_POS	-.050
perceived_control	<---	TRAUMA	.062
world_beliefs	<---	autonomy	.164
dispositional_optimism	<---	MASC_POS	-.117
dispositional_optimism	<---	FEM_POS	-.060
dispositional_optimism	<---	TRAUMA	-.007
perceived_control	<---	autonomy	.293
dispositional_optimism	<---	autonomy	.341
perceived_control	<---	competence	.684
perceived_control	<---	relatedness	-.019
world_beliefs	<---	competence	.477
world_beliefs	<---	relatedness	.116
dispositional_optimism	<---	competence	.639
dispositional_optimism	<---	relatedness	.269
world_beliefs	<---	TRAUMA	-.021
SRWNE	<---	MASC_POS	-.006
SRWNE	<---	FEM_POS	.187
SRWNE	<---	TRAUMA	-.161
SRWNE	<---	autonomy	-.239
SRWNE	<---	competence	-.242
SRWNE	<---	relatedness	-.046
SRWNE	<---	world_beliefs	-.072
SRWNE	<---	perceived_control	-.036
SRWNE	<---	dispositional_optimism	-.057
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Physical well_being	<---	MASC_POS	.070
Physical well_being	<---	autonomy	.215

Physical well_being	<---	competence	.413
Physical well_being	<---	world_beliefs	.041
Physical well_being	<---	perceived_control	-.065
Physical well_being	<---	TRAUMA	.069
Physical well_being	<---	relatedness	.076
Physical well_being	<---	dispositional_optimism	.308
Physical well_being	<---	SRWNE	.175
Physical well_being	<---	somatic_amplifica	.000
Physical well_being	<---	FEM_POS	.015
SAT3	<---	autonomy	.671
SAT2	<---	autonomy	.596
SAT1	<---	autonomy	.659
SAT4	<---	competence	.567
SAT5	<---	competence	.665
SAT6	<---	competence	.612
SAT7	<---	relatedness	.651
SAT8	<---	relatedness	.807
SAT9	<---	relatedness	.820
WORLD4	<---	world_beliefs	.808
WORLD3	<---	world_beliefs	.836
WORLD2	<---	world_beliefs	.855
WORLD1	<---	world_beliefs	.639
CONTR1	<---	perceived_control	.592
CONTR2	<---	perceived_control	.717
CONTR3	<---	perceived_control	.773
OPTIM1	<---	dispositional_optimism	.740
OPTIM2	<---	dispositional_optimism	.642
OPTIM3	<---	dispositional_optimism	.747
EXTREG	<---	SRWNE	.845
IDENTREG	<---	SRWNE	.698
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
VITAL1	<---	Physical well_being	.840
VITAL2	<---	Physical well_being	.815
VITAL3	<---	Physical well_being	.913
INTROREG	<---	SRWNE	.972

Covariances: (Group number 1 - Stage 4 model)

			Estimate	S.E.	C.R.	PLabel
MASC_POS	<-->	FEM_POS	7.803	2.108	3.701	***
MASC_POS	<-->	TRAUMA	-.473	.244	-1.941	.052
FEM_POS	<-->	TRAUMA	.021	.209	.099	.921

Correlations: (Group number 1 - Stage 4 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 4 model)

	Estimate	S.E.	C.R.	PLabel
MASC_POS	59.581	3.428	17.378	***
FEM_POS	44.033	2.534	17.378	***
TRAUMA	.599	.034	17.378	***
z1	.349	.048	7.322	***
z2	.385	.061	6.334	***
z3	.211	.026	8.091	***
z4	.388	.036	10.659	***
z5	.157	.026	5.930	***
z6	.113	.020	5.760	***
z7	.610	.051	11.891	***
z8	1.055	.212	4.977	***
z9	.599	.063	9.444	***
e3	.556	.046	12.001	***
e2	1.043	.076	13.786	***
e1	.774	.063	12.319	***
e4	1.251	.082	15.298	***
e5	.685	.050	13.756	***
e6	1.094	.074	14.718	***
e7	.390	.026	14.775	***
e8	.354	.035	10.192	***
e9	.362	.038	9.589	***
e13	.281	.022	13.016	***
e12	.249	.021	11.912	***
e11	.163	.015	11.015	***
e10	.462	.029	15.829	***
e16	.392	.039	10.064	***
e15	.330	.027	12.094	***
e14	.607	.041	14.791	***
e17	.301	.023	12.832	***
e18	.456	.031	14.803	***
e19	.454	.036	12.596	***
e20	.314	.027	11.699	***
e21	.062	.027	2.333	.020
e22	.357	.022	15.926	***
e23	2.798	.218	12.820	***
e24	.975	.321	3.043	.002
e25	2.344	.165	14.212	***
e26	.608	.047	12.864	***
e27	.720	.052	13.755	***
e28	.274	.032	8.478	***

Squared Multiple Correlations: (Group number 1 - Stage 4 model)

	Estimate
relatedness	.264
competence	.352
autonomy	.233
dispositional_optimism	.689
perceived_control	.522

world_beliefs	.262
SRWNE	.224
somatic_amplifica	.000
Physical well_being	.590
VITAL3	.834
VITAL2	.665
VITAL1	.706
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.488
INTROREG	.944
EXTREG	.715
OPTIM3	.559
OPTIM2	.412
OPTIM1	.547
CONTR1	.351
CONTR2	.514
CONTR3	.598
WORLD1	.409
WORLD2	.731
WORLD3	.699
WORLD4	.652
SAT9	.673
SAT8	.652
SAT7	.424
SAT6	.374
SAT5	.442
SAT4	.322
SAT1	.435
SAT2	.356
SAT3	.450

Modification Indices (Group number 1 - Stage 4 model)

Covariances: (Group number 1 - Stage 4 model)

			M.I.	Par Change
z2	<-->	z3	69.908	.131
z1	<-->	z3	139.673	.183
z1	<-->	z2	77.653	.193
e2	<-->	z2	85.760	.308
e2	<-->	e6	54.480	.369
e3	<-->	e4	52.506	.291

Variances: (Group number 1 - Stage 4 model)

M.I.	Par Change

Regression Weights: (Group number 1 - Stage 4 model)

			M.I.	Par Change
relatedness	<---	autonomy	95.340	.358
competence	<---	relatedness	47.874	.425
competence	<---	autonomy	53.175	.379

autonomy	<---	relatedness	95.638	.593
autonomy	<---	competence	43.954	.284
IDENTREG	<---	dispositional_optimism	44.684	.303
IDENTREG	<---	Physical well_being	44.828	.144
IDENTREG	<---	VITAL3	47.941	.134
IDENTREG	<---	OPTIM1	40.133	.193
SAT6	<---	SAT2	56.415	.267
SAT4	<---	SAT3	40.672	.303
SAT2	<---	SAT6	67.325	.279
SAT3	<---	relatedness	55.291	.520
SAT3	<---	SAT9	44.420	.217
SAT3	<---	SAT8	53.278	.248
SAT3	<---	SAT4	71.628	.214

Minimization History (Stage 4 model)

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0e	18		-.532	9999.000	9532.028	0	9999.000
1e	17		-.241	2.625	5558.029	19	.610
2e*	2		-.014	1.522	3254.103	4	.861
3e	0	2506.291		.455	2723.969	5	.921
4e	1		-.126	1.541	2321.465	4	.000
5e	1		-.022	.979	1815.291	9	.897
6e	0	382.148		.767	1693.292	5	.954
7e	0	418.507		.584	1660.813	1	1.107
8e	0	492.206		.266	1657.395	1	1.034
9e	0	510.327		.080	1657.055	1	1.028
10e	0	526.215		.017	1657.050	1	1.003
11e	0	526.203		.000	1657.050	1	1.000

Stage 5 model (Stage 5 model)

Notes for Model (Stage 5 model)

Computation of degrees of freedom (Stage 5 model)

Number of distinct sample moments:	496
Number of distinct parameters to be estimated:	119
Degrees of freedom (496 - 119):	377

Result (Stage 5 model)

Minimum was achieved
Chi-square = 1591.105
Degrees of freedom = 377
Probability level = .000

Group number 1 (Group number 1 - Stage 5 model)

Estimates (Group number 1 - Stage 5 model)

Scalar Estimates (Group number 1 - Stage 5 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 5 model)

			Estimate	S.E.	C.R.	PLabel
autonomy	<---	MASC_POS	.031	.004	7.351	***am

competence	<---	MASC_POS	.053	.005	9.769	***cm
autonomy	<---	FEM_POS	.016	.005	3.402	***af
competence	<---	FEM_POS	.013	.005	2.411	.016cf
relatedness	<---	FEM_POS	.029	.004	8.254	***rf
autonomy	<---	TRAUMA	-.190	.040	-4.708	***at
competence	<---	TRAUMA	-.146	.045	-3.247	.001ct
relatedness	<---	TRAUMA	-.161	.029	-5.632	***rt
relatedness	<---	MASC_POS	.015	.003	5.133	***rm
world_beliefs	<---	MASC_POS	-.011	.005	-2.001	.045wb_m
world_beliefs	<---	FEM_POS	-.009	.005	-1.687	.092wb_f
perceived_control	<---	MASC_POS	-.008	.005	-1.853	.064pc_m
perceived_control	<---	FEM_POS	-.004	.004	-1.014	.310pc_f
perceived_control	<---	TRAUMA	.046	.035	1.310	.190pc_t
world_beliefs	<---	autonomy	.178	.062	2.864	.004wb_a
dispositional_optimism	<---	MASC_POS	-.009	.004	-2.097	.036do_m
dispositional_optimism	<---	FEM_POS	-.005	.004	-1.341	.180do_f
dispositional_optimism	<---	TRAUMA	-.006	.034	-.168	.867do_t
perceived_control	<---	autonomy	.251	.054	4.682	***pc_a
dispositional_optimism	<---	autonomy	.307	.052	5.922	***do_a
perceived_control	<---	competence	.509	.067	7.621	***pc_c
perceived_control	<---	relatedness	-.021	.057	-.362	.717pc_r
world_beliefs	<---	competence	.449	.067	6.713	***wb_c
world_beliefs	<---	relatedness	.157	.072	2.194	.028wb_r
dispositional_optimism	<---	competence	.500	.060	8.356	***do_c
dispositional_optimism	<---	relatedness	.305	.057	5.307	***do_r
world_beliefs	<---	TRAUMA	-.020	.042	-.472	.637wb_t
SRWNE	<---	MASC_POS	-.001	.008	-.084	.933sm
SRWNE	<---	FEM_POS	.025	.006	3.967	***sf
SRWNE	<---	TRAUMA	-.184	.051	-3.638	***st
SRWNE	<---	autonomy	-.320	.114	-2.801	.005sa
SRWNE	<---	competence	-.279	.179	-1.564	.118sc
SRWNE	<---	relatedness	-.078	.103	-.757	.449sr
SRWNE	<---	world_beliefs	-.089	.064	-1.398	.162s_wb
SRWNE	<---	perceived_control	-.057	.130	-.437	.662s_pc
SRWNE	<---	dispositional_optimism	-.083	.173	-.479	.632s_do
somatic_amplifica	<---	MASC_POS	-.007	.012	-.571	.568sa_m
somatic_amplifica	<---	FEM_POS	.027	.011	2.551	.011sa_f
somatic_amplifica	<---	TRAUMA	.112	.083	1.339	.181sa_t
somatic_amplifica	<---	autonomy	-.070	.187	-.375	.708sa_a
somatic_amplifica	<---	competence	-.026	.290	-.088	.929sa_c
somatic_amplifica	<---	relatedness	.284	.170	1.674	.094sa_r
somatic_amplifica	<---	world_beliefs	-.049	.103	-.480	.631sa_wb
somatic_amplifica	<---	perceived_control	-.058	.209	-.277	.782sa_pc
somatic_amplifica	<---	dispositional_optimism	-.369	.281	-1.312	.189sa_do
somatic_amplifica	<---	SRWNE	.238	.078	3.069	.002sa_s
Physical well_being	<---	MASC_POS	.011	.009	1.201	.230pwb_m
Physical well_being	<---	autonomy	.387	.136	2.844	.004pwb_a
Physical well_being	<---	competence	.648	.219	2.962	.003pwb_c
Physical well_being	<---	world_beliefs	.069	.073	.937	.349pwb_wb

Physical well_being	<---	perceived_control	-.136	.154	-.880	.379 pwb_pc
Physical well_being	<---	TRAUMA	.109	.061	1.793	.073 pwb_t
Physical well_being	<---	relatedness	.177	.120	1.474	.141 pwb_r
Physical well_being	<---	dispositional_optimism	.612	.203	3.021	.003 pwb_do
Physical well_being	<---	SRWNE	.242	.057	4.248	*** pwb_s
Physical well_being	<---	somatic_amplifica	-.011	.048	-.241	.809 pwb_sa
Physical well_being	<---	FEM_POS	.003	.008	.395	.693 pwb_f
SAT3	<---	autonomy	1.000			
SAT2	<---	autonomy	1.132	.105	10.834	***
SAT1	<---	autonomy	1.148	.101	11.408	***
SAT4	<---	competence	1.000			
SAT5	<---	competence	.960	.083	11.563	***
SAT6	<---	competence	1.053	.096	10.990	***
SAT7	<---	relatedness	1.000			
SAT8	<---	relatedness	1.525	.100	15.213	***
SAT9	<---	relatedness	1.616	.106	15.272	***
WORLD4	<---	world_beliefs	1.000			
WORLD3	<---	world_beliefs	1.049	.047	22.218	***
WORLD2	<---	world_beliefs	.918	.040	22.729	***
WORLD1	<---	world_beliefs	.779	.048	16.107	***
CONTR1	<---	perceived_control	1.000			
CONTR2	<---	perceived_control	1.028	.084	12.237	***
CONTR3	<---	perceived_control	1.332	.106	12.534	***
OPTIM1	<---	dispositional_optimism	1.000			
OPTIM2	<---	dispositional_optimism	.934	.066	14.220	***
OPTIM3	<---	dispositional_optimism	1.254	.077	16.301	***
EXTREG	<---	SRWNE	1.000			
IDENTREG	<---	SRWNE	.656	.033	19.887	***
SOMATIC2	<---	somatic_amplifica	1.000			
SOMATIC3	<---	somatic_amplifica	1.137	.128	8.857	***
SOMATIC4	<---	somatic_amplifica	.727	.086	8.441	***
VITAL1	<---	Physical well_being	1.000			
VITAL2	<---	Physical well_being	.988	.042	23.738	***
VITAL3	<---	Physical well_being	.970	.036	27.299	***
INTROREG	<---	SRWNE	1.152	.042	27.443	***

