

**Spiritual Resources as Antecedents of Work Engagement among  
Australian Religious Workers**

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To those religious workers who, seeking to promote the well-being of others, have ...

... served, suffered for a time, and fallen.

... served, suffered for a time, and continue to struggle on.

... served, suffered for a time, and thrive.

*“Never be lacking in zeal, but keep your spiritual fervour, serving the Lord.”*

*Romans 12:11*

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## **Statement of Authentication**

The work presented in this dissertation is, to the best of my knowledge and belief, original except as acknowledged in the text. I hereby declare that I have not submitted this material, either in full or in part, for a degree at this or any other institution. The length of this dissertation is 67,198 words, including references and appendices.

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## **Abstract**

Work engagement has generated much interest in both academic and practitioner domains as an antipode to the negative work state of burnout. Engaged employees feel enthusiastically devoted to their work tasks, are energetic and proactive, and seem happily engrossed and fully concentrated at work. Empirical research into occupational well-being among religious workers has also increased over the past two decades. However, it remains biased towards burnout. Further, extant research has tended to ignore religious/spiritual dimensions that not only make this population and their work distinct, but may provide additional resources that contribute to personal and occupational well-being. The purpose of the present research was to explore the relationships between work engagement and selected dimensions of spirituality (secure relationship/attachment to God, collaborative religious coping, sacred calling to the work) conceptualised as spiritual resources among Australian religious workers (clergy, chaplains, cross-cultural missionaries, youth workers, etc).

The job demands-resources model and the conservation of resources theory have served as leading theoretical frameworks guiding work engagement research. A consideration of spiritual resources as a category of personal resources within these theoretical perspectives provided a heuristic within which multiple hypotheses were tested. Findings from a series of three related studies are presented utilising both cross-sectional and full panel longitudinal research designs. Cross-sectional structural equation modelling analyses demonstrated a positive direct relationship between spiritual resources and work engagement, a negative direct relationship between spiritual resources and exhaustion, a negative indirect relationship between



spiritual resources and turnover intentions via work engagement, and a negative indirect relationship between spiritual resources and emotional ill-health via exhaustion. These relationships were significant when controlling for the effects of job demands, job resources, age, gender, job tenure, personality dimensions, and a common method factor. Three-wave longitudinal analyses confirmed that spiritual resources had a positive cross-lagged effect on work engagement, and that work engagement mediated the relationship between spiritual resources and subsequent (low) turnover intentions. However, longitudinal analyses failed to support the hypothesis of a positive reciprocal relationship between spiritual resources and work engagement. Rather, work engagement was found to have a negative indirect effect on spiritual resources over time, mediated by job resources. There appears to be a new dark side of work engagement for this cohort. Spiritual resources are diminished over time by work engagement and job resources.

Spiritual resources emerge as an important category of resources for work engagement among religious workers, and the present investigation indicates the need for energy to be invested in the ongoing development of spiritual resources to maintain work engagement. Practical applications, study limitations, and future research directions are discussed.

## **Chapter 1: Introduction**

This thesis tests hypothesised relationships between personal spiritual resources and work engagement among Australian religious workers within the overarching framework of the job demands-resources (JD-R) model (Demerouti, Bakker, Nachreiner, & Schaufeli, 2001; Schaufeli & Bakker, 2004). The current chapter provides an introduction to the key terms of the thesis, presents an overview of the ensuing chapters, and briefly outlines the significance of the present research.

### **Thesis Introduction and Overview**

The positive psychology movement seeks to redress a “pre-occupation only with repairing the worst things in life” by “also building positive qualities” (Seligman & Csikszentmihalyi, 2000, p. 5). This positive turn is evidenced within occupational health psychology by a shift from addressing burnout towards promoting work engagement – a positive affective-motivational state of fulfilment experienced by employees at work (Albrecht, 2010; Bakker, Schaufeli, Leiter, & Taris, 2008). However, research among clergy and other religious workers has not only retained a focus on ill-health and burnout, but has tended to neglect a category of resources intimately related to their work identity and practices – spiritual resources (Golden, Piedmont, Ciarrocchi, & Rodgerson, 2004; Meek et al., 2003). This thesis focuses on the nexus of this double research gap by exploring the relationship between spiritual resources and work engagement among Australian religious workers. This task is accomplished through a series of three related analyses concerning the organisational, personal, and spiritual antecedents of ill-health and motivational processes as guided by the JD-R model (Schaufeli & Bakker,

2004; Bakker & Demerouti, 2008; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007).

Chapter 2 reviews the relevant literature from which a model of occupational well-being relevant for religious workers is proposed. The topic of organisational health is introduced together with the rise of interest in work engagement. The definition of work engagement adopted in this thesis is “a positive, fulfilling, work-related state of mind that is characterized by vigour, dedication, and absorption” (Schaufeli, Salanova, González-Romá, & Bakker, 2002, p.74). The JD-R model is a comprehensive theoretical framework of well-being at work that has been used extensively in the study of work engagement (Albrecht, 2010). This model proposes that job demands evoke a health impairment process that leads to exhaustion and negative health and occupational outcomes, while job and personal resources promote work engagement and positive organisational outcomes via a motivational process (for a review see Hakanen & Roodt, 2010).

This thesis tests hypothesised relationships between spiritual resources, as a category of personal resources, and personal and occupational well-being among Australian religious workers. Although no clear consensus has been reached concerning a definition of religion and/or spirituality (see Zinnbauer & Pargament, 2005), this research follows a general trend of using the term spirituality to refer to personal beliefs, practices and subjective experiences related to, or comprising an interaction with, the sacred (Hill & Dik, 2012). *Spiritual* resources are thus conceptualised as a category of personal resources that comprise beliefs, practices, and experiences related to the sacred that enhance a person’s resilience and perceived ability to control and impact their environment successfully. This operationalisation of spiritual resources parallels a definition of the general class of personal resources

(see Hobfoll, Johnson, Ennis, & Jackson, 2003), yet includes the qualification of having the sacred as the referent. Personal resources have been found to predict work engagement independently and are included in an extended JD-R model (Xanthopoulou et al., 2007; 2009a). The relationship between spiritual resources and work engagement among religious workers is the focus of this thesis.

Religious workers in the present research include persons employed by Christian religious organisations (e.g., clergy, chaplains, cross-cultural missionaries, youth workers, denominational leaders). They may be categorised as ministers of religion who perform spiritual functions associated with beliefs and practices of religious faiths and who provide motivation, guidance and training in religious life for the people of a congregation, parish or community (Australian Bureau of Statistics [ABS], 1997). It is their common religious commitment that influences numerous aspects of their experience of work, including motivation, coping with occupational stress, and definitions of rewards and role success (Bikos & Hall, 2009). However, research to date has largely overlooked the religious worker's spiritual or religious experience and practice as a distinctive construct influencing well-being at work (Ellison, Roalson, Guillory, Flannelly, & Marcum, 2010; Hall, 1997).

Four main factors determined the choice to use an exclusively Christian sample in the present research. First, different religions vary across a wide range of theological and doctrinal beliefs and practices. These differences extend to fundamental beliefs such as the nature of the Divine being, whether the Divine other has attributes of personhood that allow for interactive communication and relationship, the number of Divine beings, and even whether or not there is a Divine other (Batson, Schoenrade, & Ventis, 1993; Spilka, Hood, Hunsberger, & Gorsuch,

2003). Indicators of spiritual wellness acceptable in some religious traditions can be inappropriate for other traditions as a result of different ideologies and values (Moberg, 2002). Such an array of diversity introduces a significant number of potential confounds that may affect the investigation of specific spiritual dimensions on work engagement (Patel & Cunningham, 2012). One homogenous faith tradition (i.e., Christianity) was selected in order to identify specific dimensions of spiritual belief, practice, and experience that may be theoretically considered as resources for Christian religious workers.

Second, Christianity currently represents the largest religious group in Australia. According to the 2011 census, 61.1% of the Australian population affiliates with Christianity in comparison with 7.2% who affiliate with non-Christian religions, and 31.7% who do not affiliate with any religion or did not respond (ABS, 2011). Recently, the number of Christian clergy working in Australia was reported to be 14,386 (Hughes, 2008), indicating a large number who could benefit directly from the study findings. Further, given the larger number of participants required for structural equation modelling, recruiting a sufficient sample for analysis from another religion in Australia was deemed impractical within the constraints of this research.