Standardized Regression Weights: (Group number 1 - Stage 5 model)

			Estimate
autonomy	<---	MASC_POS	.361
competence	<---	MASC_POS	.537
autonomy	<---	FEM_POS	.158
competence	<---	FEM_POS	.109
relatedness	<---	FEM_POS	.364
autonomy	<---	TRAUMA	-.219
competence	<---	TRAUMA	-.147
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.214
world_beliefs	<---	MASC_POS	-.115
world_beliefs	<---	FEM_POS	-.079

perceived_control	<---	MASC_POS	-.113
perceived_control	<---	FEM_POS	-.049
perceived_control	<---	TRAUMA	.062
world_beliefs	<---	autonomy	.165
dispositional_optimism	<---	MASC_POS	-.117
dispositional_optimism	<---	FEM_POS	-.059
dispositional_optimism	<---	TRAUMA	-.007
perceived_control	<---	autonomy	.294
dispositional_optimism	<---	autonomy	.341
perceived_control	<---	competence	.683
perceived_control	<---	relatedness	-.019
world_beliefs	<---	competence	.476
world_beliefs	<---	relatedness	.116
dispositional_optimism	<---	competence	.637
dispositional_optimism	<---	relatedness	.269
world_beliefs	<---	TRAUMA	-.021
SRWNE	<---	MASC_POS	-.006
SRWNE	<---	FEM_POS	.188
SRWNE	<---	TRAUMA	-.160
SRWNE	<---	autonomy	-.242
SRWNE	<---	competence	-.242
SRWNE	<---	relatedness	-.047
SRWNE	<---	world_beliefs	-.072
SRWNE	<---	perceived_control	-.036
SRWNE	<---	dispositional_optimism	-.056
somatic_amplifica	<---	MASC_POS	-.047
somatic_amplifica	<---	FEM_POS	.154
somatic_amplifica	<---	TRAUMA	.074
somatic_amplifica	<---	autonomy	-.040
somatic_amplifica	<---	competence	-.017
somatic_amplifica	<---	relatedness	.130
somatic_amplifica	<---	world_beliefs	-.031
somatic_amplifica	<---	perceived_control	-.028
somatic_amplifica	<---	dispositional_optimism	-.190
somatic_amplifica	<---	SRWNE	.181
Physical well_being	<---	MASC_POS	.070
Physical well_being	<---	autonomy	.215
Physical well_being	<---	competence	.412
Physical well_being	<---	world_beliefs	.041
Physical well_being	<---	perceived_control	-.064
Physical well_being	<---	TRAUMA	.070
Physical well_being	<---	relatedness	.078
Physical well_being	<---	dispositional_optimism	.306
Physical well_being	<---	SRWNE	.178
Physical well_being	<---	somatic_amplifica	-.011
Physical well_being	<---	FEM_POS	.017
SAT3	<---	autonomy	.669
SAT2	<---	autonomy	.598
SAT1	<---	autonomy	.660
SAT4	<---	competence	.566

SAT5	<---	competence	.666
SAT6	<---	competence	.613
SAT7	<---	relatedness	.650
SAT8	<---	relatedness	.808
SAT9	<---	relatedness	.821
WORLD4	<---	world_beliefs	.807
WORLD3	<---	world_beliefs	.836
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.639
CONTR1	<---	perceived_control	.593
CONTR2	<---	perceived_control	.716
CONTR3	<---	perceived_control	.773
OPTIM1	<---	dispositional_optimism	.742
OPTIM2	<---	dispositional_optimism	.641
OPTIM3	<---	dispositional_optimism	.746
EXTREG	<---	SRWNE	.849
IDENTREG	<---	SRWNE	.699
SOMATIC2	<---	somatic_amplifica	.597
SOMATIC3	<---	somatic_amplifica	.740
SOMATIC4	<---	somatic_amplifica	.490
VITAL1	<---	Physical well_being	.841
VITAL2	<---	Physical well_being	.815
VITAL3	<---	Physical well_being	.913
INTROREG	<---	SRWNE	.968

Covariances: (Group number 1 - Stage 5 model)

			Estimate	S.E.	C.R.	PLabel
MASC_POS	<-->	FEM_POS	7.803	2.108	3.701	***
MASC_POS	<-->	TRAUMA	-.473	.244	-1.941	.052
FEM_POS	<-->	TRAUMA	.021	.209	.099	.921

Correlations: (Group number 1 - Stage 5 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 5 model)

	Estimate	S.E.	C.R.	PLabel
MASC_POS	59.581	3.428	17.378	***
FEM_POS	44.033	2.534	17.378	***
TRAUMA	.599	.034	17.378	***
z1	.347	.047	7.309	***
z2	.383	.061	6.324	***
z3	.210	.026	8.074	***
z4	.388	.036	10.659	***
z5	.157	.027	5.935	***
z6	.114	.020	5.777	***
z7	.613	.051	11.929	***
z8	1.137	.187	6.068	***
z9	.599	.063	9.455	***

e3	.559	.046	12.064	***
e2	1.039	.076	13.755	***
e1	.774	.063	12.317	***
e4	1.253	.082	15.308	***
e5	.684	.050	13.739	***
e6	1.092	.074	14.703	***
e7	.391	.026	14.805	***
e8	.353	.035	10.183	***
e9	.362	.038	9.603	***
e13	.281	.022	13.022	***
e12	.250	.021	11.930	***
e11	.162	.015	10.989	***
e10	.463	.029	15.831	***
e16	.392	.039	10.066	***
e15	.330	.027	12.114	***
e14	.607	.041	14.784	***
e17	.298	.023	12.787	***
e18	.458	.031	14.837	***
e19	.456	.036	12.653	***
e20	.308	.027	11.608	***
e21	.070	.026	2.671	.008
e22	.356	.022	15.920	***
e23	2.478	.203	12.212	***
e24	1.459	.198	7.359	***
e25	2.297	.156	14.701	***
e26	.607	.047	12.854	***
e27	.721	.052	13.762	***
e28	.275	.032	8.487	***

Squared Multiple Correlations: (Group number 1 - Stage 5 model)

	Estimate
relatedness	.264
competence	.352
autonomy	.233
dispositional_optimism	.689
perceived_control	.522
world_beliefs	.262
SRWNE	.225
somatic_amplifica	.170
Physical well_being	.590
VITAL3	.833
VITAL2	.664
VITAL1	.707
SOMATIC4	.240
SOMATIC3	.548
SOMATIC2	.356
IDENTREG	.489
INTROREG	.937
EXTREG	.720
OPTIM3	.557
OPTIM2	.410

OPTIM1	.550
CONTR1	.352
CONTR2	.513
CONTR3	.598
WORLD1	.409
WORLD2	.732
WORLD3	.699
WORLD4	.652
SAT9	.673
SAT8	.653
SAT7	.422
SAT6	.375
SAT5	.443
SAT4	.321
SAT1	.435
SAT2	.358
SAT3	.447

Modification Indices (Group number 1 - Stage 5 model)

Covariances: (Group number 1 - Stage 5 model)

			M.I.	Par Change
z2	<-->	z3	69.890	.131
z1	<-->	z3	139.324	.181
z1	<-->	z2	77.711	.192
e2	<-->	z2	85.918	.307
e2	<-->	e6	54.176	.367
e3	<-->	e4	52.874	.293

Variances: (Group number 1 - Stage 5 model)

M.I.	Par Change

Regression Weights: (Group number 1 - Stage 5 model)

			M.I.	Par Change
relatedness	<---	autonomy	95.278	.358
competence	<---	relatedness	47.889	.426
competence	<---	autonomy	53.314	.380
autonomy	<---	relatedness	95.454	.591
autonomy	<---	competence	44.017	.284
IDENTREG	<---	dispositional_optimism	45.779	.306
IDENTREG	<---	Physical well_being	45.600	.145
IDENTREG	<---	VITAL3	48.666	.135
IDENTREG	<---	OPTIM1	41.168	.196
SAT6	<---	SAT2	56.309	.267
SAT4	<---	SAT3	40.838	.304
SAT2	<---	SAT6	67.030	.278
SAT3	<---	relatedness	55.797	.524
SAT3	<---	SAT9	44.631	.218
SAT3	<---	SAT8	53.539	.249
SAT3	<---	SAT4	72.092	.214

Minimization History (Stage 5 model)

Iteration	Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0e	18		-.573	9999.000	9614.247	0	9999.000
1e	18		-.236	2.661	5620.652	19	.582
2e*	2		-.014	1.536	3163.901	4	.900
3e	0	2732.098		.470	2649.201	5	.895
4e	3		-.513	1.554	2270.522	4	.000
5e	0	652.021		.759	1812.054	9	.783
6e	0	430.603		1.089	1682.392	2	.000
7e	0	414.127		.725	1601.700	1	.914
8e	0	458.275		.301	1592.584	1	.872
9e	0	504.015		.124	1591.192	1	1.126
10e	0	513.983		.029	1591.106	1	1.054
11e	0	514.974		.003	1591.105	1	1.005
12e	0	514.982		.000	1591.105	1	1.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Stage 1 model	65	3162.034	431	.000	7.337
Stage 2 model	77	2595.791	419	.000	6.195
Stage 3 model	98	1819.155	398	.000	4.571
Stage 4 model	108	1657.050	388	.000	4.271
Stage 5 model	119	1591.105	377	.000	4.220
Saturated model	496	.000	0		
Independence model	31	9183.789	465	.000	19.750

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Stage 1 model	.611	.653	.601	.568
Stage 2 model	.451	.728	.678	.615
Stage 3 model	.312	.817	.773	.656
Stage 4 model	.273	.835	.789	.653
Stage 5 model	.213	.841	.791	.640
Saturated model	.000	1.000		
Independence model	.827	.287	.239	.269

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Stage 1 model	.656	.629	.688	.662	.687
Stage 2 model	.717	.686	.752	.723	.750
Stage 3 model	.802	.769	.838	.810	.837
Stage 4 model	.820	.784	.856	.826	.854
Stage 5 model	.827	.786	.862	.828	.861
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Stage 1 model	.927	.608	.637
Stage 2 model	.901	.646	.676
Stage 3 model	.856	.686	.716
Stage 4 model	.834	.684	.713
Stage 5 model	.811	.670	.698
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Stage 1 model	2731.034	2556.099	2913.361
Stage 2 model	2176.791	2019.747	2341.258
Stage 3 model	1421.155	1292.446	1557.360
Stage 4 model	1269.050	1146.936	1398.678
Stage 5 model	1214.105	1094.620	1341.108
Saturated model	.000	.000	.000
Independence model	8718.789	8410.749	9033.217

FMIN

Model	FMIN	F0	LO 90	HI 90
Stage 1 model	5.235	4.522	4.232	4.823
Stage 2 model	4.298	3.604	3.344	3.876
Stage 3 model	3.012	2.353	2.140	2.578
Stage 4 model	2.743	2.101	1.899	2.316
Stage 5 model	2.634	2.010	1.812	2.220
Saturated model	.000	.000	.000	.000
Independence model	15.205	14.435	13.925	14.956

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Stage 1 model	.102	.099	.106	.000
Stage 2 model	.093	.089	.096	.000
Stage 3 model	.077	.073	.080	.000
Stage 4 model	.074	.070	.077	.000
Stage 5 model	.073	.069	.077	.000
Independence model	.176	.173	.179	.000

AIC

Model	AIC	BCC	BIC	CAIC
Stage 1 model	3292.034	3299.307	3578.374	3643.374
Stage 2 model	2749.791	2758.407	3088.994	3165.994
Stage 3 model	2015.155	2026.120	2446.868	2544.868
Stage 4 model	1873.050	1885.134	2348.815	2456.815
Stage 5 model	1829.105	1842.420	2353.327	2472.327
Saturated model	992.000	1047.497	3176.993	3672.993
Independence model	9245.789	9249.257	9382.351	9413.351

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Stage 1 model	5.450	5.161	5.752	5.462

Stage 2 model	4.553	4.293	4.825	4.567
Stage 3 model	3.336	3.123	3.562	3.355
Stage 4 model	3.101	2.899	3.316	3.121
Stage 5 model	3.028	2.830	3.239	3.050
Saturated model	1.642	1.642	1.642	1.734
Independence model	15.308	14.798	15.828	15.313

HOELTER

Model	HOELTER .05	HOELTER .01
Stage 1 model	92	96
Stage 2 model	109	114
Stage 3 model	148	155
Stage 4 model	159	167
Stage 5 model	161	169
Independence model	34	36

Nested Model Comparisons

Assuming model Stage 2 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	12	566.243	.000	.062	.065	.058	.061

Assuming model Stage 3 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	33	1342.879	.000	.146	.153	.140	.148
Stage 2 model	21	776.636	.000	.085	.088	.082	.087

Assuming model Stage 4 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	43	1504.984	.000	.164	.171	.155	.164
Stage 2 model	31	938.741	.000	.102	.107	.097	.103
Stage 3 model	10	162.105	.000	.018	.018	.015	.016

Assuming model Stage 5 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	54	1570.929	.000	.171	.178	.158	.166
Stage 2 model	42	1004.686	.000	.109	.114	.100	.105
Stage 3 model	21	228.050	.000	.025	.026	.018	.019
Stage 4 model	11	65.945	.000	.007	.007	.003	.003

Execution time summary

Minimization:	.120
Miscellaneous:	1.883
Bootstrap:	.000
Total:	2.003

E:\Study 2\Multi-model Social_wb.amw

Analysis Summary

Date and Time

Date: Friday, 1 December 2006
Time: 9:42:37 AM

Title

Multi-model social_wb: Friday, 1 December 2006 09:42 AM

Groups

Group number 1 (Group number 1)

Notes for Group (Group number 1)

The model is recursive.
Sample size = 605

Variable Summary (Group number 1)

Your model contains the following variables (Group number 1)

Observed, endogenous variables
SAT3
SAT2
SAT1
SAT4
SAT5
SAT6
SAT7
SAT8
SAT9
WORLD4
WORLD3
WORLD2
WORLD1
CONTR3
CONTR2
CONTR1
OPTIM1
OPTIM2
OPTIM3
EXTREG
INTROREG
IDENTREG
SOMATIC2
SOMATIC3
SOMATIC4
SOC_COH

SOC_INT
SOC_ACC
SOC_CON
SOC_ACT
Observed, exogenous variables
MASC_POS
FEM_POS
TRAUMA
Unobserved, endogenous variables
Social well_being
autonomy
competence
relatedness
world_beliefs
perceived_control
dispositional_optimism
SRWNE
somatic_amplifica
Unobserved, exogenous variables
e3
e2
e1
e4
e5
e6
e7
e8
e9
e13
e12
e11
e10
e16
e15
e14
e17
e18
e19
e20
e21
e22
e23
e24
e25
e26
e27
e28
z1
z2
z3

z4
z5
z7
z6
z8
z9
e29
e30

Variable counts (Group number 1)

Number of variables in your model: 81
Number of observed variables: 33
Number of unobserved variables: 48
Number of exogenous variables: 42
Number of endogenous variables: 39

Parameter summary (Group number 1)

	Weights	Covariances	Variances	Means	Intercepts	Total
Fixed	48	0	0	0	0	48
Labeled	57	0	0	0	0	57
Unlabeled	21	3	42	0	0	66
Total	126	3	42	0	0	171

Models

Stage 1 model (Stage 1 model)

Notes for Model (Stage 1 model)

Computation of degrees of freedom (Stage 1 model)

Number of distinct sample moments: 561
Number of distinct parameters to be estimated: 69
Degrees of freedom (561 - 69): 492

Result (Stage 1 model)

Minimum was achieved
Chi-square = 3692.648
Degrees of freedom = 492
Probability level = .000

Group number 1 (Group number 1 - Stage 1 model)

Estimates (Group number 1 - Stage 1 model)

Scalar Estimates (Group number 1 - Stage 1 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 1 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.000				
competence	<---	MASC_POS	.000				
autonomy	<---	FEM_POS	.000				
competence	<---	FEM_POS	.000				
relatedness	<---	FEM_POS	.000				
autonomy	<---	TRAUMA	.000				
competence	<---	TRAUMA	.000				
relatedness	<---	TRAUMA	.000				
relatedness	<---	MASC_POS	.000				
world_beliefs	<---	MASC_POS	.000				
world_beliefs	<---	FEM_POS	.000				
perceived_control	<---	MASC_POS	.000				
perceived_control	<---	FEM_POS	.000				
perceived_control	<---	TRAUMA	.000				
world_beliefs	<---	autonomy	.000				
dispositional_optimism	<---	MASC_POS	.000				
dispositional_optimism	<---	FEM_POS	.000				
dispositional_optimism	<---	TRAUMA	.000				
perceived_control	<---	autonomy	.000				
dispositional_optimism	<---	autonomy	.000				
perceived_control	<---	competence	.000				
perceived_control	<---	relatedness	.000				
world_beliefs	<---	competence	.000				
world_beliefs	<---	relatedness	.000				
dispositional_optimism	<---	competence	.000				
dispositional_optimism	<---	relatedness	.000				
world_beliefs	<---	TRAUMA	.000				
SRWNE	<---	MASC_POS	.000				
SRWNE	<---	FEM_POS	.000				
SRWNE	<---	TRAUMA	.000				
SRWNE	<---	autonomy	.000				
SRWNE	<---	competence	.000				
SRWNE	<---	relatedness	.000				
SRWNE	<---	world_beliefs	.000				
SRWNE	<---	perceived_control	.000				
SRWNE	<---	dispositional_optimism	.000				
somatic_amplifica	<---	MASC_POS	.000				
somatic_amplifica	<---	FEM_POS	.000				
somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				
somatic_amplifica	<---	relatedness	.000				
somatic_amplifica	<---	world_beliefs	.000				

		Estimate	S.E.	C.R.	P	Label
somatic_amplifica	<--- perceived_control	.000				
somatic_amplifica	<--- dispositional_optimism	.000				
somatic_amplifica	<--- SRWNE	.000				
Social well_being	<--- MASC_POS	.032	.005	6.465	***	pwb_m
Social well_being	<--- autonomy	.000				
Social well_being	<--- competence	.000				
Social well_being	<--- world_beliefs	.000				
Social well_being	<--- perceived_control	.000				
Social well_being	<--- TRAUMA	-.169	.046	-3.643	***	pwb_t
Social well_being	<--- relatedness	.000				
Social well_being	<--- dispositional_optimism	.000				
Social well_being	<--- SRWNE	.000				
Social well_being	<--- somatic_amplifica	.000				
Social well_being	<--- FEM_POS	.013	.005	2.437	.015	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.233	.127	9.709	***	
SAT1	<--- autonomy	1.410	.153	9.232	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	1.368	.174	7.856	***	
SAT6	<--- competence	1.127	.120	9.413	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.529	.105	14.533	***	
SAT9	<--- relatedness	1.660	.115	14.405	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.060	.046	22.917	***	
WORLD2	<--- world_beliefs	.913	.040	23.076	***	
WORLD1	<--- world_beliefs	.779	.047	16.512	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.131	.096	11.746	***	
CONTR3	<--- perceived_control	1.118	.091	12.311	***	
OPTIM1	<--- dispositional_optimism	1.000				
OPTIM2	<--- dispositional_optimism	.904	.067	13.577	***	
OPTIM3	<--- dispositional_optimism	1.270	.090	14.090	***	
EXTREG	<--- SRWNE	1.000				
IDENTREG	<--- SRWNE	.664	.033	20.291	***	
SOMATIC2	<--- somatic_amplifica	1.000				
SOMATIC3	<--- somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<--- somatic_amplifica	.803	.097	8.317	***	
SOC_COH	<--- Social well_being	1.000				
SOC_INT	<--- Social well_being	.888	.064	13.778	***	
SOC_ACC	<--- Social well_being	.841	.060	14.072	***	
INTROREG	<--- SRWNE	1.182	.046	25.939	***	
SOC_CON	<--- Social well_being	.837	.061	13.674	***	
SOC_ACT	<--- Social well_being	1.108	.069	15.955	***	

Standardized Regression Weights: (Group number 1 - Stage 1 model)

			Estimate
autonomy	<---	MASC_POS	.000
competence	<---	MASC_POS	.000
autonomy	<---	FEM_POS	.000
competence	<---	FEM_POS	.000
relatedness	<---	FEM_POS	.000
autonomy	<---	TRAUMA	.000
competence	<---	TRAUMA	.000
relatedness	<---	TRAUMA	.000
relatedness	<---	MASC_POS	.000
world_beliefs	<---	MASC_POS	.000
world_beliefs	<---	FEM_POS	.000
perceived_control	<---	MASC_POS	.000
perceived_control	<---	FEM_POS	.000
perceived_control	<---	TRAUMA	.000
world_beliefs	<---	autonomy	.000
dispositional_optimism	<---	MASC_POS	.000
dispositional_optimism	<---	FEM_POS	.000
dispositional_optimism	<---	TRAUMA	.000
perceived_control	<---	autonomy	.000
dispositional_optimism	<---	autonomy	.000
perceived_control	<---	competence	.000
perceived_control	<---	relatedness	.000
world_beliefs	<---	competence	.000
world_beliefs	<---	relatedness	.000
dispositional_optimism	<---	competence	.000
dispositional_optimism	<---	relatedness	.000
world_beliefs	<---	TRAUMA	.000
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000
SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000

			Estimate
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Social well_being	<---	MASC_POS	.288
Social well_being	<---	autonomy	.000
Social well_being	<---	competence	.000
Social well_being	<---	world_beliefs	.000
Social well_being	<---	perceived_control	.000
Social well_being	<---	TRAUMA	-.155
Social well_being	<---	relatedness	.000
Social well_being	<---	dispositional_optimism	.000
Social well_being	<---	SRWNE	.000
Social well_being	<---	somatic_amplifica	.000
Social well_being	<---	FEM_POS	.104
SAT3	<---	autonomy	.611
SAT2	<---	autonomy	.595
SAT1	<---	autonomy	.740
SAT4	<---	competence	.504
SAT5	<---	competence	.845
SAT6	<---	competence	.584
SAT7	<---	relatedness	.642
SAT8	<---	relatedness	.800
SAT9	<---	relatedness	.833
WORLD4	<---	world_beliefs	.814
WORLD3	<---	world_beliefs	.850
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.649
CONTR1	<---	perceived_control	.625
CONTR2	<---	perceived_control	.827
CONTR3	<---	perceived_control	.680
OPTIM1	<---	dispositional_optimism	.772
OPTIM2	<---	dispositional_optimism	.653
OPTIM3	<---	dispositional_optimism	.786
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
SOC_COH	<---	Social well_being	.660
SOC_INT	<---	Social well_being	.667
SOC_ACC	<---	Social well_being	.685
INTROREG	<---	SRWNE	.981
SOC_CON	<---	Social well_being	.661
SOC_ACT	<---	Social well_being	.826

Covariances: (Group number 1 - Stage 1 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS <--> FEM_POS	7.803	2.108	3.701	***	
MASC_POS <--> TRAUMA	-.473	.244	-1.941	.052	
FEM_POS <--> TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 1 model)

	Estimate
MASC_POS <--> FEM_POS	.152
MASC_POS <--> TRAUMA	-.079
FEM_POS <--> TRAUMA	.004

Variances: (Group number 1 - Stage 1 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.377	.059	6.410	***	
z2	.469	.088	5.317	***	
z3	.279	.035	8.027	***	
z4	.554	.048	11.628	***	
z5	.374	.051	7.308	***	
z6	.435	.046	9.369	***	
z7	.809	.067	12.134	***	
z8	1.055	.212	4.977	***	
z9	.616	.073	8.414	***	
e3	.634	.052	12.123	***	
e2	1.046	.083	12.616	***	
e1	.620	.083	7.510	***	
e4	1.376	.095	14.467	***	
e5	.351	.101	3.487	***	
e6	1.152	.094	12.233	***	
e7	.398	.027	14.625	***	
e8	.366	.040	9.084	***	
e9	.338	.045	7.534	***	
e13	.282	.022	12.853	***	
e12	.239	.021	11.300	***	
e11	.168	.015	10.974	***	
e10	.463	.029	15.772	***	
e16	.544	.046	11.901	***	
e15	.221	.036	6.077	***	
e14	.582	.043	13.596	***	
e17	.295	.031	9.496	***	
e18	.479	.035	13.753	***	
e19	.433	.049	8.868	***	

	Estimate	S.E.	C.R.	P	Label
e20	.331	.029	11.242	***	
e21	.044	.031	1.401	.161	
e22	.357	.023	15.660	***	
e23	2.798	.218	12.820	***	
e24	.975	.321	3.043	.002	
e25	2.344	.165	14.212	***	
e26	.919	.062	14.862	***	
e27	.700	.047	14.768	***	
e28	.570	.039	14.492	***	
e29	.643	.043	14.856	***	
e30	.407	.039	10.408	***	

Squared Multiple Correlations: (Group number 1 - Stage 1 model)

	Estimate
relatedness	.000
competence	.000
autonomy	.000
dispositional_optimism	.000
perceived_control	.000
world_beliefs	.000
SRWNE	.000
somatic_amplifica	.000
Social well_being	.134
SOC_ACT	.682
SOC_CON	.437
SOC_ACC	.469
SOC_INT	.445
SOC_COH	.436
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710
OPTIM3	.618
OPTIM2	.426
OPTIM1	.596
CONTR1	.391
CONTR2	.683
CONTR3	.462
WORLD1	.421
WORLD2	.733
WORLD3	.722
WORLD4	.663

	Estimate
SAT9	.694
SAT8	.641
SAT7	.412
SAT6	.341
SAT5	.714
SAT4	.254
SAT1	.547
SAT2	.354
SAT3	.373

Modification Indices (Group number 1 - Stage 1 model)

Covariances: (Group number 1 - Stage 1 model)

	M.I.	Par Change
z3 <--> FEM_POS	63.886	1.239
z2 <--> MASC_POS	104.665	2.469
z2 <--> z3	120.957	.203
z1 <--> MASC_POS	40.454	1.442
z1 <--> z3	176.716	.230
z1 <--> z2	130.234	.265
z6 <--> MASC_POS	63.073	1.819
z6 <--> z3	158.415	.220
z6 <--> z2	163.774	.301
z6 <--> z1	159.132	.279
z5 <--> MASC_POS	49.749	1.505
z5 <--> z3	41.047	.104
z5 <--> z2	94.493	.213
z5 <--> z1	80.296	.184
z5 <--> z6	153.798	.258
z4 <--> z3	54.761	.138
z4 <--> z2	75.694	.218
z4 <--> z1	56.978	.178
z4 <--> z6	103.065	.241
z4 <--> z5	57.218	.168
z7 <--> MASC_POS	43.379	-1.864
z7 <--> z2	68.357	-.240
z7 <--> z1	62.733	-.216
z7 <--> z6	74.038	-.237
z7 <--> z5	49.636	-.181
z7 <--> z4	45.323	-.198
z9 <--> z3	65.713	.166
z9 <--> z2	77.057	.241
z9 <--> z1	54.016	.190
z9 <--> z6	131.257	.299

	M.I.	Par Change
z9 <--> z5	82.222	.220
z9 <--> z4	208.223	.401
z9 <--> z7	49.891	-.227
e30 <--> z4	41.194	.161
e29 <--> z2	62.102	.214
e27 <--> FEM_POS	41.212	1.530
e27 <--> z3	71.817	.179
e20 <--> z1	42.363	-.117
e19 <--> z5	40.124	.143
e19 <--> z9	40.406	.181
e16 <--> z2	59.797	.200
e16 <--> z6	53.528	.180
e6 <--> z6	42.124	.224
e2 <--> z2	51.990	.256
e2 <--> z6	51.509	.242
e2 <--> z9	47.467	.271
e2 <--> e19	41.214	.236
e2 <--> e6	48.219	.361
e3 <--> MASC_POS	76.316	2.373
e3 <--> z3	79.617	.185
e3 <--> z2	62.302	.220
e3 <--> e4	54.472	.322

Variances: (Group number 1 - Stage 1 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 1 model)

			M.I.	Par Change
relatedness	<---	FEM_POS	77.249	.031
relatedness	<---	MASC_POS	40.781	.020
relatedness	<---	competence	120.957	.433
relatedness	<---	autonomy	176.716	.611
competence	<---	MASC_POS	119.711	.045
competence	<---	relatedness	120.957	.727
competence	<---	autonomy	130.234	.704
autonomy	<---	MASC_POS	52.892	.028
autonomy	<---	relatedness	176.716	.826
autonomy	<---	competence	130.234	.566
dispositional_optimism	<---	MASC_POS	79.665	.035
dispositional_optimism	<---	relatedness	158.415	.790
dispositional_optimism	<---	competence	163.774	.641
dispositional_optimism	<---	autonomy	159.132	.739
dispositional_optimism	<---	perceived_control	153.798	.690
dispositional_optimism	<---	world_beliefs	103.065	.436