A third factor influencing the selection of a specifically Christian sample concerns the utilisation of previous studies focused on the psychology of religion. The vast majority of research exploring psychological mechanisms related to religious and spiritual beliefs and practices has been conducted using Christian samples within a Judeo-Christian framework (Kirkpatrick & Shaver, 1992; Spilka et al., 2003). Therefore, much of the empirical and theoretical literature that informed the present study is most relevant to this religious group.

Fourth, prior research into religious workers has almost solely been conducted on Christian populations. Further, the literature concerning Christian religious workers suggests that they represent an occupational cohort that faces unique job demands (i.e., combinations of job demands not found in other occupational cohorts) and subsequent distress (Beebe, 2007; Chandler, 2009; Cotton, Dollard, de Jonge, & Whetham, 2003). Around one quarter of Australian Christian clergy are experiencing burnout as an extreme or significant issue, with a further 50% on the borderline of burnout (Kaldor & Bullpitt, 2001). Similarly, Doolittle (2007) found 19% of Christian clergy from the United States reported high emotional exhaustion, with a further 55% reporting moderate emotional exhaustion. However, studies have also shown that Christian clergy and chaplains also experience high levels of job satisfaction (Bricker & Fleischer, 1993; Crossley, 2002; Francis, Loudon, & Rutledge, 2004). The use of a theoretical framework such as the JD-R model that can address both occupational distress and well-being is particularly applicable for such paradoxical findings concerning Christian religious workers' experience of work.

Chapter 3 outlines the general methodological approach adopted by the present research. An overview is provided of the participants and procedure of recruitment, measures of constructs included in models, together with rationales for design and statistical analyses selected in relation to the overall aim of the thesis.

Chapters 4-6 comprise a series of three studies that systematically test hypothesised relationships between spiritual resources and the dual processes of the JD-R model. These studies build on one another in order to establish a comprehensive understanding of the relationship between spiritual resources, work engagement, and the personal and occupational well-being of Australian religious

workers. Specific aims and hypotheses for each study are described in detail in their respective chapters (see Chapters 4-6).

Chapter 4 reports on the first study that investigates three hypothesised relationships between spiritual resources and the dual processes of the JD-R model in the presence of job demands, job resources, and demographic covariates.

Hypothesised associations were tested between spiritual resources and both work engagement and exhaustion, as well as between spiritual resources and emotional ill-health and turnover intention as mediated by work engagement and exhaustion.

Further, a hypothesised buffering effect of spiritual resources on the relationship between job demands and exhaustion was also tested. This cross-sectional analysis utilised item-level structural equation modelling techniques. Cross-validation of the measurement model and structural relationships were assessed using a split-half technique.

Chapter 5 contains a study that includes both spiritual resources and personality within the JD-R model. This study had two aims. First, the distinctness of spiritual resources in relation to established dimensions of personality was tested. This was important given criticisms that spiritual/religious constructs are merely the re-packaging or ‘religification’ of existing psychological constructs (Van Wicklin, 1990). Second, the incremental validity of the relationship between spiritual resources and the dual processes of the JD-R model was tested in the presence of trait-like personal resources as indicated by personality dimensions.

Chapter 6 tests relationships involving spiritual resources and work engagement observed in the preceding cross-sectional analyses by means of a three-wave longitudinal design. Further, this analysis includes an additional test of hypothesised reciprocal relationships between spiritual resources and work

engagement based on the principles of the conservation of resources (COR) theory (Hobfoll, 2002).

Chapter 7 concludes the thesis with a general discussion and interpretation of the main findings of the three studies, together with practical applications, research limitations, and future directions. Overall, spiritual resources emerge as a distinct and important category of resources antecedent to work engagement and personal and occupational well-being. Religious workers need to invest energy in the ongoing development of spiritual resources in order to maintain work engagement and well-being at work.

### **Significance of the Present Research**

This thesis makes a number of important theoretical, empirical, and practical contributions to the literature. Theoretical advances are made by integrating contributions from the psychology of religion and spirituality into a comprehensive work stress heuristic such as the JD-R model. This theoretical contribution answers long-standing calls for the utilisation of broader psychological theories to drive research into both clergy well-being and the psychology of religion and spirituality in general (Cotton et al., 2003; Kirkpatrick, 2005; Spilka et al., 2003).

The series of individual analyses makes empirical advances by exploring the incremental validity and causal properties of a previously unconsidered class of personal resources – *spiritual resources* – in relation to work engagement among an under-researched occupational cohort. This empirical contribution is achieved using advanced statistical procedures (structural equation modelling) across a combination of carefully designed cross-sectional and multi-wave longitudinal studies.



Practically, this research provides important evidence that can be used to guide the future development of interventions to enhance resilience and well-being among clergy and other religious workers. Such a contribution is important given the significant attrition rate among religious workers due to occupational strain, and the inefficacy of current burnout treatments (Grosch & Olsen, 2000; Randall, 2004).

In summary, the last decade has seen an increasing interest in work engagement as a positive work state characterised by high levels of energy, strong identification, and being happily engrossed in one's work. Spirituality in the workplace has also been receiving increasing attention over the past decade (Giacolonie & Jukiewicz, 2010). However, both concepts have remained largely independent research domains (Saks, 2011). This research seeks to bring together these domains by exploring the relationship between work engagement and spiritual resources among Australian religious workers utilising a comprehensive theoretical framework explaining well-being at work.

## **Chapter 2: Occupational Well-Being and Religious Workers**

This chapter reviews literature in order to propose a theoretical model of occupational stress and well-being relevant for clergy and other religious workers. The proposed model will be systematically tested in this thesis to confirm the presence and nature of hypothesised relationships between spiritual resources and work engagement for this occupational cohort.

### **Organisational Health Research and Work Engagement**

The topic of occupational stress is regarded as an important area of study given the amount of time people spend on work-related activities and the importance of work to one's sense of identity and worth (Jex, 1998; Schaufeli & Greenglass, 2001). While most discussions emphasise its negative qualities (McGowan, Gardner, & Fletcher, 2006), work stress has also been associated with positive work outcomes (McCauley, Ruderman, Ohlott, & Morrow, 1994). Job demands can be experienced as challenges rather than threats, and challenges can stimulate creativity, improve performance, and yield such personal benefits as job satisfaction and self-esteem (Cavanaugh, Boswell, Roehling, & Boudreau, 2000; Maslach, 1986; Nelson & Simmons, 2003). Selye (1978) used the term *distress* to refer to 'bad' or disruptive stress, and *eustress* to refer to 'good' stress that has positive motivational outcomes. Outcomes of occupational distress and eustress have been conceptualised respectively as the negative experience of burnout and the positive experience of engagement at work (Quick, Cooper, Nelson, Quick, & Gavin, 2003).

### **Work engagement as conceptualised in the present study.**

Academic interest in a state of intrinsic motivation at work that positively influences occupational performance and well-being has increased markedly with the emergence of Positive Psychology (Bakker & Daniels, 2013; Rothbard & Patil, 2012; Seligman & Csikszentmihalyi, 2000). This interest has given rise to a proliferation of operationalisations of various constructs referred to as either employee or work engagement that have been inconsistently defined as a state, a trait, a set of behaviours, characteristics of the work environment, or a combination of the above (Macey & Schneider, 2008).

The definition of work engagement adopted in this thesis is of a persistent, positive affective-motivational state of fulfilment in employees that is indicated by vigour, dedication, and absorption (Schaufeli et al., 2002). Vigour is characterised by high levels of energy at work, the willingness to invest effort in one's work, and perseverance in the face of difficulties. It has been suggested that vigour is closely associated with the motivational facets of arousal and a consistent action orientation (Mauno, Kinnunen, Mäkikangas, & Feldt, 2010). Dedication is characterised by a sense of significance, enthusiasm, inspiration, and pride associated with work. This dimension involves a particularly strong involvement and affective connection with one's work (Schaufeli et al., 2002). Absorption is characterised by being fully concentrated and happily engrossed in one's work such that time passes quickly. Absorption was included as a third constituent aspect of work engagement based on a qualitative study defining the characteristics of workers with high levels of job initiative and job commitment (Schaufeli et al., 2001).

Work engagement is considered the positive antipode to Maslach and colleagues' tripartite definition of burnout that includes exhaustion, cynicism, and

reduced professional efficacy (Schaufeli & Bakker, 2004). Some research suggests that vigour and dedication, which have been theoretically considered the direct opposites of exhaustion and cynicism respectively, may constitute the core experience of work engagement (González-Romá, Schaufeli, Bakker, & Lloret, 2006; Schaufeli et al., 2002). However, a temporal ordering among vigour, dedication, and absorption has not been identified, unlike the dimensions of burnout among which exhaustion has generally been considered to represent the first phase or ‘root’ of the syndrome’s development (Leiter & Maslach, 2005; Maslach & Jackson, 1982; Maslach, Schaufeli, & Leiter, 2001).