		M.I.	Par Change
perceived_control	<--- MASC_POS	55.913	.027
perceived_control	<--- relatedness	41.047	.374
perceived_control	<--- competence	94.493	.454
perceived_control	<--- autonomy	80.296	.489
perceived_control	<--- dispositional_optimism	153.798	.593
perceived_control	<--- world_beliefs	57.218	.302
world_beliefs	<--- relatedness	54.761	.495
world_beliefs	<--- competence	75.694	.465
world_beliefs	<--- autonomy	56.978	.472
world_beliefs	<--- dispositional_optimism	103.065	.555
world_beliefs	<--- perceived_control	57.218	.449
SRWNE	<--- competence	68.357	-.512
SRWNE	<--- autonomy	62.733	-.573
SRWNE	<--- dispositional_optimism	74.038	-.545
SRWNE	<--- perceived_control	49.636	-.484
SRWNE	<--- world_beliefs	45.323	-.357
Social well_being	<--- relatedness	65.713	.594
Social well_being	<--- competence	77.057	.514
Social well_being	<--- autonomy	54.016	.503
Social well_being	<--- dispositional_optimism	131.257	.687
Social well_being	<--- perceived_control	82.222	.589
Social well_being	<--- world_beliefs	208.223	.723
Social well_being	<--- SRWNE	49.891	-.281
SOC_ACT	<--- world_beliefs	41.194	.290
SOC_CON	<--- competence	62.102	.456
SOC_CON	<--- CONTR3	49.159	.242
SOC_CON	<--- SAT6	46.826	.180
SOC_CON	<--- SAT5	43.859	.208
SOC_CON	<--- SAT4	44.224	.170
SOC_INT	<--- FEM_POS	43.408	.036
SOC_INT	<--- relatedness	71.817	.642
SOC_INT	<--- SAT9	57.791	.263
SOC_INT	<--- SAT8	57.352	.273
EXTREG	<--- autonomy	42.363	-.309
OPTIM3	<--- perceived_control	40.124	.384
OPTIM3	<--- SAT2	46.069	.175
OPTIM2	<--- MASC_POS	41.074	.025
OPTIM1	<--- SAT7	54.201	.237
CONTR3	<--- competence	59.797	.428
CONTR3	<--- dispositional_optimism	53.528	.414
CONTR3	<--- Social well_being	56.752	.322
CONTR3	<--- SOC_CON	65.083	.251
CONTR3	<--- OPTIM3	48.105	.216
CONTR3	<--- OPTIM1	42.678	.254

			M.I.	Par Change
CONTR3	<---	SAT6	52.197	.182
CONTR3	<---	SAT5	46.228	.204
SAT6	<---	dispositional_optimism	42.124	.514
SAT6	<---	SOC_CON	41.359	.280
SAT6	<---	OPTIM3	47.045	.300
SAT6	<---	SAT2	61.674	.287
SAT5	<---	SAT7	41.191	.288
SAT4	<---	SAT3	51.040	.353
SAT2	<---	competence	51.990	.546
SAT2	<---	dispositional_optimism	51.509	.556
SAT2	<---	Social well_being	42.092	.380
SAT2	<---	EXTREG	46.515	-.291
SAT2	<---	OPTIM3	68.236	.353
SAT2	<---	WORLD4	40.851	.318
SAT2	<---	SAT6	80.782	.309
SAT3	<---	MASC_POS	91.846	.044
SAT3	<---	relatedness	79.617	.664
SAT3	<---	competence	62.302	.469
SAT3	<---	OPTIM2	54.876	.290
SAT3	<---	SAT9	61.214	.266
SAT3	<---	SAT8	76.459	.310
SAT3	<---	SAT5	49.257	.226
SAT3	<---	SAT4	92.404	.253

Minimization History (Stage 1 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.482	9999.000	9879.131	0	9999.000
1	e	8		-.274	3.074	6292.011	20	.546
2	e*	2		-.032	1.162	4856.615	5	.877
3	e	2		-.082	1.264	4118.315	5	.761
4	e	0	541.840		1.174	3830.809	6	.786
5	e	1		-.074	1.231	3818.712	2	.000
6	e	1		-.024	.700	3713.915	5	.674
7	e	0	678.328		.493	3694.886	9	.969
8	e	0	455.592		.199	3692.756	1	1.095
9	e	0	459.707		.062	3692.649	1	1.068
10	e	0	452.329		.008	3692.648	1	1.011
11	e	0	461.951		.000	3692.648	1	1.000

Stage 2 model (Stage 2 model)

Notes for Model (Stage 2 model)

Computation of degrees of freedom (Stage 2 model)

Number of distinct sample moments:	561
Number of distinct parameters to be estimated:	81
Degrees of freedom (561 - 81):	480

Result (Stage 2 model)

Minimum was achieved
Chi-square = 3107.425
Degrees of freedom = 480
Probability level = .000

Group number 1 (Group number 1 - Stage 2 model)

Estimates (Group number 1 - Stage 2 model)

Scalar Estimates (Group number 1 - Stage 2 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 2 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.042	.005	9.078	***	am
competence	<---	MASC_POS	.052	.005	9.430	***	cm
autonomy	<---	FEM_POS	.023	.005	4.308	***	af
competence	<---	FEM_POS	.013	.005	2.462	.014	cf
relatedness	<---	FEM_POS	.029	.004	8.263	***	rf
autonomy	<---	TRAUMA	-.199	.045	-4.462	***	at
competence	<---	TRAUMA	-.136	.044	-3.072	.002	ct
relatedness	<---	TRAUMA	-.162	.029	-5.651	***	rt
relatedness	<---	MASC_POS	.015	.003	5.115	***	rm
world_beliefs	<---	MASC_POS	.000				
world_beliefs	<---	FEM_POS	.000				
perceived_control	<---	MASC_POS	.000				
perceived_control	<---	FEM_POS	.000				
perceived_control	<---	TRAUMA	.000				
world_beliefs	<---	autonomy	.000				
dispositional_optimism	<---	MASC_POS	.000				
dispositional_optimism	<---	FEM_POS	.000				
dispositional_optimism	<---	TRAUMA	.000				
perceived_control	<---	autonomy	.000				
dispositional_optimism	<---	autonomy	.000				
perceived_control	<---	competence	.000				
perceived_control	<---	relatedness	.000				
world_beliefs	<---	competence	.000				
world_beliefs	<---	relatedness	.000				
dispositional_optimism	<---	competence	.000				
dispositional_optimism	<---	relatedness	.000				

		Estimate	S.E.	C.R.	P	Label
world_beliefs	<--- TRAUMA	.000				
SRWNE	<--- MASC_POS	.000				
SRWNE	<--- FEM_POS	.000				
SRWNE	<--- TRAUMA	.000				
SRWNE	<--- autonomy	.000				
SRWNE	<--- competence	.000				
SRWNE	<--- relatedness	.000				
SRWNE	<--- world_beliefs	.000				
SRWNE	<--- perceived_control	.000				
SRWNE	<--- dispositional_optimism	.000				
somatic_amplifica	<--- MASC_POS	.000				
somatic_amplifica	<--- FEM_POS	.000				
somatic_amplifica	<--- TRAUMA	.000				
somatic_amplifica	<--- autonomy	.000				
somatic_amplifica	<--- competence	.000				
somatic_amplifica	<--- relatedness	.000				
somatic_amplifica	<--- world_beliefs	.000				
somatic_amplifica	<--- perceived_control	.000				
somatic_amplifica	<--- dispositional_optimism	.000				
somatic_amplifica	<--- SRWNE	.000				
Social well_being	<--- MASC_POS	-.010	.006	-1.657	.098	pwb_m
Social well_being	<--- autonomy	.130	.056	2.312	.021	pwb_a
Social well_being	<--- competence	.588	.079	7.411	***	pwb_c
Social well_being	<--- world_beliefs	.000				
Social well_being	<--- perceived_control	.000				
Social well_being	<--- TRAUMA	.008	.044	.193	.847	pwb_t
Social well_being	<--- relatedness	.442	.080	5.517	***	pwb_r
Social well_being	<--- dispositional_optimism	.000				
Social well_being	<--- SRWNE	.000				
Social well_being	<--- somatic_amplifica	.000				
Social well_being	<--- FEM_POS	-.009	.005	-1.631	.103	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	.818	.085	9.607	***	
SAT1	<--- autonomy	.879	.083	10.549	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	1.047	.091	11.504	***	
SAT6	<--- competence	1.047	.098	10.682	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.508	.099	15.219	***	
SAT9	<--- relatedness	1.618	.106	15.323	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.060	.046	22.917	***	
WORLD2	<--- world_beliefs	.913	.040	23.076	***	
WORLD1	<--- world_beliefs	.779	.047	16.512	***	

			Estimate	S.E.	C.R.	P	Label
CONTR1	<---	perceived_control	1.000				
CONTR2	<---	perceived_control	1.131	.096	11.746	***	
CONTR3	<---	perceived_control	1.118	.091	12.311	***	
OPTIM1	<---	dispositional_optimism	1.000				
OPTIM2	<---	dispositional_optimism	.904	.067	13.577	***	
OPTIM3	<---	dispositional_optimism	1.270	.090	14.090	***	
EXTREG	<---	SRWNE	1.000				
IDENTREG	<---	SRWNE	.664	.033	20.291	***	
SOMATIC2	<---	somatic_amplifica	1.000				
SOMATIC3	<---	somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<---	somatic_amplifica	.803	.097	8.317	***	
SOC_COH	<---	Social well_being	1.000				
SOC_INT	<---	Social well_being	.948	.071	13.361	***	
SOC_ACC	<---	Social well_being	.827	.065	12.789	***	
INTROREG	<---	SRWNE	1.182	.046	25.939	***	
SOC_CON	<---	Social well_being	.898	.067	13.316	***	
SOC_ACT	<---	Social well_being	1.063	.074	14.419	***	

Standardized Regression Weights: (Group number 1 - Stage 2 model)

			Estimate
autonomy	<---	MASC_POS	.411
competence	<---	MASC_POS	.511
autonomy	<---	FEM_POS	.189
competence	<---	FEM_POS	.108
relatedness	<---	FEM_POS	.364
autonomy	<---	TRAUMA	-.194
competence	<---	TRAUMA	-.135
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.213
world_beliefs	<---	MASC_POS	.000
world_beliefs	<---	FEM_POS	.000
perceived_control	<---	MASC_POS	.000
perceived_control	<---	FEM_POS	.000
perceived_control	<---	TRAUMA	.000
world_beliefs	<---	autonomy	.000
dispositional_optimism	<---	MASC_POS	.000
dispositional_optimism	<---	FEM_POS	.000
dispositional_optimism	<---	TRAUMA	.000
perceived_control	<---	autonomy	.000
dispositional_optimism	<---	autonomy	.000
perceived_control	<---	competence	.000
perceived_control	<---	relatedness	.000
world_beliefs	<---	competence	.000
world_beliefs	<---	relatedness	.000

			Estimate
dispositional_optimism	<---	competence	.000
dispositional_optimism	<---	relatedness	.000
world_beliefs	<---	TRAUMA	.000
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000
SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Social well_being	<---	MASC_POS	-.095
Social well_being	<---	autonomy	.130
Social well_being	<---	competence	.583
Social well_being	<---	world_beliefs	.000
Social well_being	<---	perceived_control	.000
Social well_being	<---	TRAUMA	.008
Social well_being	<---	relatedness	.301
Social well_being	<---	dispositional_optimism	.000
Social well_being	<---	SRWNE	.000
Social well_being	<---	somatic_amplifica	.000
Social well_being	<---	FEM_POS	-.074
SAT3	<---	autonomy	.788
SAT2	<---	autonomy	.509
SAT1	<---	autonomy	.595
SAT4	<---	competence	.577
SAT5	<---	competence	.740
SAT6	<---	competence	.621
SAT7	<---	relatedness	.652
SAT8	<---	relatedness	.802
SAT9	<---	relatedness	.825
WORLD4	<---	world_beliefs	.814
WORLD3	<---	world_beliefs	.850

			Estimate
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.649
CONTR1	<---	perceived_control	.625
CONTR2	<---	perceived_control	.827
CONTR3	<---	perceived_control	.680
OPTIM1	<---	dispositional_optimism	.772
OPTIM2	<---	dispositional_optimism	.653
OPTIM3	<---	dispositional_optimism	.786
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
SOC_COH	<---	Social well_being	.632
SOC_INT	<---	Social well_being	.683
SOC_ACC	<---	Social well_being	.644
INTROREG	<---	SRWNE	.981
SOC_CON	<---	Social well_being	.680
SOC_ACT	<---	Social well_being	.766

Covariances: (Group number 1 - Stage 2 model)

			Estimate	S.E.	C.R.	P	Label
MASC_POS	<-->	FEM_POS	7.803	2.108	3.701	***	
MASC_POS	<-->	TRAUMA	-.473	.244	-1.941	.052	
FEM_POS	<-->	TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 2 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 2 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.453	.059	7.687	***	
z2	.418	.065	6.423	***	
z3	.212	.026	8.108	***	
z4	.554	.048	11.628	***	
z5	.374	.051	7.308	***	
z6	.435	.046	9.369	***	
z7	.809	.067	12.134	***	

	Estimate	S.E.	C.R.	P	Label
z8	1.055	.212	4.977	***	
z9	.326	.047	6.870	***	
e3	.383	.054	7.135	***	
e2	1.199	.079	15.085	***	
e1	.885	.065	13.533	***	
e4	1.231	.084	14.602	***	
e5	.557	.053	10.488	***	
e6	1.075	.078	13.850	***	
e7	.389	.026	14.752	***	
e8	.363	.035	10.401	***	
e9	.354	.038	9.352	***	
e13	.282	.022	12.853	***	
e12	.239	.021	11.300	***	
e11	.168	.015	10.974	***	
e10	.463	.029	15.772	***	
e16	.544	.046	11.901	***	
e15	.221	.036	6.077	***	
e14	.582	.043	13.596	***	
e17	.295	.031	9.496	***	
e18	.479	.035	13.753	***	
e19	.433	.049	8.868	***	
e20	.331	.029	11.242	***	
e21	.044	.031	1.401	.161	
e22	.357	.023	15.660	***	
e23	2.798	.218	12.820	***	
e24	.975	.321	3.043	.002	
e25	2.344	.165	14.212	***	
e26	.938	.062	15.081	***	
e27	.639	.045	14.332	***	
e28	.600	.040	14.920	***	
e29	.583	.041	14.385	***	
e30	.496	.040	12.425	***	

Squared Multiple Correlations: (Group number 1 - Stage 2 model)

	Estimate
relatedness	.264
competence	.318
autonomy	.279
dispositional_optimism	.000
perceived_control	.000
world_beliefs	.000
SRWNE	.000
somatic_amplifica	.000
Social well_being	.476

	Estimate
SOC_ACT	.587
SOC_CON	.463
SOC_ACC	.415
SOC_INT	.467
SOC_COH	.399
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710
OPTIM3	.618
OPTIM2	.426
OPTIM1	.596
CONTR1	.391
CONTR2	.683
CONTR3	.462
WORLD1	.421
WORLD2	.733
WORLD3	.722
WORLD4	.663
SAT9	.680
SAT8	.643
SAT7	.425
SAT6	.385
SAT5	.547
SAT4	.333
SAT1	.354
SAT2	.259
SAT3	.621

Modification Indices (Group number 1 - Stage 2 model)

Covariances: (Group number 1 - Stage 2 model)

	M.I.	Par Change
z2 <--> z3	80.705	.152
z1 <--> z3	151.501	.218
z1 <--> z2	97.606	.269
z6 <--> MASC_POS	63.073	1.819
z6 <--> z3	96.367	.154
z6 <--> z2	124.371	.269
z6 <--> z1	84.972	.232
z5 <--> MASC_POS	49.749	1.505
z5 <--> z2	81.279	.202

	M.I.	Par Change
z5 <--> z1	42.785	.153
z5 <--> z6	153.798	.258
z4 <--> z3	41.658	.108
z4 <--> z2	99.197	.256
z4 <--> z6	103.065	.241
z4 <--> z5	57.218	.168
z7 <--> MASC_POS	43.379	-1.864
z7 <--> z2	55.790	-.222
z7 <--> z6	74.038	-.237
z7 <--> z5	49.636	-.181
z7 <--> z4	45.323	-.198
z9 <--> z6	42.728	.144
z9 <--> z4	136.145	.273
e30 <--> z4	47.470	.178
e28 <--> e30	48.652	.184
e27 <--> FEM_POS	40.056	1.458
e19 <--> z5	40.124	.143
e16 <--> z2	55.057	.197
e16 <--> z6	53.528	.180
e2 <--> z3	40.487	.155
e2 <--> z2	81.021	.336
e2 <--> z6	45.252	.232
e2 <--> e6	63.109	.416
e3 <--> e4	42.120	.252

Variances: (Group number 1 - Stage 2 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 2 model)

			M.I.	Par Change
relatedness	<---	competence	47.099	.213
relatedness	<---	autonomy	94.949	.302
competence	<---	relatedness	55.285	.493
competence	<---	autonomy	61.175	.372
autonomy	<---	relatedness	103.773	.706
autonomy	<---	competence	56.959	.375
dispositional_optimism	<---	MASC_POS	79.665	.035
dispositional_optimism	<---	relatedness	177.829	.818
dispositional_optimism	<---	competence	228.328	.665
dispositional_optimism	<---	autonomy	188.330	.604
dispositional_optimism	<---	perceived_control	153.798	.690
dispositional_optimism	<---	world_beliefs	103.065	.436
perceived_control	<---	MASC_POS	55.913	.027
perceived_control	<---	relatedness	50.479	.406

		M.I.	Par Change
perceived_control	<--- competence	141.991	.488
perceived_control	<--- autonomy	95.700	.401
perceived_control	<--- dispositional_optimism	153.798	.593
perceived_control	<--- world_beliefs	57.218	.302
world_beliefs	<--- relatedness	68.288	.541
world_beliefs	<--- competence	134.849	.545
world_beliefs	<--- autonomy	75.811	.409
world_beliefs	<--- dispositional_optimism	103.065	.555
world_beliefs	<--- perceived_control	57.218	.449
SRWNE	<--- competence	84.444	-.499
SRWNE	<--- autonomy	58.545	-.416
SRWNE	<--- dispositional_optimism	74.038	-.545
SRWNE	<--- perceived_control	49.636	-.484
SRWNE	<--- world_beliefs	45.323	-.357
Social well_being	<--- dispositional_optimism	42.728	.330
Social well_being	<--- world_beliefs	136.145	.493
SOC_ACT	<--- world_beliefs	47.470	.321
SOC_ACT	<--- WORLD3	41.255	.226
SOC_INT	<--- FEM_POS	40.760	.034
SOC_INT	<--- relatedness	41.922	.463
OPTIM3	<--- perceived_control	40.124	.384
OPTIM3	<--- Social well_being	44.992	.305
OPTIM3	<--- SAT2	46.069	.175
OPTIM2	<--- MASC_POS	41.074	.025
OPTIM1	<--- relatedness	40.507	.344
OPTIM1	<--- SAT7	54.201	.237
CONTR3	<--- relatedness	42.835	.443
CONTR3	<--- competence	70.593	.408
CONTR3	<--- dispositional_optimism	53.528	.414
CONTR3	<--- Social well_being	77.191	.404
CONTR3	<--- SOC_CON	68.487	.264
CONTR3	<--- OPTIM3	48.105	.216
CONTR3	<--- OPTIM1	42.678	.254
CONTR3	<--- SAT6	52.197	.182
CONTR3	<--- SAT5	46.228	.204
SAT6	<--- SAT2	58.700	.275
SAT2	<--- dispositional_optimism	45.252	.535
SAT2	<--- Social well_being	40.800	.413
SAT2	<--- EXTREG	50.558	-.311
SAT2	<--- OPTIM3	60.668	.341
SAT2	<--- SAT6	74.996	.306
SAT3	<--- relatedness	40.674	.428
SAT3	<--- SAT8	43.848	.216
SAT3	<--- SAT4	56.770	.183

Minimization History (Stage 2 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.482	9999.000	9791.055	0	9999.000
1	e	11		-.274	3.391	6004.720	20	.479
2	e*	1		-.124	1.254	4283.849	5	.878
3	e	0	788.852		1.202	3467.633	5	.816
4	e	1		-.097	1.543	3409.448	3	.000
5	e	0	175.154		.585	3183.130	6	1.018
6	e	0	183.138		.802	3120.448	1	.968
7	e	0	489.432		.270	3107.738	1	1.012
8	e	0	463.843		.066	3107.427	1	1.001
9	e	0	458.377		.005	3107.425	1	1.006
10	e	0	456.059		.000	3107.425	1	1.000

Stage 3 model (Stage 3 model)

Notes for Model (Stage 3 model)

Computation of degrees of freedom (Stage 3 model)

Number of distinct sample moments: 561
Number of distinct parameters to be estimated: 102
Degrees of freedom (561 - 102): 459

Result (Stage 3 model)

Minimum was achieved
Chi-square = 2145.179
Degrees of freedom = 459
Probability level = .000

Group number 1 (Group number 1 - Stage 3 model)

Estimates (Group number 1 - Stage 3 model)

Scalar Estimates (Group number 1 - Stage 3 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 3 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.034	.004	7.740	***	am
competence	<---	MASC_POS	.053	.005	9.709	***	cm
autonomy	<---	FEM_POS	.018	.005	3.635	***	af
competence	<---	FEM_POS	.012	.005	2.359	.018	cf
relatedness	<---	FEM_POS	.029	.004	8.264	***	rf
autonomy	<---	TRAUMA	-.195	.042	-4.685	***	at
competence	<---	TRAUMA	-.147	.045	-3.276	.001	ct

			Estimate	S.E.	C.R.	P	Label
relatedness	<---	TRAUMA	-.162	.029	-5.647	***	rt
relatedness	<---	MASC_POS	.015	.003	5.120	***	rm
world_beliefs	<---	MASC_POS	-.011	.005	-2.042	.041	wb_m
world_beliefs	<---	FEM_POS	-.009	.005	-1.678	.093	wb_f
perceived_control	<---	MASC_POS	-.009	.005	-1.921	.055	pc_m
perceived_control	<---	FEM_POS	-.004	.004	-1.043	.297	pc_f
perceived_control	<---	TRAUMA	.046	.035	1.297	.195	pc_t
world_beliefs	<---	autonomy	.161	.060	2.688	.007	wb_a
dispositional_optimism	<---	MASC_POS	-.010	.004	-2.214	.027	do_m
dispositional_optimism	<---	FEM_POS	-.006	.004	-1.385	.166	do_f
dispositional_optimism	<---	TRAUMA	-.006	.034	-.170	.865	do_t
perceived_control	<---	autonomy	.233	.052	4.485	***	pc_a
dispositional_optimism	<---	autonomy	.281	.050	5.656	***	do_a
perceived_control	<---	competence	.524	.068	7.677	***	pc_c
perceived_control	<---	relatedness	-.020	.057	-.356	.722	pc_r
world_beliefs	<---	competence	.455	.067	6.762	***	wb_c
world_beliefs	<---	relatedness	.159	.071	2.239	.025	wb_r
dispositional_optimism	<---	competence	.512	.061	8.391	***	do_c
dispositional_optimism	<---	relatedness	.304	.057	5.319	***	do_r
world_beliefs	<---	TRAUMA	-.020	.042	-.472	.637	wb_t
SRWNE	<---	MASC_POS	.000				
SRWNE	<---	FEM_POS	.000				
SRWNE	<---	TRAUMA	.000				
SRWNE	<---	autonomy	.000				
SRWNE	<---	competence	.000				
SRWNE	<---	relatedness	.000				
SRWNE	<---	world_beliefs	.000				
SRWNE	<---	perceived_control	.000				
SRWNE	<---	dispositional_optimism	.000				
somatic_amplifica	<---	MASC_POS	.000				
somatic_amplifica	<---	FEM_POS	.000				
somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				
somatic_amplifica	<---	relatedness	.000				
somatic_amplifica	<---	world_beliefs	.000				
somatic_amplifica	<---	perceived_control	.000				
somatic_amplifica	<---	dispositional_optimism	.000				
somatic_amplifica	<---	SRWNE	.000				
Social well_being	<---	MASC_POS	-.009	.006	-1.491	.136	pwb_m
Social well_being	<---	autonomy	-.024	.077	-.313	.754	pwb_a
Social well_being	<---	competence	.271	.137	1.986	.047	pwb_c
Social well_being	<---	world_beliefs	.521	.055	9.384	***	pwb_wb
Social well_being	<---	perceived_control	.153	.095	1.606	.108	pwb_pc

		Estimate	S.E.	C.R.	P	Label
Social well_being	<--- TRAUMA	.040	.037	1.087	.277	pwb_t
Social well_being	<--- relatedness	.228	.077	2.982	.003	pwb_r
Social well_being	<--- dispositional_optimism	.289	.129	2.239	.025	pwb_do
Social well_being	<--- SRWNE	.000				
Social well_being	<--- somatic_amplifica	.000				
Social well_being	<--- FEM_POS	-.003	.005	-.686	.492	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.040	.099	10.512	***	
SAT1	<--- autonomy	1.082	.096	11.229	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	.960	.084	11.396	***	
SAT6	<--- competence	1.069	.098	10.939	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.512	.099	15.254	***	
SAT9	<--- relatedness	1.617	.105	15.358	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.058	.047	22.317	***	
WORLD2	<--- world_beliefs	.926	.040	22.885	***	
WORLD1	<--- world_beliefs	.791	.049	16.282	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.026	.083	12.389	***	
CONTR3	<--- perceived_control	1.312	.104	12.657	***	
OPTIM1	<--- dispositional_optimism	1.000				
OPTIM2	<--- dispositional_optimism	.938	.067	14.016	***	
OPTIM3	<--- dispositional_optimism	1.268	.079	16.049	***	
EXTREG	<--- SRWNE	1.000				
IDENTREG	<--- SRWNE	.664	.033	20.291	***	
SOMATIC2	<--- somatic_amplifica	1.000				
SOMATIC3	<--- somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<--- somatic_amplifica	.803	.097	8.317	***	
SOC_COH	<--- Social well_being	1.000				
SOC_INT	<--- Social well_being	.903	.066	13.685	***	
SOC_ACC	<--- Social well_being	.825	.061	13.583	***	
INTROREG	<--- SRWNE	1.182	.046	25.939	***	
SOC_CON	<--- Social well_being	.841	.063	13.438	***	
SOC_ACT	<--- Social well_being	1.071	.069	15.617	***	

Standardized Regression Weights: (Group number 1 - Stage 3 model)

		Estimate
autonomy	<--- MASC_POS	.375
competence	<--- MASC_POS	.537
autonomy	<--- FEM_POS	.167
competence	<--- FEM_POS	.107
relatedness	<--- FEM_POS	.364

			Estimate
autonomy	<---	TRAUMA	-.215
competence	<---	TRAUMA	-.149
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.213
world_beliefs	<---	MASC_POS	-.118
world_beliefs	<---	FEM_POS	-.079
perceived_control	<---	MASC_POS	-.118
perceived_control	<---	FEM_POS	-.051
perceived_control	<---	TRAUMA	.061
world_beliefs	<---	autonomy	.156
dispositional_optimism	<---	MASC_POS	-.124
dispositional_optimism	<---	FEM_POS	-.062
dispositional_optimism	<---	TRAUMA	-.007
perceived_control	<---	autonomy	.282
dispositional_optimism	<---	autonomy	.327
perceived_control	<---	competence	.692
perceived_control	<---	relatedness	-.019
world_beliefs	<---	competence	.482
world_beliefs	<---	relatedness	.118
dispositional_optimism	<---	competence	.650
dispositional_optimism	<---	relatedness	.270
world_beliefs	<---	TRAUMA	-.021
SRWNE	<---	MASC_POS	.000
SRWNE	<---	FEM_POS	.000
SRWNE	<---	TRAUMA	.000
SRWNE	<---	autonomy	.000
SRWNE	<---	competence	.000
SRWNE	<---	relatedness	.000
SRWNE	<---	world_beliefs	.000
SRWNE	<---	perceived_control	.000
SRWNE	<---	dispositional_optimism	.000
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Social well_being	<---	MASC_POS	-.083
Social well_being	<---	autonomy	-.021
Social well_being	<---	competence	.258