Though day-level variation in work engagement has been studied (e.g., Sonnentag, 2003; Xanthopoulou et al., 2009b), the majority of research has approached engagement from a more stable state or ‘habitual’ approach (Dalal, Brummel, Wee, & Thomas, 2008). This thesis follows in that tradition by adopting a habitual work engagement approach, referring to an affective-cognitive state that is relatively stable across time and focused on work rather than any particular object, event, individual, or behaviour (Schaufeli & Salanova, 2011). The relative constancy of work engagement is expected given the general stability of organisational and personal factors that are hypothesised to influence it (Bakker & Demerouti, 2008; Macey & Schneider, 2008).

### **Alternative academic conceptualisations of engagement.**

Given the variety of definitions available, it is important to distinguish the above definition from alternative approaches to engagement in the academic literature. The first alternative focuses on the employee’s identification with, and experience of, the work role. Kahn (1990) first conceptualised personal engagement

as “the harnessing of organisation members’ selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances” (p. 694). Personal engagement captures the degree to which the work role allows an employee to be psychologically present and employ their whole self (Kahn, 1992). Kahn theorised that engagement is promoted by work roles that are experienced as meaningful, psychologically safe and non-threatening to the self, and when the employee is psychologically available to invest physical, emotional, or psychological energies into that role (May, Gilson, & Harter, 2004). Rothbard (2001) built on Kahn’s notion of personal engagement by suggesting that it comprises the critical components of attention and absorption. Attention refers to a person’s cognitive availability and the amount of time one spends focused on a role. Absorption is defined by the intensity of the person’s focus and the degree to which a person is engrossed in a role. Finally, Rich and colleagues sought to further clarify engagement in terms of an employee’s exertion of physical energy, levels of positive affect, and cognitive attention and absorption in the work role (Rich, LePine, & Crawford, 2010).

The ways of conceptualising engagement initiated by Kahn and by Schaufeli et al. share the important commonality of including behavioural-energetic, emotional, and cognitive dimensions (Macey & Schneider, 2008; Schaufeli & Bakker, 2010). However, the key referent of engagement for Kahn (1990) and those who follow his tradition is the work *role*, whereas for Schaufeli and colleagues it is the work *activity* (Schaufeli & Bakker, 2010). The assessment of an employee’s relationship with their work activity is more appropriate for clergy and other religious workers given the multiplicity of diverse roles this occupational cohort are called on to perform (Blaikie, 1979; Kaldor & Bullpitt, 2001).

A second alternative approach conceptualises work engagement as the opposite end of a single tripartite burnout continuum. According to Maslach and Leiter (1997), engagement is characterised by energy (rather than exhaustion), involvement (rather than cynicism), and efficacy (rather than reduced professional efficacy). As such, this conceptualisation of engagement is assessed by the opposite pattern of scores on the three dimensions of the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996).

Consistent with this approach, Schaufeli and colleagues consider vigour and dedication to be direct opposites of exhaustion and cynicism respectively (Schaufeli et al., 2002; Schaufeli & Taris, 2005). The continuum spanned by vigour and exhaustion has been labelled *activation* or *energy*, whereas the continuum spanned by dedication and cynicism has been labelled *identification* (Gonzalez-Roma et al., 2006). However, Schaufeli and Bakker (2004) convincingly showed that burnout and work engagement are independent constructs that are negatively correlated, yet produced by independent psychological processes akin to other positive and negative affective states. Evidence for the relative independence of work engagement and burnout is provided by studies demonstrating that work engagement does not correlate perfectly with burnout (e.g. Hakanen, Bakker, & Schaufeli, 2006; Schaufeli & Bakker, 2004), and that positive organisational phenomena have been found to make unique contributions to explaining variance in organisational outcomes over and above negative ones (Bakker, Demerouti, & Euwema, 2005). Additionally, the inclusion of absorption rather than efficacy as a constituting element of work engagement is a further major departure from the approach of Maslach and colleagues. Finally, recent research has shown that vigour includes motivational aspects in addition to energy (Demerouti, Mostert, & Bakker, 2010). Thus, vigour

appears to represent more than simply the positive end of a single energy dimension directly opposite from exhaustion.

In summary, this thesis adopts the definition of work engagement as an independent and distinct stable state of well-being related to work activity that is operationalised by the components of vigour, dedication, and absorption. Though work engagement is negatively correlated with burnout, this perspective proposes that the same mechanisms that underlie work engagement do not underlie burnout, and that both constructs are best measured by different instruments (Schaufeli et al., 2002).

### **Discriminant validity of work engagement.**

The uniqueness of work engagement as a construct has been questioned by researchers who claim that it is merely a repackaging of other traditional organisational constructs (Macey & Schneider, 2008; Schohat & Vigoda-Gadot, 2010). Eight constructs that appear similar to work engagement as defined in this thesis are discussed below.

***Workaholism*** and work engagement both involve employees spending a great deal of time in work activities, working hard, and being loyal to the organisation they work for (Schaufeli & Bakker, 2010). However, workaholism can be differentiated from work engagement by the presence of high levels of extrinsic motivation to work in order to satisfy a compulsive drive (Schaufeli, Taris, & van Rhenen, 2008). Engaged workers, by contrast, are characterised by positive affect and an intrinsic motivation to work because it is inherently enjoyable and satisfying (Bakker et al., 2008; Gorgievski, Bakker, & Schaufeli, 2010; van Beek, Hu, Schaufeli, Taris, & Schreurs, 2012). Further, confirmatory factor analyses and structural equation

modelling have demonstrated that workaholism and work engagement are two distinct constructs, and have differential relationships with overwork, employee health, and performance (Schaufeli, Taris, & Bakker, 2006).

***Positive affectivity*** refers to the extent to which a person feels enthusiastic, active, and alert (Watson, Clark, & Tellegen, 1988). Work engagement can be distinguished from this general state of positive affectivity in that it is directed towards one particular domain – work. As such, work engagement may be considered a work-specific psychological state that corresponds with positive affectivity (Schaufeli & Bakker, 2010).

***Organisational commitment*** reflects an employee's allegiance to, and identification with, the organisation that provides employment (Mowday, Steers, & Porter, 1979). Work engagement can be differentiated from organisational commitment in that it is concerned with the work activity itself, rather than the organisation providing employment. Hallberg and Schaufeli (2006) found that organisational commitment was distinguished from work engagement via confirmatory factor analyses, and was also differentially related to health complaints and work characteristics such as autonomy, role overload, and role conflict.

***Job satisfaction*** has been defined as a positive emotional state resulting from the appraisal of one's job (Locke, 1976). Work engagement has been differentiated on the basis of activation in relation to work. That is, work engagement refers to an energetic and activated state of work related well-being, whereas job satisfaction is characterised by a passive state (Weigl et al., 2010). Further, Schaufeli and Bakker (2010) suggest that work engagement is concerned with an employee's mood amidst work activity, as opposed to job satisfaction that concerns an affective state that results from reflections about work.



***Organisational citizenship behaviour*** refers to voluntary behaviour beyond formal job requirements that promote the effective functioning of the organisation (Robbins, 2004). Work engagement, by contrast, is concerned with the work itself rather than the overall health of the employing organisation. Further, the focus of work engagement is the positive psychological state experienced when conducting the work itself in contrast to an assessment of the quantity and type of work conducted.

***Personal initiative*** comprises self-starting behaviour, proactivity, and persistence, and has been associated particularly with the vigour component of work engagement (Schaufeli & Bakker, 2010). However, a number of studies using both cross-sectional and longitudinal designs suggest the discriminate validity of these constructs, such that work engagement appears to have either a causal or reciprocal relationship with personal initiative (Hakanen, Perhoniemi, & Toppinen-Tanner, 2008; Salanova & Schaufeli, 2008; Sonnentag, 2003).

***Job involvement*** has been defined as the cognitive and psychological identification with a job (Kanungo, 1979). Though this construct is closely related to the dedication component of work engagement, it does not include the energy and absorption dimensions. Job involvement and work engagement have been shown to be empirically distinct constructs that display uniformity in their relationships with job resources and health complaints (Hallberg & Schaufeli, 2006).