			Estimate
Social well_being	<---	world_beliefs	.468
Social well_being	<---	perceived_control	.111
Social well_being	<---	TRAUMA	.038
Social well_being	<---	relatedness	.153
Social well_being	<---	dispositional_optimism	.217
Social well_being	<---	SRWNE	.000
Social well_being	<---	somatic_amplifica	.000
Social well_being	<---	FEM_POS	-.026
SAT3	<---	autonomy	.698
SAT2	<---	autonomy	.573
SAT1	<---	autonomy	.649
SAT4	<---	competence	.562
SAT5	<---	competence	.661
SAT6	<---	competence	.617
SAT7	<---	relatedness	.652
SAT8	<---	relatedness	.803
SAT9	<---	relatedness	.824
WORLD4	<---	world_beliefs	.802
WORLD3	<---	world_beliefs	.837
WORLD2	<---	world_beliefs	.857
WORLD1	<---	world_beliefs	.645
CONTR1	<---	perceived_control	.598
CONTR2	<---	perceived_control	.720
CONTR3	<---	perceived_control	.768
OPTIM1	<---	dispositional_optimism	.738
OPTIM2	<---	dispositional_optimism	.641
OPTIM3	<---	dispositional_optimism	.752
EXTREG	<---	SRWNE	.842
IDENTREG	<---	SRWNE	.707
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
SOC_COH	<---	Social well_being	.644
SOC_INT	<---	Social well_being	.662
SOC_ACC	<---	Social well_being	.656
INTROREG	<---	SRWNE	.981
SOC_CON	<---	Social well_being	.647
SOC_ACT	<---	Social well_being	.789

Covariances: (Group number 1 - Stage 3 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS <--> FEM_POS	7.803	2.108	3.701	***	
MASC_POS <--> TRAUMA	-.473	.244	-1.941	.052	
FEM_POS <--> TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 3 model)

			Estimate
MASC_POS	<-->	FEM_POS	.152
MASC_POS	<-->	TRAUMA	-.079
FEM_POS	<-->	TRAUMA	.004

Variances: (Group number 1 - Stage 3 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.371	.050	7.447	***	
z2	.377	.060	6.262	***	
z3	.211	.026	8.107	***	
z4	.383	.036	10.600	***	
z5	.160	.027	5.968	***	
z6	.112	.020	5.739	***	
z7	.809	.067	12.134	***	
z8	1.055	.212	4.977	***	
z9	.175	.028	6.334	***	
e3	.519	.048	10.914	***	
e2	1.087	.077	14.089	***	
e1	.793	.064	12.398	***	
e4	1.262	.082	15.320	***	
e5	.692	.050	13.791	***	
e6	1.082	.074	14.585	***	
e7	.389	.026	14.789	***	
e8	.361	.035	10.448	***	
e9	.356	.037	9.507	***	
e13	.289	.021	13.476	***	
e12	.248	.020	12.249	***	
e11	.161	.014	11.341	***	
e10	.457	.029	15.880	***	
e16	.401	.039	10.384	***	
e15	.326	.027	12.061	***	
e14	.601	.041	14.742	***	
e17	.303	.024	12.677	***	
e18	.458	.031	14.703	***	
e19	.448	.037	12.250	***	
e20	.331	.029	11.242	***	
e21	.044	.031	1.401	.161	
e22	.357	.023	15.660	***	
e23	2.798	.218	12.820	***	
e24	.975	.321	3.043	.002	
e25	2.344	.165	14.212	***	

	Estimate	S.E.	C.R.	P	Label
e26	.906	.059	15.460	***	
e27	.671	.044	15.264	***	
e28	.580	.038	15.333	***	
e29	.630	.041	15.427	***	
e30	.448	.035	12.844	***	

Squared Multiple Correlations: (Group number 1 - Stage 3 model)

	Estimate
relatedness	.264
competence	.352
autonomy	.246
dispositional_optimism	.689
perceived_control	.523
world_beliefs	.263
SRWNE	.000
somatic_amplifica	.000
Social well_being	.728
SOC_ACT	.622
SOC_CON	.419
SOC_ACC	.430
SOC_INT	.438
SOC_COH	.415
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.499
INTROREG	.962
EXTREG	.710
OPTIM3	.565
OPTIM2	.410
OPTIM1	.544
CONTR1	.358
CONTR2	.519
CONTR3	.590
WORLD1	.416
WORLD2	.734
WORLD3	.701
WORLD4	.643
SAT9	.679
SAT8	.645
SAT7	.424
SAT6	.381
SAT5	.437
SAT4	.316

	Estimate
SAT1	.421
SAT2	.329
SAT3	.487

Modification Indices (Group number 1 - Stage 3 model)

Covariances: (Group number 1 - Stage 3 model)

	M.I.	Par Change
z2 <--> z3	70.001	.130
z1 <--> z3	144.071	.193
z1 <--> z2	80.117	.203
z7 <--> MASC_POS	43.379	-1.864
z7 <--> z2	69.498	-.229
z7 <--> z1	55.796	-.211
e29 <--> z4	50.985	-.168
e2 <--> z2	86.026	.311
e2 <--> e6	57.495	.383
e3 <--> e4	51.978	.289

Variances: (Group number 1 - Stage 3 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 3 model)

			M.I.	Par Change
relatedness	<---	autonomy	95.418	.345
competence	<---	relatedness	47.987	.423
competence	<---	autonomy	53.165	.364
autonomy	<---	relatedness	98.741	.627
autonomy	<---	competence	45.109	.303
SRWNE	<---	competence	96.577	-.535
SRWNE	<---	autonomy	72.824	-.530
SRWNE	<---	dispositional_optimism	112.549	-.723
SRWNE	<---	perceived_control	88.126	-.679
SRWNE	<---	world_beliefs	56.298	-.410
SOC_INT	<---	FEM_POS	41.309	.034
SOC_INT	<---	relatedness	48.198	.498
EXTREG	<---	autonomy	43.140	-.268
SAT6	<---	SAT2	56.215	.266
SAT4	<---	SAT3	40.230	.302
SAT2	<---	EXTREG	40.139	-.270
SAT2	<---	OPTIM3	40.406	.285
SAT2	<---	SAT6	70.296	.289
SAT3	<---	relatedness	51.706	.498
SAT3	<---	SAT9	42.536	.211

			M.I.	Par Change
SAT3	<---	SAT8	51.963	.243
SAT3	<---	SAT4	69.326	.208

Minimization History (Stage 3 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.529	9999.000	9664.751	0	9999.000
1	e	14		-.218	2.577	6004.710	19	.587
2	e*	1		-.156	2.071	3583.789	5	.700
3	e	1		-.019	1.027	2772.720	5	.739
4	e	0	2329.245		1.239	2305.751	6	.827
5	e	0	438.357		.618	2237.082	3	.000
6	e	0	328.903		.549	2151.910	1	1.081
7	e	0	361.463		.335	2145.779	1	.985
8	e	0	496.635		.061	2145.182	1	1.021
9	e	0	498.286		.012	2145.179	1	1.004
10	e	0	481.570		.000	2145.179	1	1.000

Stage 4 model (Stage 4 model)

Notes for Model (Stage 4 model)

Computation of degrees of freedom (Stage 4 model)

Number of distinct sample moments:	561
Number of distinct parameters to be estimated:	112
Degrees of freedom (561 - 112):	449

Result (Stage 4 model)

Minimum was achieved
Chi-square = 1991.499
Degrees of freedom = 449
Probability level = .000

Group number 1 (Group number 1 - Stage 4 model)

Estimates (Group number 1 - Stage 4 model)

Scalar Estimates (Group number 1 - Stage 4 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 4 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.032	.004	7.445	***	am
competence	<---	MASC_POS	.052	.005	9.596	***	cm
autonomy	<---	FEM_POS	.016	.005	3.470	***	af

			Estimate	S.E.	C.R.	P	Label
competence	<---	FEM_POS	.012	.005	2.278	.023	cf
relatedness	<---	FEM_POS	.029	.004	8.263	***	rf
autonomy	<---	TRAUMA	-.192	.041	-4.703	***	at
competence	<---	TRAUMA	-.146	.044	-3.309	***	ct
relatedness	<---	TRAUMA	-.162	.029	-5.647	***	rt
relatedness	<---	MASC_POS	.015	.003	5.120	***	rm
world_beliefs	<---	MASC_POS	-.011	.005	-1.985	.047	wb_m
world_beliefs	<---	FEM_POS	-.008	.005	-1.623	.105	wb_f
perceived_control	<---	MASC_POS	-.008	.005	-1.848	.065	pc_m
perceived_control	<---	FEM_POS	-.004	.004	-.946	.344	pc_f
perceived_control	<---	TRAUMA	.047	.035	1.344	.179	pc_t
world_beliefs	<---	autonomy	.171	.061	2.799	.005	wb_a
dispositional_optimism	<---	MASC_POS	-.009	.004	-2.162	.031	do_m
dispositional_optimism	<---	FEM_POS	-.005	.004	-1.315	.188	do_f
dispositional_optimism	<---	TRAUMA	-.004	.034	-.119	.905	do_t
perceived_control	<---	autonomy	.247	.053	4.631	***	pc_a
dispositional_optimism	<---	autonomy	.299	.051	5.850	***	do_a
perceived_control	<---	competence	.526	.069	7.613	***	pc_c
perceived_control	<---	relatedness	-.022	.057	-.393	.695	pc_r
world_beliefs	<---	competence	.456	.068	6.687	***	wb_c
world_beliefs	<---	relatedness	.157	.071	2.211	.027	wb_r
dispositional_optimism	<---	competence	.515	.062	8.312	***	do_c
dispositional_optimism	<---	relatedness	.302	.057	5.279	***	do_r
world_beliefs	<---	TRAUMA	-.019	.042	-.445	.656	wb_t
SRWNE	<---	MASC_POS	.000	.008	-.049	.961	sm
SRWNE	<---	FEM_POS	.025	.006	3.951	***	sf
SRWNE	<---	TRAUMA	-.185	.050	-3.671	***	st
SRWNE	<---	autonomy	-.305	.111	-2.739	.006	sa
SRWNE	<---	competence	-.299	.182	-1.639	.101	sc
SRWNE	<---	relatedness	-.073	.101	-.722	.470	sr
SRWNE	<---	world_beliefs	-.087	.063	-1.373	.170	s_wb
SRWNE	<---	perceived_control	-.047	.128	-.364	.716	s_pc
SRWNE	<---	dispositional_optimism	-.086	.171	-.504	.614	s_do
somatic_amplifica	<---	MASC_POS	.000				
somatic_amplifica	<---	FEM_POS	.000				
somatic_amplifica	<---	TRAUMA	.000				
somatic_amplifica	<---	autonomy	.000				
somatic_amplifica	<---	competence	.000				
somatic_amplifica	<---	relatedness	.000				
somatic_amplifica	<---	world_beliefs	.000				
somatic_amplifica	<---	perceived_control	.000				
somatic_amplifica	<---	dispositional_optimism	.000				
somatic_amplifica	<---	SRWNE	.000				
Social well_being	<---	MASC_POS	-.008	.006	-1.473	.141	pwb_m

		Estimate	S.E.	C.R.	P	Label
Social well_being	<--- autonomy	-.031	.083	-.376	.707	pwb_a
Social well_being	<--- competence	.269	.139	1.933	.053	pwb_c
Social well_being	<--- world_beliefs	.524	.055	9.454	***	pwb_wb
Social well_being	<--- perceived_control	.158	.096	1.650	.099	pwb_pc
Social well_being	<--- TRAUMA	.038	.038	1.006	.314	pwb_t
Social well_being	<--- relatedness	.226	.077	2.950	.003	pwb_r
Social well_being	<--- dispositional_optimism	.292	.128	2.279	.023	pwb_do
Social well_being	<--- SRWNE	-.011	.034	-.335	.738	pwb_s
Social well_being	<--- somatic_amplifica	.000				
Social well_being	<--- FEM_POS	-.003	.005	-.583	.560	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.104	.103	10.693	***	
SAT1	<--- autonomy	1.133	.100	11.316	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	.979	.087	11.290	***	
SAT6	<--- competence	1.100	.101	10.908	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.513	.099	15.249	***	
SAT9	<--- relatedness	1.618	.105	15.351	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.059	.047	22.342	***	
WORLD2	<--- world_beliefs	.925	.040	22.867	***	
WORLD1	<--- world_beliefs	.790	.049	16.261	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.024	.083	12.364	***	
CONTR3	<--- perceived_control	1.318	.104	12.663	***	
OPTIM1	<--- dispositional_optimism	1.000				
OPTIM2	<--- dispositional_optimism	.925	.066	13.912	***	
OPTIM3	<--- dispositional_optimism	1.269	.078	16.198	***	
EXTREG	<--- SRWNE	1.000				
IDENTREG	<--- SRWNE	.657	.033	19.820	***	
SOMATIC2	<--- somatic_amplifica	1.000				
SOMATIC3	<--- somatic_amplifica	1.463	.221	6.636	***	
SOMATIC4	<--- somatic_amplifica	.803	.097	8.317	***	
SOC_COH	<--- Social well_being	1.000				
SOC_INT	<--- Social well_being	.895	.065	13.694	***	
SOC_ACC	<--- Social well_being	.819	.060	13.607	***	
INTROREG	<--- SRWNE	1.162	.043	27.057	***	
SOC_CON	<--- Social well_being	.838	.062	13.504	***	
SOC_ACT	<--- Social well_being	1.066	.068	15.701	***	

Standardized Regression Weights: (Group number 1 - Stage 4 model)

			Estimate
autonomy	<---	MASC_POS	.364
competence	<---	MASC_POS	.535
autonomy	<---	FEM_POS	.161
competence	<---	FEM_POS	.103
relatedness	<---	FEM_POS	.364
autonomy	<---	TRAUMA	-.218
competence	<---	TRAUMA	-.150
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.213
world_beliefs	<---	MASC_POS	-.114
world_beliefs	<---	FEM_POS	-.076
perceived_control	<---	MASC_POS	-.112
perceived_control	<---	FEM_POS	-.046
perceived_control	<---	TRAUMA	.063
world_beliefs	<---	autonomy	.162
dispositional_optimism	<---	MASC_POS	-.120
dispositional_optimism	<---	FEM_POS	-.058
dispositional_optimism	<---	TRAUMA	-.005
perceived_control	<---	autonomy	.291
dispositional_optimism	<---	autonomy	.338
perceived_control	<---	competence	.685
perceived_control	<---	relatedness	-.021
world_beliefs	<---	competence	.476
world_beliefs	<---	relatedness	.117
dispositional_optimism	<---	competence	.642
dispositional_optimism	<---	relatedness	.268
world_beliefs	<---	TRAUMA	-.020
SRWNE	<---	MASC_POS	-.003
SRWNE	<---	FEM_POS	.186
SRWNE	<---	TRAUMA	-.162
SRWNE	<---	autonomy	-.234
SRWNE	<---	competence	-.254
SRWNE	<---	relatedness	-.044
SRWNE	<---	world_beliefs	-.071
SRWNE	<---	perceived_control	-.030
SRWNE	<---	dispositional_optimism	-.059
somatic_amplifica	<---	MASC_POS	.000
somatic_amplifica	<---	FEM_POS	.000
somatic_amplifica	<---	TRAUMA	.000
somatic_amplifica	<---	autonomy	.000
somatic_amplifica	<---	competence	.000
somatic_amplifica	<---	relatedness	.000
somatic_amplifica	<---	world_beliefs	.000

			Estimate
somatic_amplifica	<---	perceived_control	.000
somatic_amplifica	<---	dispositional_optimism	.000
somatic_amplifica	<---	SRWNE	.000
Social well_being	<---	MASC_POS	-.080
Social well_being	<---	autonomy	-.026
Social well_being	<---	competence	.251
Social well_being	<---	world_beliefs	.469
Social well_being	<---	perceived_control	.113
Social well_being	<---	TRAUMA	.037
Social well_being	<---	relatedness	.150
Social well_being	<---	dispositional_optimism	.219
Social well_being	<---	SRWNE	-.013
Social well_being	<---	somatic_amplifica	.000
Social well_being	<---	FEM_POS	-.023
SAT3	<---	autonomy	.677
SAT2	<---	autonomy	.590
SAT1	<---	autonomy	.658
SAT4	<---	competence	.554
SAT5	<---	competence	.664
SAT6	<---	competence	.625
SAT7	<---	relatedness	.651
SAT8	<---	relatedness	.804
SAT9	<---	relatedness	.824
WORLD4	<---	world_beliefs	.802
WORLD3	<---	world_beliefs	.838
WORLD2	<---	world_beliefs	.856
WORLD1	<---	world_beliefs	.644
CONTR1	<---	perceived_control	.597
CONTR2	<---	perceived_control	.718
CONTR3	<---	perceived_control	.770
OPTIM1	<---	dispositional_optimism	.741
OPTIM2	<---	dispositional_optimism	.633
OPTIM3	<---	dispositional_optimism	.755
EXTREG	<---	SRWNE	.845
IDENTREG	<---	SRWNE	.698
SOMATIC2	<---	somatic_amplifica	.523
SOMATIC3	<---	somatic_amplifica	.836
SOMATIC4	<---	somatic_amplifica	.474
SOC_COH	<---	Social well_being	.647
SOC_INT	<---	Social well_being	.659
SOC_ACC	<---	Social well_being	.654
INTROREG	<---	SRWNE	.973
SOC_CON	<---	Social well_being	.648
SOC_ACT	<---	Social well_being	.789

Covariances: (Group number 1 - Stage 4 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS <--> FEM_POS	7.803	2.108	3.701	***	
MASC_POS <--> TRAUMA	-.473	.244	-1.941	.052	
FEM_POS <--> TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 4 model)

	Estimate
MASC_POS <--> FEM_POS	.152
MASC_POS <--> TRAUMA	-.079
FEM_POS <--> TRAUMA	.004

Variances: (Group number 1 - Stage 4 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.353	.048	7.332	***	
z2	.368	.060	6.181	***	
z3	.211	.026	8.104	***	
z4	.383	.036	10.612	***	
z5	.159	.027	5.966	***	
z6	.114	.020	5.787	***	
z7	.608	.051	11.864	***	
z8	1.055	.212	4.977	***	
z9	.177	.028	6.373	***	
e3	.548	.047	11.705	***	
e2	1.055	.076	13.835	***	
e1	.776	.063	12.234	***	
e4	1.279	.083	15.423	***	
e5	.687	.050	13.749	***	
e6	1.064	.074	14.470	***	
e7	.390	.026	14.792	***	
e8	.360	.035	10.436	***	
e9	.356	.037	9.505	***	
e13	.289	.021	13.480	***	
e12	.247	.020	12.218	***	
e11	.162	.014	11.378	***	
e10	.458	.029	15.886	***	
e16	.397	.038	10.329	***	
e15	.329	.027	12.167	***	
e14	.602	.041	14.771	***	
e17	.300	.024	12.643	***	
e18	.467	.031	14.843	***	
e19	.441	.036	12.180	***	

	Estimate	S.E.	C.R.	P	Label
e20	.315	.027	11.668	***	
e21	.061	.027	2.244	.025	
e22	.358	.022	15.922	***	
e23	2.798	.218	12.820	***	
e24	.975	.321	3.043	.002	
e25	2.344	.165	14.212	***	
e26	.899	.058	15.429	***	
e27	.676	.044	15.298	***	
e28	.582	.038	15.355	***	
e29	.629	.041	15.421	***	
e30	.448	.035	12.847	***	

Squared Multiple Correlations: (Group number 1 - Stage 4 model)

	Estimate
relatedness	.264
competence	.349
autonomy	.236
dispositional_optimism	.688
perceived_control	.523
world_beliefs	.262
SRWNE	.225
somatic_amplifica	.000
Social well_being	.727
SOC_ACT	.622
SOC_CON	.420
SOC_ACC	.428
SOC_INT	.434
SOC_COH	.419
SOMATIC4	.225
SOMATIC3	.699
SOMATIC2	.274
IDENTREG	.487
INTROREG	.946
EXTREG	.714
OPTIM3	.571
OPTIM2	.400
OPTIM1	.548
CONTR1	.356
CONTR2	.515
CONTR3	.593
WORLD1	.415
WORLD2	.733
WORLD3	.702
WORLD4	.643

	Estimate
SAT9	.679
SAT8	.646
SAT7	.424
SAT6	.391
SAT5	.441
SAT4	.306
SAT1	.434
SAT2	.348
SAT3	.458

Modification Indices (Group number 1 - Stage 4 model)

Covariances: (Group number 1 - Stage 4 model)

	M.I.	Par Change
z2 <--> z3	70.080	.129
z1 <--> z3	141.101	.186
z1 <--> z2	79.255	.193
e29 <--> z4	51.713	-.169
e2 <--> z2	87.208	.306
e2 <--> e6	54.446	.368
e3 <--> e4	54.879	.300

Variances: (Group number 1 - Stage 4 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 4 model)

			M.I.	Par Change
relatedness	<---	autonomy	95.548	.356
competence	<---	relatedness	48.042	.417
competence	<---	autonomy	53.788	.371
autonomy	<---	relatedness	96.709	.602
autonomy	<---	competence	44.985	.298
SOC_INT	<---	FEM_POS	41.398	.034
SOC_INT	<---	relatedness	48.623	.502
IDENTREG	<---	dispositional_optimism	41.251	.291
SAT6	<---	SAT2	55.122	.262
SAT4	<---	SAT3	41.781	.310
SAT2	<---	SAT6	67.759	.281
SAT3	<---	relatedness	54.803	.517
SAT3	<---	SAT9	44.478	.217
SAT3	<---	SAT8	53.673	.249
SAT3	<---	SAT4	73.638	.216

Minimization History (Stage 4 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.579	9999.000	9816.459	0	9999.000
1	e	15		-.231	2.686	5980.743	19	.552
2	e*	2		-7.211	2.101	4139.049	5	.509
3	e	1		-.197	.546	3228.715	4	.450
4	e	1		-.010	.946	2478.688	5	.842
5	e	0	1022.599		.981	2119.857	5	.912
6	e	0	300.861		.878	2085.403	3	.000
7	e	1		-.102	1.004	2032.112	1	.573
8	e	0	1361.015		.120	2009.101	6	.768
9	e	0	453.630		1.036	2006.406	1	.147
10	e	0	494.760		.375	1992.894	1	.948
11	e	0	515.380		.272	1992.334	1	.315
12	e	0	535.206		.024	1991.545	1	1.052
13	e	0	512.468		.055	1991.500	1	1.001
14	e	0	512.468		.001	1991.499	1	1.000
15	e	0	512.468		.000	1991.499	1	1.000

Stage 5 model (Stage 5 model)

Notes for Model (Stage 5 model)

Computation of degrees of freedom (Stage 5 model)

Number of distinct sample moments:	561
Number of distinct parameters to be estimated:	123
Degrees of freedom (561 - 123):	438

Result (Stage 5 model)

Minimum was achieved
Chi-square = 1925.535
Degrees of freedom = 438
Probability level = .000

Group number 1 (Group number 1 - Stage 5 model)

Estimates (Group number 1 - Stage 5 model)

Scalar Estimates (Group number 1 - Stage 5 model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Stage 5 model)

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	MASC_POS	.032	.004	7.415	***	am
competence	<---	MASC_POS	.052	.005	9.580	***	cm

			Estimate	S.E.	C.R.	P	Label
autonomy	<---	FEM_POS	.016	.005	3.451	***	af
competence	<---	FEM_POS	.012	.005	2.269	.023	cf
relatedness	<---	FEM_POS	.029	.004	8.255	***	rf
autonomy	<---	TRAUMA	-.192	.041	-4.704	***	at
competence	<---	TRAUMA	-.146	.044	-3.312	***	ct
relatedness	<---	TRAUMA	-.162	.029	-5.644	***	rt
relatedness	<---	MASC_POS	.015	.003	5.120	***	rm
world_beliefs	<---	MASC_POS	-.011	.005	-1.975	.048	wb_m
world_beliefs	<---	FEM_POS	-.008	.005	-1.614	.107	wb_f
perceived_control	<---	MASC_POS	-.008	.005	-1.835	.066	pc_m
perceived_control	<---	FEM_POS	-.004	.004	-.934	.350	pc_f
perceived_control	<---	TRAUMA	.047	.035	1.348	.178	pc_t
world_beliefs	<---	autonomy	.173	.061	2.815	.005	wb_a
dispositional_optimism	<---	MASC_POS	-.009	.004	-2.149	.032	do_m
dispositional_optimism	<---	FEM_POS	-.005	.004	-1.304	.192	do_f
dispositional_optimism	<---	TRAUMA	-.004	.034	-.120	.904	do_t
perceived_control	<---	autonomy	.249	.053	4.649	***	pc_a
dispositional_optimism	<---	autonomy	.302	.051	5.869	***	do_a
perceived_control	<---	competence	.527	.069	7.604	***	pc_c
perceived_control	<---	relatedness	-.023	.057	-.399	.690	pc_r
world_beliefs	<---	competence	.456	.068	6.673	***	wb_c
world_beliefs	<---	relatedness	.157	.071	2.208	.027	wb_r
dispositional_optimism	<---	competence	.516	.062	8.305	***	do_c
dispositional_optimism	<---	relatedness	.304	.057	5.292	***	do_r
world_beliefs	<---	TRAUMA	-.019	.042	-.444	.657	wb_t
SRWNE	<---	MASC_POS	.000	.008	-.041	.967	sm
SRWNE	<---	FEM_POS	.025	.006	3.962	***	sf
SRWNE	<---	TRAUMA	-.185	.051	-3.655	***	st
SRWNE	<---	autonomy	-.312	.113	-2.774	.006	sa
SRWNE	<---	competence	-.300	.183	-1.639	.101	sc
SRWNE	<---	relatedness	-.075	.102	-.734	.463	sr
SRWNE	<---	world_beliefs	-.087	.064	-1.371	.170	s_wb
SRWNE	<---	perceived_control	-.047	.129	-.366	.714	s_pc
SRWNE	<---	dispositional_optimism	-.086	.171	-.500	.617	s_do
somatic_amplifica	<---	MASC_POS	-.007	.012	-.548	.584	sa_m
somatic_amplifica	<---	FEM_POS	.027	.011	2.576	.010	sa_f
somatic_amplifica	<---	TRAUMA	.112	.084	1.329	.184	sa_t
somatic_amplifica	<---	autonomy	-.071	.184	-.385	.701	sa_a
somatic_amplifica	<---	competence	-.041	.298	-.137	.891	sa_c
somatic_amplifica	<---	relatedness	.280	.169	1.656	.098	sa_r
somatic_amplifica	<---	world_beliefs	-.048	.103	-.465	.642	sa_wb
somatic_amplifica	<---	perceived_control	-.053	.208	-.254	.800	sa_pc
somatic_amplifica	<---	dispositional_optimism	-.360	.279	-1.291	.197	sa_do
somatic_amplifica	<---	SRWNE	.237	.078	3.047	.002	sa_s

		Estimate	S.E.	C.R.	P	Label
Social well_being	<--- MASC_POS	-.008	.006	-1.483	.138	pwb_m
Social well_being	<--- autonomy	-.033	.083	-.391	.696	pwb_a
Social well_being	<--- competence	.269	.139	1.938	.053	pwb_c
Social well_being	<--- world_beliefs	.524	.055	9.456	***	pwb_wb
Social well_being	<--- perceived_control	.158	.096	1.654	.098	pwb_pc
Social well_being	<--- TRAUMA	.039	.038	1.037	.300	pwb_t
Social well_being	<--- relatedness	.229	.078	2.957	.003	pwb_r
Social well_being	<--- dispositional_optimism	.287	.128	2.237	.025	pwb_do
Social well_being	<--- SRWNE	-.009	.035	-.267	.789	pwb_s
Social well_being	<--- somatic_amplifica	-.012	.029	-.390	.696	pwb_sa
Social well_being	<--- FEM_POS	-.002	.005	-.504	.615	pwb_f
SAT3	<--- autonomy	1.000				
SAT2	<--- autonomy	1.111	.104	10.711	***	
SAT1	<--- autonomy	1.138	.101	11.317	***	
SAT4	<--- competence	1.000				
SAT5	<--- competence	.982	.087	11.276	***	
SAT6	<--- competence	1.104	.101	10.899	***	
SAT7	<--- relatedness	1.000				
SAT8	<--- relatedness	1.517	.100	15.237	***	
SAT9	<--- relatedness	1.621	.106	15.338	***	
WORLD4	<--- world_beliefs	1.000				
WORLD3	<--- world_beliefs	1.059	.047	22.334	***	
WORLD2	<--- world_beliefs	.925	.040	22.870	***	
WORLD1	<--- world_beliefs	.790	.049	16.258	***	
CONTR1	<--- perceived_control	1.000				
CONTR2	<--- perceived_control	1.023	.083	12.368	***	
CONTR3	<--- perceived_control	1.317	.104	12.672	***	
OPTIM1	<--- dispositional_optimism	1.000				
OPTIM2	<--- dispositional_optimism	.920	.066	13.927	***	
OPTIM3	<--- dispositional_optimism	1.263	.078	16.248	***	
EXTREG	<--- SRWNE	1.000				
IDENTREG	<--- SRWNE	.656	.033	19.861	***	
SOMATIC2	<--- somatic_amplifica	1.000				
SOMATIC3	<--- somatic_amplifica	1.132	.128	8.863	***	
SOMATIC4	<--- somatic_amplifica	.724	.086	8.432	***	
SOC_COH	<--- Social well_being	1.000				
SOC_INT	<--- Social well_being	.894	.065	13.711	***	
SOC_ACC	<--- Social well_being	.817	.060	13.607	***	
INTROREG	<--- SRWNE	1.154	.042	27.305	***	
SOC_CON	<--- Social well_being	.838	.062	13.533	***	
SOC_ACT	<--- Social well_being	1.064	.068	15.715	***	