***Flow*** is a state of optimal experience that is characterised by focused attention, a clear mind and body unison, effortless concentration, complete control, loss of self-consciousness, distortion of time, and intrinsic enjoyment (Csikszentmihalyi, 1991). Flow has been recognised as bearing similarities with the absorption dimension of work engagement (see Bakker, 2005). However, flow is not

uniquely concerned with work and refers to short-term “peak” experiences instead of a more pervasive and persistent state of mind (Storm & Rothmann, 2003).

In summary, the individual dimensions of vigour, dedication, and absorption do bear some conceptual overlap with other well-established organisational constructs (Newman & Harrison, 2008). However, the evidence reviewed above indicates that these conceptual similarities are not sufficient to reject the proposal that work engagement comprises a suitably distinct construct deserving unique theoretical and practical attention.

### **The Job Demands-Resources Model**

This section introduces a comprehensive model of well-being at work that provides a theoretical framework within which to build and test hypotheses concerning the relationship between spiritual resources and work engagement.

The job demands-resources (JD-R) model (Demerouti et al., 2001; Schaufeli & Bakker, 2004) is the most widely adopted theoretical framework used to study work engagement (Albrecht, 2010; Hakanen & Roodt, 2010). The JD-R model proposes that employee well-being is related to a wide range of workplace variables that can be conceptualised as either job demands or job resources irrespective of the occupational context under study (Bakker, Demerouti, & Schaufeli, 2003; Bakker & Demerouti, 2007). Job demands are the physical, social, or organisational aspects of one’s work that require sustained physical or psychological (cognitive or emotional) effort. Job resources are those physical, psychological, social, or organisational aspects of the work environment that aid in achieving work goals, stimulate personal growth, learning and development, or reduce job demands and their associated physiological and psychological strains.

The JD-R model is an example of an integrated resource theory (Gorgievski, Halbesleben, & Bakker, 2011). An integrated resource theory is one that views resources as part of a greater dynamic process associated with well-being through the general use of resources. As such, these models tend to (a) consider and distinguish resources as broad classes (e.g., job or personal) rather than focus on a specific resource, (b) emphasise the function of resources in the presence of demands as the key mechanism by which well-being and health are influenced, and (c) view the possession of reliable resource reservoirs as vital in promoting and maintaining well-being and health (Hobfoll, 2002).

### **The dual processes of the JD-R model.**

The main premise of the JD-R model is that the two categories of job characteristics (i.e., demands and resources) initiate two relatively independent processes that explain well-being at work (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004). The first process has been referred to as the health impairment or energetic process, and is primarily initiated by job demands. Although job demands are not necessarily negative, they require the employee to expend effort to meet them and such effort leads to exhaustion if one's psychological and physical energies are not sufficiently replenished through recovery (Llorens, Bakker, Schaufeli, & Salanova, 2006; Sonnentag, Binnewies, & Moja, 2010). This health impairment process reflects Hockey's (1997) state regulation model of compensatory control. According to Hockey's model, individuals facing high demands actively cope by mobilising and investing energy resources in the form of extra effort. Continuous mobilisation of compensatory effort is energy depleting and leads to exhaustion and 'allostatic load.' Allostatic load denotes the physiological consequences of chronic

exposure to fluctuating or heightened neural or neuroendocrine response from repeated or chronic stress (McEwen, 1998; McEwen & Lasley, 2007). In addition to allostatic load, the psychological and occupational consequences of exhaustion include anxiety, depression, job withdrawal, reduced performance, absenteeism, and turnover intention (Bakker, Demerouti, de Boer, & Schaufeli, 2003; Boyd, Lewin, & Sager, 2009; Burke & Richardsen, 2001).

The second process that contributes to well-being at work is the motivational process. The motivational process proposes that job resources promote work engagement, and consequently, positive organisational outcomes such as low turnover intentions and increased personal initiative (Hakanen et al., 2008; Schaufeli & Bakker, 2004). Job resources play an intrinsic motivational role because they foster an employee's growth, learning and development, and/or an extrinsic motivational role enabling the achievement of work goals (Bakker & Demerouti, 2007). Intrinsic motivation may be promoted by job resources that satisfy basic human needs such as autonomy, belongingness, and competence (Deci & Ryan, 1985). Job resources such as opportunities for growth and development foster learning and therefore meet needs for job competence, whereas decision latitude and social support satisfy needs for autonomy and belonging respectively. The intrinsic motivational potential of job resources is also suggested by the job characteristics theory (Hackman & Oldham, 1980). According to the job characteristics theory, core job resources such as autonomy and feedback contribute positively to motivation, job satisfaction, and low turnover through critical psychological states of meaningfulness, responsibility, and knowledge of outcomes.

Job resources have also been theoretically associated with extrinsic motivation. According to the effort recovery model (Meijman & Mulder, 1998),

work environments that offer many resources not only reduce demands, but increase the likelihood of work being accomplished and goals attained. For example, supportive supervisors have been associated with both a reduction of demands and assistance in achieving one's work goals (Leiter & Stright, 2009). This fosters a willingness to dedicate one's efforts and abilities to the work task (Bakker & Demerouti, 2008).

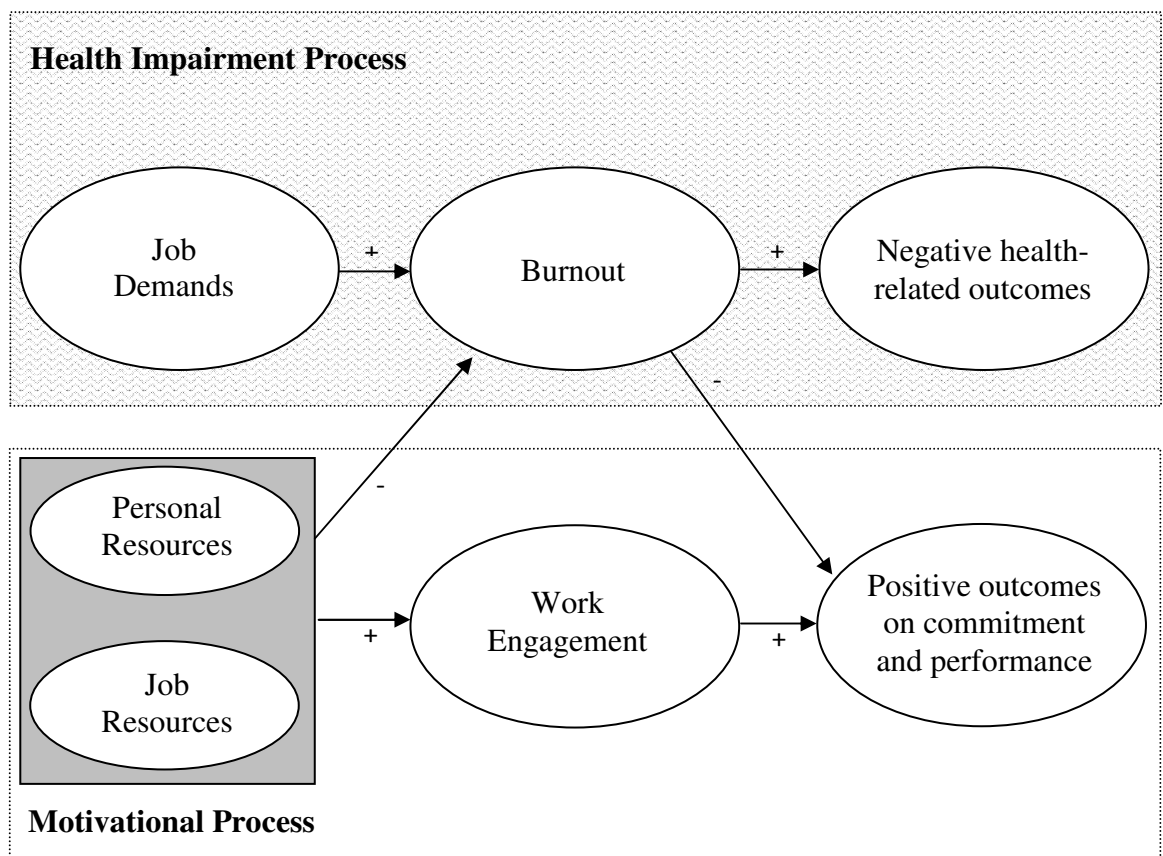
Therefore, the presence of job resources leads to a motivated state of work engagement either through the satisfaction of basic needs or the accomplishment of work goals. It is thus reasonable to assume that engaged employees are disinclined to leave a work context that enables their personal growth, learning, development, and achievement of work goals (Schaufeli & Bakker, 2004).