Standardized Regression Weights: (Group number 1 - Stage 5 model)

			Estimate
autonomy	<---	MASC_POS	.363
competence	<---	MASC_POS	.535
autonomy	<---	FEM_POS	.160
competence	<---	FEM_POS	.103
relatedness	<---	FEM_POS	.364
autonomy	<---	TRAUMA	-.219
competence	<---	TRAUMA	-.150
relatedness	<---	TRAUMA	-.234
relatedness	<---	MASC_POS	.213
world_beliefs	<---	MASC_POS	-.113
world_beliefs	<---	FEM_POS	-.075
perceived_control	<---	MASC_POS	-.111
perceived_control	<---	FEM_POS	-.045
perceived_control	<---	TRAUMA	.064
world_beliefs	<---	autonomy	.163
dispositional_optimism	<---	MASC_POS	-.119
dispositional_optimism	<---	FEM_POS	-.058
dispositional_optimism	<---	TRAUMA	-.005
perceived_control	<---	autonomy	.292
dispositional_optimism	<---	autonomy	.338
perceived_control	<---	competence	.684
perceived_control	<---	relatedness	-.021
world_beliefs	<---	competence	.475
world_beliefs	<---	relatedness	.116
dispositional_optimism	<---	competence	.640
dispositional_optimism	<---	relatedness	.268
world_beliefs	<---	TRAUMA	-.020
SRWNE	<---	MASC_POS	-.003
SRWNE	<---	FEM_POS	.186
SRWNE	<---	TRAUMA	-.161
SRWNE	<---	autonomy	-.238
SRWNE	<---	competence	-.253
SRWNE	<---	relatedness	-.045
SRWNE	<---	world_beliefs	-.071
SRWNE	<---	perceived_control	-.031
SRWNE	<---	dispositional_optimism	-.058
somatic_amplifica	<---	MASC_POS	-.045
somatic_amplifica	<---	FEM_POS	.155
somatic_amplifica	<---	TRAUMA	.074
somatic_amplifica	<---	autonomy	-.041
somatic_amplifica	<---	competence	-.026
somatic_amplifica	<---	relatedness	.128
somatic_amplifica	<---	world_beliefs	-.029

			Estimate
somatic_amplifica	<---	perceived_control	-.026
somatic_amplifica	<---	dispositional_optimism	-.186
somatic_amplifica	<---	SRWNE	.180
Social well_being	<---	MASC_POS	-.081
Social well_being	<---	autonomy	-.027
Social well_being	<---	competence	.250
Social well_being	<---	world_beliefs	.468
Social well_being	<---	perceived_control	.113
Social well_being	<---	TRAUMA	.038
Social well_being	<---	relatedness	.152
Social well_being	<---	dispositional_optimism	.215
Social well_being	<---	SRWNE	-.010
Social well_being	<---	somatic_amplifica	-.017
Social well_being	<---	FEM_POS	-.020
SAT3	<---	autonomy	.674
SAT2	<---	autonomy	.592
SAT1	<---	autonomy	.659
SAT4	<---	competence	.552
SAT5	<---	competence	.664
SAT6	<---	competence	.626
SAT7	<---	relatedness	.650
SAT8	<---	relatedness	.804
SAT9	<---	relatedness	.824
WORLD4	<---	world_beliefs	.802
WORLD3	<---	world_beliefs	.838
WORLD2	<---	world_beliefs	.857
WORLD1	<---	world_beliefs	.644
CONTR1	<---	perceived_control	.597
CONTR2	<---	perceived_control	.717
CONTR3	<---	perceived_control	.770
OPTIM1	<---	dispositional_optimism	.743
OPTIM2	<---	dispositional_optimism	.631
OPTIM3	<---	dispositional_optimism	.754
EXTREG	<---	SRWNE	.848
IDENTREG	<---	SRWNE	.698
SOMATIC2	<---	somatic_amplifica	.598
SOMATIC3	<---	somatic_amplifica	.739
SOMATIC4	<---	somatic_amplifica	.489
SOC_COH	<---	Social well_being	.648
SOC_INT	<---	Social well_being	.659
SOC_ACC	<---	Social well_being	.653
INTROREG	<---	SRWNE	.969
SOC_CON	<---	Social well_being	.649
SOC_ACT	<---	Social well_being	.788

Covariances: (Group number 1 - Stage 5 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS <--> FEM_POS	7.803	2.108	3.701	***	
MASC_POS <--> TRAUMA	-.473	.244	-1.941	.052	
FEM_POS <--> TRAUMA	.021	.209	.099	.921	

Correlations: (Group number 1 - Stage 5 model)

	Estimate
MASC_POS <--> FEM_POS	.152
MASC_POS <--> TRAUMA	-.079
FEM_POS <--> TRAUMA	.004

Variances: (Group number 1 - Stage 5 model)

	Estimate	S.E.	C.R.	P	Label
MASC_POS	59.581	3.428	17.378	***	
FEM_POS	44.033	2.534	17.378	***	
TRAUMA	.599	.034	17.378	***	
z1	.352	.048	7.317	***	
z2	.367	.059	6.170	***	
z3	.211	.026	8.088	***	
z4	.383	.036	10.613	***	
z5	.159	.027	5.971	***	
z6	.115	.020	5.804	***	
z7	.611	.051	11.902	***	
z8	1.143	.188	6.079	***	
z9	.177	.028	6.377	***	
e3	.551	.047	11.784	***	
e2	1.051	.076	13.800	***	
e1	.775	.063	12.225	***	
e4	1.281	.083	15.434	***	
e5	.686	.050	13.733	***	
e6	1.062	.073	14.454	***	
e7	.391	.026	14.820	***	
e8	.359	.034	10.432	***	
e9	.355	.037	9.517	***	
e13	.289	.021	13.481	***	
e12	.247	.020	12.225	***	
e11	.161	.014	11.366	***	
e10	.458	.029	15.887	***	
e16	.397	.038	10.329	***	
e15	.329	.027	12.184	***	
e14	.602	.041	14.766	***	
e17	.297	.024	12.594	***	
e18	.468	.031	14.876	***	
e19	.444	.036	12.254	***	

	Estimate	S.E.	C.R.	P	Label
e20	.309	.027	11.576	***	
e21	.068	.027	2.571	.010	
e22	.356	.022	15.917	***	
e23	2.471	.203	12.168	***	
e24	1.464	.198	7.396	***	
e25	2.299	.156	14.715	***	
e26	.897	.058	15.419	***	
e27	.676	.044	15.298	***	
e28	.583	.038	15.366	***	
e29	.628	.041	15.413	***	
e30	.450	.035	12.872	***	

Squared Multiple Correlations: (Group number 1 - Stage 5 model)

	Estimate
relatedness	.264
competence	.349
autonomy	.235
dispositional_optimism	.687
perceived_control	.523
world_beliefs	.261
SRWNE	.226
somatic_amplifica	.170
Social well_being	.728
SOC_ACT	.620
SOC_CON	.421
SOC_ACC	.426
SOC_INT	.434
SOC_COH	.420
SOMATIC4	.239
SOMATIC3	.547
SOMATIC2	.358
IDENTREG	.488
INTROREG	.939
EXTREG	.719
OPTIM3	.568
OPTIM2	.398
OPTIM1	.552
CONTR1	.357
CONTR2	.515
CONTR3	.593
WORLD1	.415
WORLD2	.734
WORLD3	.702
WORLD4	.643

	Estimate
SAT9	.679
SAT8	.647
SAT7	.423
SAT6	.392
SAT5	.442
SAT4	.305
SAT1	.434
SAT2	.351
SAT3	.455

Modification Indices (Group number 1 - Stage 5 model)

Covariances: (Group number 1 - Stage 5 model)

	M.I.	Par Change
z2 <--> z3	70.044	.128
z1 <--> z3	140.704	.184
z1 <--> z2	79.286	.192
e29 <--> z4	51.958	-.169
e2 <--> z2	87.393	.305
e2 <--> e6	54.093	.366
e3 <--> e4	55.312	.302

Variances: (Group number 1 - Stage 5 model)

	M.I.	Par Change

Regression Weights: (Group number 1 - Stage 5 model)

			M.I.	Par Change
relatedness	<---	autonomy	95.497	.356
competence	<---	relatedness	48.043	.417
competence	<---	autonomy	53.933	.372
autonomy	<---	relatedness	96.491	.600
autonomy	<---	competence	45.046	.298
SOC_INT	<---	FEM_POS	41.387	.034
SOC_INT	<---	relatedness	48.558	.502
IDENTREG	<---	dispositional_optimism	42.386	.295
IDENTREG	<---	OPTIM1	40.820	.195
SAT6	<---	SAT2	54.993	.262
SAT4	<---	SAT3	41.968	.310
SAT2	<---	SAT6	67.444	.280
SAT3	<---	relatedness	55.379	.521
SAT3	<---	SAT9	44.731	.218
SAT3	<---	SAT8	53.971	.250
SAT3	<---	SAT4	74.196	.217

Minimization History (Stage 5 model)

Iteration		Negative eigenvalues	Condition #	Smallest eigenvalue	Diameter	F	NTries	Ratio
0	e	18		-.616	9999.000	9903.855	0	9999.000
1	e	15		-.229	2.728	6003.926	19	.532
2	e*	1		-5.376	2.131	3937.984	5	.555
3	e	1		-.134	.534	3105.881	4	.517
4	e	1		-.019	1.020	2405.769	5	.777
5	e	0	394.046		1.223	2034.203	6	.817
6	e	0	388.425		.772	1939.279	1	1.030
7	e	0	451.208		.348	1926.422	1	1.001
8	e	0	491.842		.102	1925.547	1	1.039
9	e	0	517.404		.023	1925.535	1	1.019
10	e	0	509.059		.001	1925.535	1	1.001

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Stage 1 model	69	3692.648	492	.000	7.505
Stage 2 model	81	3107.425	480	.000	6.474
Stage 3 model	102	2145.179	459	.000	4.674
Stage 4 model	112	1991.499	449	.000	4.435
Stage 5 model	123	1925.535	438	.000	4.396
Saturated model	561	.000	0		
Independence model	33	9481.856	528	.000	17.958

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Stage 1 model	.580	.637	.586	.558
Stage 2 model	.436	.711	.662	.608
Stage 3 model	.312	.803	.759	.657
Stage 4 model	.274	.818	.773	.655
Stage 5 model	.222	.825	.776	.644
Saturated model	.000	1.000		
Independence model	.720	.274	.228	.258

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Stage 1 model	.611	.582	.644	.616	.643
Stage 2 model	.672	.640	.708	.677	.707
Stage 3 model	.774	.740	.813	.783	.812
Stage 4 model	.790	.753	.829	.797	.828
Stage 5 model	.797	.755	.836	.800	.834

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Stage 1 model	.932	.569	.599
Stage 2 model	.909	.611	.642
Stage 3 model	.869	.673	.706
Stage 4 model	.850	.672	.704
Stage 5 model	.830	.661	.692
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Stage 1 model	3200.648	3011.126	3397.532
Stage 2 model	2627.425	2454.909	2807.344
Stage 3 model	1686.179	1545.894	1833.951
Stage 4 model	1542.499	1407.923	1684.576
Stage 5 model	1487.535	1355.345	1627.226
Saturated model	.000	.000	.000
Independence model	8953.856	8641.222	9272.891

FMIN

Model	FMIN	F0	LO 90	HI 90
Stage 1 model	6.114	5.299	4.985	5.625
Stage 2 model	5.145	4.350	4.064	4.648
Stage 3 model	3.552	2.792	2.559	3.036
Stage 4 model	3.297	2.554	2.331	2.789
Stage 5 model	3.188	2.463	2.244	2.694
Saturated model	.000	.000	.000	.000
Independence model	15.698	14.824	14.307	15.352

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Stage 1 model	.104	.101	.107	.000
Stage 2 model	.095	.092	.098	.000
Stage 3 model	.078	.075	.081	.000
Stage 4 model	.075	.072	.079	.000
Stage 5 model	.075	.072	.078	.000
Independence model	.168	.165	.171	.000

AIC

Model	AIC	BCC	BIC	CAIC
Stage 1 model	3830.648	3838.880	4134.609	4203.609
Stage 2 model	3269.425	3279.088	3626.249	3707.249
Stage 3 model	2349.179	2361.347	2798.512	2900.512
Stage 4 model	2215.499	2228.861	2708.885	2820.885
Stage 5 model	2171.535	2186.208	2713.378	2836.378
Saturated model	1122.000	1188.926	3593.333	4154.333
Independence model	9547.856	9551.793	9693.229	9726.229

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Stage 1 model	6.342	6.028	6.668	6.356
Stage 2 model	5.413	5.127	5.711	5.429
Stage 3 model	3.889	3.657	4.134	3.910
Stage 4 model	3.668	3.445	3.903	3.690
Stage 5 model	3.595	3.376	3.827	3.620
Saturated model	1.858	1.858	1.858	1.968
Independence model	15.808	15.290	16.336	15.814

HOELTER

Model	HOELTER .05	HOELTER .01
Stage 1 model	90	93
Stage 2 model	104	108
Stage 3 model	144	150
Stage 4 model	152	159
Stage 5 model	154	160
Independence model	38	39

Nested Model Comparisons

Assuming model Stage 2 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	12	585.223	.000	.062	.065	.057	.061

Assuming model Stage 3 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	33	1547.469	.000	.163	.172	.158	.167
Stage 2 model	21	962.246	.000	.101	.107	.100	.106

Assuming model Stage 4 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	43	1701.149	.000	.179	.188	.171	.181
Stage 2 model	31	1115.926	.000	.118	.124	.114	.120
Stage 3 model	10	153.679	.000	.016	.017	.013	.014

Assuming model Stage 5 model to be correct:

Model	DF	CMIN	P	NFI Delta-1	IFI Delta-2	RFI rho-1	TLI rho2
Stage 1 model	54	1767.114	.000	.186	.195	.173	.183
Stage 2 model	42	1181.891	.000	.125	.131	.116	.123
Stage 3 model	21	219.644	.000	.023	.024	.015	.016
Stage 4 model	11	65.965	.000	.007	.007	.002	.002

Execution time summary

Minimization:	.110
Miscellaneous:	2.163
Bootstrap:	.000
Total:	2.273