A criticism levelled at the JD-R model is that job demands are not differentiated according to the valence of employee appraisals. Research suggests that certain job demands may have a differential relationship with positive work outcomes depending on how they are appraised by the employee (Cavanaugh et al., 2000; LePine, LePine, & Jackson, 2004; LePine, Podsakoff, & LePine, 2005; Podsakoff, LePine, & LePine, 2007). Hindrance demands refer to job demands that employees tend to appraise as constraining their personal growth, development, and work-related accomplishment. Challenge demands, in contrast, refer to job demands appraised as potentially promoting personal growth and work-related achievement (Cavanaugh et al., 2000; LePine, LePine, & Saul, 2007). Findings from recent cross-sectional and meta-analytic studies converge to indicate that hindrance demands are positively related to exhaustion and negatively related to work engagement, whereas challenge demands are positively related to both exhaustion and work engagement (Crawford, LePine, & Rich, 2010; Van den Broeck, De Cuyper, De Witte, &

Vansteenkiste, 2010). In this thesis, it is the appraisal of work as requiring sustained energy and effort in ways that are constraining that constitutes a job demand.

### **Extending the JD-R model to include personal resources.**

Several recent studies have extended the JD-R model to include personal resources as predictors of work engagement (e.g., Xanthopoulou et al., 2007, 2009a). The inclusion of personal characteristics that aid stress resistance and enhance motivation redresses an overly passive conception of the individual in their work context that is common among stressor-strain work models (Dollard, 2003). The JD-R model extended to include personal resources is depicted in Figure 2.1.



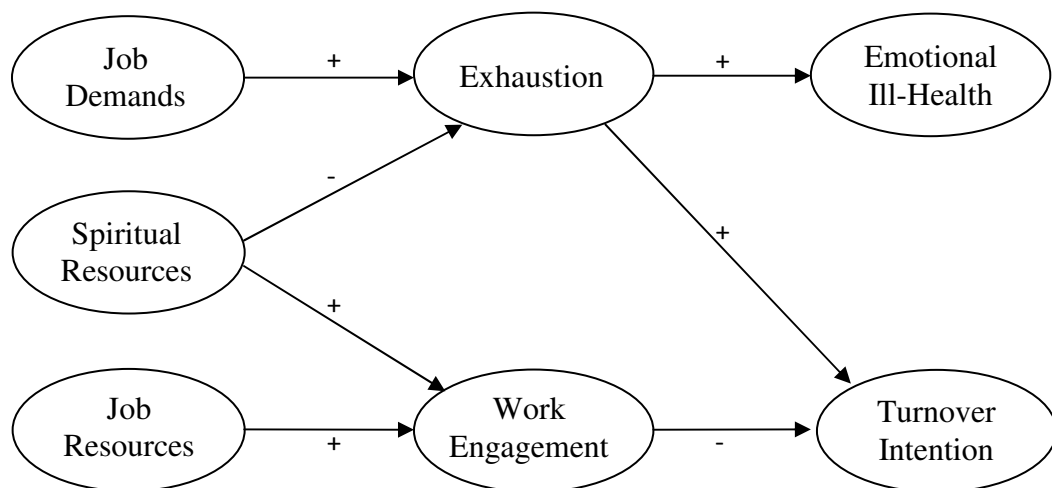
*Figure 2.1.* Extended Job Demands-Resources model (adapted from Bakker & Demerouti, 2008; Hakanen & Roodt, 2010).

Personal resources are defined as individual traits and skills that; (a) increase a person's perceived ability to control and impact their environment successfully; and (b) aid stress resistance (Hobfoll, 1989; Hobfoll et al., 2003). In the work context, the dual functions of these individual characteristics motivate and facilitate goal attainment, protect from job demands and their associated physiological and psychological costs, and stimulate personal growth and development (van den Heuvel, Demerouti, Bakker, & Schaufeli, 2010; Xanthopoulou et al., 2009a; Xanthopoulou, Bakker, & Fischbach, 2013). Therefore, personal resources are expected to be positively related to work engagement and the motivational process, and negatively related to the health impairment process.

The range of personal traits, states, and skills found to be positively related to work engagement includes individual personality traits of extraversion, low neuroticism, conscientiousness, agreeableness, and hardiness (Halbesleben, Harvey, & Bolino, 2009; Karatepe & Olugbade, 2009; Kim, Shin, & Swanger, 2009; Langelaan, Bakker, van Doornen, & Schaufeli, 2006; Lo Bue, Taverniers, Mylle, & Euwema, 2013), meaning-making at work (May et al., 2004; van den Heuvel et al., 2010; Wrzesniewski, Dutton, & Debebe, 2003), positive self-evaluations (Llorens, Schaufeli, Bakker, & Salanova, 2007; Xanthopoulou et al., 2007, 2009a), and behavioural dispositions such as active coping behaviours (Weigl et al., 2010). The majority of research to date has focused on state-like and malleable characteristics that may be developed and managed for improved performance (van den Heuvel et al., 2010).

By selecting dimensions of spiritual experience that theoretically function as personal resources as defined above, this thesis extends the literature by examining the role of *spiritual* resources in the dual processes hypothesised by the JD-R model

among Australian religious workers. Spiritual resources are thus conceptualised as a type or category of personal resources. Personal resources have relationships with the motivation and health impairment processes of the JD-R model through increasing a person's perceived ability to control their environment and aiding stress resistance. Hence, spiritual resources are expected to act in a similar way as shown in Figure 2.2. The difference between personal resources and spiritual resources lies in the perceived sources of control and stress resistance. Concerning personal resources, control and resilience have the self as the chief referent (e.g., self-efficacy, self-goal concordance, etc.), whereas with spiritual resources the chief referent is the sacred (Meek et al., 2003; Oman & Thoresen, 2005). Given the paucity of studies that have focused on positive health and optimal performance of religious workers (Buys & Rothmann, 2010), specific attention is given to the relationship between spiritual resources and work engagement.



*Figure 2.2* Extended Job Demands-Resources model emphasising hypothesised relationships involving spiritual resources.



## **Spiritual resources and their theoretical associations with work engagement and exhaustion.**

This thesis is concerned with the relationship between personal *spiritual* resources and well-being at work among clergy and other religious workers. Specific attention is given to the relationships between spiritual resources and the construct of work engagement. Spiritual resources are defined as a category of personal resources derived from an interaction with the sacred. Hence, spiritual resources comprise personal beliefs, practices, and experiences that are related to the sacred and enhance a person's resilience and perceived ability to control and impact their environment successfully.

Perceived control and meaningfulness (as a means of stress resistance) are closely related to the definition of personal resources (Hobfoll, 1989); they are also two of the most cited psychological mechanisms that theoretically account for the robust associations between dimensions of spirituality and positive well-being outcomes (Hood, Hill, & Spilka, 2009; Pargament, Koenig, & Perez, 2000). It is therefore plausible to assume that spiritual resources are positively related to work engagement and the motivational process, and negatively related to exhaustion and the health impairment process due to their characteristics of increasing perceived control and meaningfulness.

Spiritual resources may increase a religious worker's perceived control over anticipated work goal accomplishment. Religious/spiritual people report higher levels of perceived control than less religious peers (Fiori, Brown, Cortina, & Antonucci, 2006; Pargament, 1997; Sasaki & Kim, 2011). Such increased perceived control is attributed to a sharing in the control exercised by an all-powerful God with whom they are affiliated (Hood et al., 2009; Pargament & Hahn, 1986; Spilka,

Kirkpatrick, & Shaver, 1985). Those possessing high spiritual resources may more strongly believe in their capability to accomplish goals as well as appraise job demands as challenges that can be met through access to divine resources (Park, 2012). Numerous measures of subjective well-being have been positively related to a variety of dimensions of spirituality through the mechanism of increased perceived control (Jackson & Bergeman, 2011; Myers & Diener, 1995).

Second, meaningfulness is an important psychological condition that affects a person's degree of motivation and engagement at work (Hackman & Oldman, 1980; Kahn, 1990; Saks, 2011). Meaningfulness can be defined as the value of a work goal or purpose, judged in relation to an individual's own ideals or standards (May et al., 2004). When work itself is seen as serving God or fulfilling divine purposes, work-related strivings take on new significance and meaning resulting in increased motivation, commitment, larger investments of time and energy, and a greater likelihood of task accomplishment (Davidson & Caddell, 1994; Giacalone & Jurkiewicz, 2010; Paloutzian, Emmons, & Keortge, 2010; Paloutzian & Lowe, 2012). Meaningfulness of work tasks has been associated with work engagement and positive organisational outcomes (Hirschi, 2012; Rothmann & Buys, 2011), and reduced exhaustion and ill-health (Nelson & Simmons, 2003).

### **Conclusion to the JD-R model.**

The JD-R model emerges as a comprehensive framework for examining the relationships between job and personal characteristics on the one hand, and subsequent work engagement and broader well-being at work on the other. The basic structure of the JD-R model has been validated through both cross-sectional and longitudinal studies, across a number of countries and occupational contexts,

including a range of job demands, job and personal resources, and using a variety of measures assessing the key variables of the model (for reviews see Hakanen & Roodt, 2010; Mauno et al., 2010). Unlike other popular work stress models such as the Demand-Control Model (Karasek, 1979) or the Effort-Reward Imbalance Model (Siegrist, 1996), the JD-R model does not reduce demands to a limited set of pre-determined variables that may or may not be relevant for the particular occupation or work environment being considered (Bakker & Demerouti, 2007). Further, the inclusion of the dual processes enables a comprehensive understanding of both positive and negative health aspects, without reducing well-being to merely the absence of ill-health (Fourie, Rothmann, & van de Vijver, 2008; Tetrick, 2002). Thus, the JD-R model is sufficiently flexible to accommodate the unique job demands, job resources and personal resources most salient for religious workers, and broad enough to consider exhaustion and positive work motivation simultaneously. By selecting dimensions of spiritual experience that function as personal resources, this thesis tests the contribution of *spiritual* resources to the dual processes proposed by the JD-R model among Australian religious workers (see Figure 2.2). Particular attention is given to the hypothesised relationship between spiritual resources and work engagement.

## **Occupational Stress and Religious Vocations**

The present section reviews literature concerning salient job demands, job resources, and personal resources associated with the well-being of religious workers. Spirituality emerges as a relevant yet under-researched category of resources for this occupational cohort.

Occupational stress is recognised as a critical issue among clergy and other religious workers such as cross-cultural missionaries (Beebe, 2007; Eriksson et al., 2009). Although the empirical investigation of occupational stress experienced by religious workers has increased since the early- to mid-1980s, many of the studies are purely descriptive and not theory driven (Cotton et al., 2003). Additionally, the focus to date has been heavily skewed towards psychological distress, burnout, and the absence of well-being (Meek et al., 2003). This is surprising as religious workers have also been associated with high levels of positive affect, job motivation, and job satisfaction (Charlton, Rolph, Francis, Rolph, & Robbins, 2009; Crossley, 2002; Francis et al., 2004; Francis, Robbins, Kaldor, & Castle, 2009). This study redresses the previous negative focus by utilising an extended JD-R model to study both the health impairment and motivational processes experienced by religious workers.

To date, only six published studies involving clergy have included some measure of work engagement (Buys & Rothmann, 2010; Joseph, 2010; Joseph, Luyten, Corveleyn, & De Witte, 2011; Little, Simmons, & Nelson, 2007; Parker & Martin, 2011; and Rothmann & Buys, 2011). With the exception of Rothmann and Buys (2011), these studies have not included any measures of spirituality, a source of resources largely overlooked in both general occupational health literature and research involving samples of religious workers (Golden et al., 2004; Oman & Neuhauser, 2012). Therefore, this thesis gives particular attention to the experience of work engagement among religious workers and its relationship with spiritual resources. The present research differs from that of Rothmann and Buys (2011) by considering multiple dimensions of spirituality operationalised together as a specific category of personal resources - *spiritual resources*, and explores them from an integrated resource perspective within the theoretical framework of the JD-R model.

### **Job demands and resources salient for religious workers.**

An important first step in applying the JD-R model to a specific occupational cohort is to identify the most salient job demands and resources for that work context (Bakker & Demerouti, 2007; Gorgievski et al., 2011; Hakanen & Roodt, 2010). Research involving religious workers has identified numerous job characteristics associated with exhaustion and other dimensions of burnout (Cotton et al., 2003; Kaldor & Bullpitt, 2001), which in turn have been associated with impaired mental health (Buys & Rothmann, 2010; Daniel & Rogers, 1981) and increased intentions to leave ministry (Eriksson et al., 2009; Hang-yue, Foley, & Loi, 2005; Randall, 2004). These job demands include work overload (Buys & Rothmann, 2009; Gyntelberg, Hein, & Suadicani, 2012), role ambiguity and role conflict (Hang-yue et al., 2005; Kay, 2000), poor work-home boundaries (Hill, Darling, & Raimondi, 2003; Whetham & Whetham, 2000), and interpersonal conflicts (Fallon & Rice, 2009; Krause, Ellison, & Wulff, 1998). These job demands are often exacerbated by personal factors such as neuroticism, low extraversion, and psychoticism (Francis et al., 2004; Kay, 2000; Miner, 2007a; Rodgers & Piedmont, 1998; Tomic, Tomic, & Evers, 2004), being younger in age (Doolittle, 2010; Randall, 2007), low psychological detachment from work during non-work time (Sonnentag, Kutter, & Fritz, 2009), deficient social support (Virginia, 1998), loneliness and marital stress (Meek et al., 2003; Warner & Carter, 1984), poor leisure attitudes and behaviour (Stanton-Rich & Iso-Ahola, 1998), lower than average physical health (Kaldor & Bullpitt, 2001), idealism and unrealistic expectations of occupational and personal perfection (Ellison & Mattila, 1983; Whetham & Whetham, 2000), and maladaptive coping strategies (Doolittle, 2007).

Little research has been conducted among clergy and other religious workers exploring job and personal resources that promote resilience and well-being at work (Meek et al., 2003). One notable exception is that of Buys and Rothmann (2009), who found that autonomy, social support, administrative support, and growth opportunities were identified by clergy as job resources. Doolittle (2007) suggests that the inherent variety of clergy roles may also act as a job resource, although other research has shown that the high number of diverse work roles religious workers are required to perform is more commonly experienced as a job stressor (e.g., Charlton et al., 2009; Kaldor & Bullpitt, 2001). Personality dimensions of extraversion, agreeableness, and conscientiousness have been associated with work engagement for clergy (Joseph et al., 2011). Miner and colleagues have identified *internal ministry orientation* as a personal construct that enhances resilience for clergy (Miner, 2007b). An internal ministry orientation consists of a sense of spiritual relatedness, perceived ministry competence, and believed capacity to minister in the absence of congregational support (Miner, Dowson, & Sterland, 2010). In a study testing the JD-R model among South African clergy, Buys and Rothmann (2010) found that job resources predicted work engagement, and work engagement in turn positively predicted clergy commitment to their congregation and social functioning.

Although many of the occupational stress factors in the helping professions are also relevant for religious vocations, it is the religious worker's institutionalised requirement to meet religious needs and foster spiritual growth in the lives of individuals and communities that distinguishes this work from other helping professions (Doolittle, 2007; Miner, 2007a; Parker, Martin, Colmar, & Debus, 2008). Further, it is the spiritual life of the individual religious worker that is central to their vocational identity (Gemignani, 2002; Oswald, 1991).

Religion/spirituality provides a framework for highly religious populations through which they perceive themselves, their work, and the world around them (Park, 2012). However, religious and spiritual practices have been largely overlooked in research focused on clergy and other religious workers (Golden et al., 2004; Hall, 1997; Hall, Edwards, & Hall, 2006). Since many dimensions of religiousness and spirituality have robust associations with positive well-being outcomes (Ellison & Fan, 2008; Koenig, McCullough, & Larson, 2001), religion and spirituality may represent a significant source of personal resources particularly salient for religious workers (Darling, Hill, & McWey, 2004; Pargament, Tarakeshwar, Ellison, & Wulff, 2001).

### **Conclusion to occupational stress and religious workers.**

Religious workers are a unique occupational cohort whose experience of work appears to include both high levels of stress and high levels of satisfaction. Though studies have identified numerous job demands that correlate with clergy burnout, comparatively little work has explored resources that promote work engagement. Of particular interest in this thesis is the proposed construct of spiritual resources that are hypothesised to be especially salient for a highly religious population such as clergy and other religious workers, whose work duties are often associated with spirituality. Therefore, this thesis extends the current literature concerning the well-being of religious workers by exploring specific dimensions of spirituality conceptualised as a category of personal resources within the JD-R model. Given the paucity of studies that have focused on the positive health and optimal performance of religious workers (Buys & Rothmann, 2010), the primary

focus is on the relationship between spiritual resources and work engagement within the overall model.

### **Dimensions of Spirituality Considered to be Resources**

A substantial body of research has documented the myriad ways in which dimensions of religious and spiritual experience influence aspects of human cognition, emotion, and behaviour, along with mental and physical well-being (for reviews see Hood et al., 2009; Paloutzian & Park, 2005). The connections between the multidimensional construct of religion/spirituality and well-being is immensely complex. Though the weight of evidence suggests salutary effects of religiousness on well-being, results have not been univocal (Ellison & Levin, 1998; Miller & Thoresen, 2003; Powell, Shahabi, & Thoresen, 2003). It seems clear that some dimensions of religious/spiritual belief and experience can have highly positive effects on well-being, while others have neutral or even highly negative effects (Paloutzian & Kirkpatrick, 1995; Pargament, Mahoney, Exline, Jones & Shafranske, 2013). Therefore, this thesis considers only those dimensions of spiritual belief and experience that have been previously associated with positive outcomes consistent with the functional definition of spiritual resources.

This section introduces three dimensions of personal belief, practice, and experience that are related to the sacred and have been linked with enhancing resilience and/or the perceived ability to control and impact their environment successfully. That is, these three specific dimensions of spirituality are conceptualised as examples of spiritual resources and comprise those studied as such in this thesis. The three spiritual dimensions are (a) a secure personal relatedness to God (Hall et al., 2006; Kaldor & Bullpitt, 2001; Miner et al., 2010); (b) collaborative



religious coping practices (Bjorck & Kim, 2009; Ellison et al., 2010; Rodgeron & Piedmont, 1998); and (c) a sacred calling to the work by God (Kaldor & Bullpitt, 2001; Knox, Virginia, Thull, & Lombardo, 2005; McKenna, Boyd, & Yost, 2007; Meek et al., 2003). Similar to other job and personal resources, each of these spiritual dimensions conceptualised as spiritual resources theoretically protects religious workers from job demands, stimulates personal growth and development, and helps employees achieve their religious work goals.

### **A secure relationship or attachment to God.**

The notion of a supportive ‘relationship with God’, or experiencing divine involvement in one’s personal life and work, emerges as a resource associated with well-being among religious workers (Chandler, 2009; Golden et al., 2004; Hall et al., 2006; Kaldor & Bullpitt, 2001; Meek et al., 2003; Selby et al., 2009; Turton & Francis, 2007). It is the perceived *experience* of God that has been associated with well-being among religious workers rather than orthodoxy of beliefs (Kaldor & Bullpitt, 2001; Meek et al., 2003). Conceptualising this relational spiritual construct as an attachment relationship provides a theoretical framework that has been effective in predicting and explaining associations between a supportive relationship with God and measures of well-being (Belavich & Pargament, 2002; Bradshaw, Ellison, & Marcum, 2010; Hernandez, Salerno, & Bottoms, 2010; Homan, 2012; Kelley & Chan, 2012; Miner, 2009a).

Attachment theory has emerged as a leading theoretical lens within the psychology of religion and spirituality (Granqvist, Mikulincer, & Shaver, 2010). For Bowlby (1979), the need for an available and responsive caregiver remains “from the cradle to the grave” (p.129). Kirkpatrick and colleagues argue that the concept of

God or the Divine Being for the religious meets established criteria for defining an attachment relationship (Granqvist & Kirkpatrick, 2008; Kirkpatrick, 1992, 2005; Kirkpatrick & Shaver, 1990, 1992).

The two dimensions of avoidance of intimacy and anxiety about abandonment that have been proposed as underlying most attachment classification models (Bartholomew & Horowitz, 1991; Brennan, Clarke, & Shaver, 1998), have also been observed in God attachment (Beck & MacDonald, 2004; Rowatt & Kirkpatrick, 2002). Avoidance of intimacy with God represents a continuum on which positive through negative abstracted models of God can be mapped (God as trustworthy and available through unreliable and rejecting). In contrast, anxiety about abandonment by God is a continuum on which positive through negative models of the self can be mapped (the self as worthy of God's love and support or not). Attachment to God security is composed of a positive model of God (low avoidance of intimacy) and a positive model of self (low anxiety about abandonment) (Beck, 2006a; Zahl & Gibson, 2012). Thus, the spiritual resource of an affirming positive relationship with God is operationalised in this thesis by the two positive poles of both attachment to God dimensions that together indicate attachment to God security.

Individual differences in a believer's perceived attachment to God have been assessed using both self-report and interview methodologies (e.g., Beck & MacDonald, 2004; Cicirelli, 2004; Proctor, Miner, McLean, Devenish, & Bonab, 2009; Rowatt & Kirkpatrick, 2002; Sim & Loh, 2003). Recent research has demonstrated that an attachment to God is a unique construct distinct from parental attachments (Cassibba, Granqvist, Costantini, & Gatto, 2008; Granqvist, Ivarsson, Broberg, & Hagekull, 2007; McDonald, Beck, Allison, & Norsworthy, 2005), adult

attachments (Beck & McDonald, 2004; Sim & Loh, 2003; Reiner, Anderson, Hall, & Hall, 2010), personality (Rowatt & Kirkpatrick, 2002), religiosity (Beck, 2006a; Cicirelli, 2004), and spiritual maturity (TenElshof & Furrow, 2000). Insecure attachment to God has been linked to a range of psychological and health outcomes including loneliness, depression, anxiety, physical illness, and general life dissatisfaction (Bishop, 2008; Kirkpatrick & Shaver, 1992); eating disorders (Homan & Boyatzis, 2010); and lowered optimism and reduced positive affect (Ciarrocchi, Dy-Liacco, & Deneke, 2008; Rowatt & Kirkpatrick, 2002; Sim & Loh, 2003). In sum, extant research suggests that attachment to God security promotes psychological well-being and alleviates distress, as is the case with human attachment security (Granqvist & Kirkpatrick, 2013).

Considerable evidence suggests that secure attachment relationships promote well-being in the work context. Variations in adult attachment security have been related to work performance, job satisfaction, socialisation, change adjustment, leader-follower relations, and burnout (Hardy & Barkham, 1994; Kahn, 1995; Keller, 2003; Krausz, Ellison, Shaw, Marcum, & Broadman, 2001; Nelson, Quick, & Joplin, 1991; Pines, 2004; Ronen & Mikulincer, 2009; Schirmer & Lopez, 2001). A secure attachment acts as a *secure base* from which individuals can engage their work context with a mastery orientation, as well as provide solace and comfort as a *haven of safety* in the face of job demands appraised as threats (Hazan & Shaver, 1990). A secure base facilitates optimal achievement motivation because it enables individuals to view achievement contexts in terms of potential gains, and to focus fully on effective pursuits (Elliot & Reis, 2003). Thus, a secure attachment theoretically acts as a personal resource by providing motivation to develop and accomplish tasks in the work environment, together with effective coping with job demands. This is

supported by research demonstrating workers with secure attachments work effectively to find ways to achieve valued goals, and have reduced burnout scores (Simmons, Gooty, Nelson, & Little, 2009; Vanheule & Declercq, 2009).

No research to date has explored relationships between attachment to God security and well-being at work. However, this thesis hypothesises that a secure attachment to God, as operationalised by a positive model of God (low avoidance of intimacy) and a positive model of self (low anxiety about abandonment), acts as a personal spiritual resource for religious workers on the basis of the theoretical and empirical evidence indicating that adult attachment security is associated with resilience in the face of work stressors and increased work task accomplishment.

### **Collaborative religious coping.**

Religious coping has been defined as “the use of religious beliefs or behaviours to facilitate problem-solving to prevent or alleviate the negative emotional consequences of stressful life circumstances” (Koenig, Pargament, & Nielsen, 1998, p. 513). Religious coping methods are multi-dimensional. They belie stereotypic views of religion as simply a defence or a passive form of coping (Pargament & Park, 1995). They span the range from active to passive, problem-focused to emotion-focused, positive to negative, and cognitive-behavioural to interpersonal and spiritual (Harrison, Koenig, Hays, Eme-Akwari, & Pargament, 2001).

Empirical studies involving diverse samples facing a variety of life stressors indicate that religious coping methods have significant implications for well-being (for a review see Gall & Guirguis-Younger, 2013). Religious coping methods are stronger predictors of well-being outcomes than global religious measures such as

church attendance, prayer, Bible reading, and intrinsic and extrinsic religiousness (Pargament, Ensing, Falgout, & Olsen, 1990). Further, religious coping methods add unique variance to the prediction of outcomes above and beyond the effects of nonreligious coping methods among highly religious Christian samples (Pargament et al., 2001; Schottenbauer et al., 2006).

Reviewing the literature on the prevalence of religious coping, Pargament (1997) proposed that people are more likely to draw on religious coping methods when religious beliefs and practices are a larger part of their general orientation to the world, and religion is perceived to be a compelling source of solutions to life's demands. Religion is central to the educational preparation, personal participation, and work duties of clergy and other religious workers (Beebe, 2007; Bjorck & Kim, 2009). Therefore, religious workers are expected to find religion an especially available and compelling coping resource. Research has supported this proposal, finding that religious workers engage in more religious coping behaviours, and derive more solace and comfort from them in comparison with lay leaders and general church members (Ellison et al., 2010; Pargament et al., 2001).

Pargament and colleagues have identified several positive religious coping practices that are associated with increased physical and mental health (Pargament et al., 2000). In particular, *collaborative religious coping* represents a discrete style of religious coping that consistently yields positive relationships with health and psychological well-being (Ano & Vasconcelles 2005; Fabricatore, Handal, Rubino, & Gilner, 2004; Pargament et al., 1988; Wong-McDonald & Gorsuch, 2000). Collaborative religious coping behaviours represent an active coping style that involves the individual addressing the problem at hand in combination with a turning to and seeking the support and involvement of God (Pargament, 1997). Neither the

individual nor God is seen as a passive participant, but rather both are active contributors working together to solve problems. A collaborative religious coping style is founded on an intimate and interactive relationship with God, and is associated with a greater sense of personal control that enhances self-esteem and confidence to manage difficulties (Ellison & Levin, 1998; Harrison et al., 2001; Pargament et al., 1988).

Although research concerning religion as a means of coping has flourished, its application to workplace stress is disproportionately underrepresented in the extant literature (Hill & Dik, 2012). However, two studies are noteworthy exceptions. Rodgeron and Piedmont (1998) found collaborative religious coping among American Baptist ministers had a strong negative correlation with emotional exhaustion and depersonalisation, and a positive correlation with personal accomplishment. Among a sample of 115 South African clergy, Rothmann and Buys (2011) identified looking to God for strength, support and guidance was a significant predictor of both psychological availability and work engagement.

The above theoretical and empirical findings suggest that collaborative religious coping aids stress resistance and increased perceived control over the environment. Therefore, together with research demonstrating that active coping methods function as personal resources antecedent to work engagement (Bakker & Demerouti, 2008), collaborative religious coping is expected to act as a personal spiritual resource among religious workers.

### **Sacred calling to the religious work.**

The ancient concept of ‘callings’ has been revived in recent organisational behaviour literature, and continues to receive significant attention from both

researchers and practitioners (Carroll, 2013; Elangovan, Pinder, & Mclean, 2010).

Davidson and Caddell (1994) suggest that when work is viewed as an extension of a person's faith it is likely to be perceived as a calling. Religion is integral to both the identity and work of clergy and other religious workers (Parker et al., 2008).

Therefore, possessing a sacred calling to the religious work is a particularly salient construct that has been found to act as a personal resource for this population (Baack, Luthans, & Rogers, 1993; Kaldor & Bullpitt, 2001; Meek et al., 2003; Skrzypińska & Chudzik, 2012).

Definitions of calling in the psychological literature are diverse, often vague, and sometimes confounded (Dik & Duffy, 2009). For example, both Dalton (2001) and Davidson and Caddell (1994) define calling as a summons by God to work in a particular career, whereas Feenstra and Brouwer (2008) put more emphasis on the individual's agency in discerning one's purpose in relation to God's will. However, a number of recent conceptualisations propose that religiosity is neither necessary nor sufficient to experience a sense of call (e.g., Hall & Chandler, 2005; Hirschi, 2011). Secularised conceptions advocate an expanded notion of calling, placing less restriction on the source of a calling. Rather, calling is defined as a fulfilling and meaningful career that is socially valuable (Dobrow & Tosti-Kharas, 2011; Wrzesniewski, McCauley, Rozin, & Schwartz, 1997), or as the conclusion of a search for work passion and fulfilment (Bellah, 2008).

This thesis adopts a spiritual perspective in defining calling as a summons to a particular work activity that originates from a transcendent sacred source (Hardy, 1990; Steger, Pickering, Shin, & Dik, 2010). The inclusion of a transcendent summons from a sacred source is of central significance for those who are called to religious work that is intimately related to their spiritual lives (Dik, Duffy, & Trix,

2012; Knox et al., 2005; Park, 2012). It is this aspect of a sacred origin that distinguishes the construct of calling as a spiritual resource as defined by this thesis, rather than a broader personal resource (Rosso, Dekas, & Wrzesniewski, 2010).

Calling is a relatively stable yet malleable psychological construct that can vary in strength and focus over time (Dik, Duffy, & Eldridge, 2009; Hagmaier & Abele, 2012). Calling is distinguishable from, yet relates to, a number of other career-related variables such as flow, psychological participation, intrinsic motivation, protean career orientation, work meaningfulness, job involvement, and work engagement (Dik & Duffy, 2009; Dobrow & Tosti-Kharas, 2011; Hall & Chandler, 2005; Hirschi, 2012). Further, calling has been found to have positive personal and organisational effects not explained by stable personality dispositions (Hirschi, 2012). Calling appears to be sufficiently distinct from other work variables to warrant attention as a unique construct.

One point of agreement in the extant literature is that callings have largely positive effects in work and life. These positive outcomes are consistent regardless of the reported source of the calling being associated with the Divine, the self, one's upbringing and circumstances, or some combination of the above (Wrzesniewski, 2012). People who perceive work to be a calling report greater work, health, and life satisfaction (Davidson & Caddell, 1994; Wrzesniewski et al., 1997), increased work hope (Duffy, Allan, & Dik, 2011), intrinsic work motivation (Wrzesniewski, 2012), career decision self-efficacy (Dik, Sargent, & Steger, 2008), lower absenteeism and improved occupational commitment (Markow & Klenke, 2005; Serow, 1994; Wrzesniewski et al., 1997), more problem-focused coping (Treadgold, 1999), work engagement (Bunderson & Thompson, 2009; Hirschi, 2012; Vinje & Mittelmark,



2007), and less stress, depression, and conflict between work and non-work spheres of life (Oates, Hall, & Anderson, 2005; Treadgold, 1999).

Qualitative research among clergy has identified the sense of divine calling to be associated with increased learning agility, ongoing personal development, and resilience (McKenna et al., 2007; Meek et al., 2003). In their nationwide study of Australian church leaders, Kaldor and Bullpitt (2001) conclude that “feeling called to the task (i.e., of Christian ministry) can be sustaining in times of difficulty” (p.38). This has been supported in research demonstrating that a higher endorsement of being called by God to the priestly vocation was predictive of lower depression among Roman Catholic clergy (Knox et al., 2005).

Empirical associations between calling and positive psychological work states are consistent with the theoretical models of calling in organisational contexts (Elangovan et al., 2010; Hall & Chandler, 2005). These models suggest that callings are associated with a sense of purpose experienced as ‘bigger than the self.’ Paloutzian et al., (2010) argue that work takes on new meaning and transcendent significance when it is seen as a calling, a sacred duty, a service opportunity, or a way to serve God or a higher purpose. As a result of this goal clarity and increased meaningfulness, employees can be expected to exert increased effort needed to successfully accomplish tasks and carry out the calling. Further, when facing unfamiliar or difficult task situations, the individual with a sense of calling will more likely be able to manage temporary setbacks or failures because he or she believes that ultimately they will succeed (Hirschi, 2012).

The above theoretical and empirical research suggests that callings are associated with increased resilience in the face of job stressors, improved work-task completion, and greater learning agility and personal development. Therefore, a

perceived sacred calling is included as a personal spiritual resource for religious workers.

### **Conclusion to dimensions of spirituality considered spiritual resources.**

A secure attachment to God, collaborative religious coping, and a sense of sacred calling to the work are examples of dimensions of spiritual belief, practice and experience hypothesised to act as spiritual resources for religious workers. Although research has documented numerous ways religious and spiritual dimensions influence mental and physical health, few studies have considered the relationships between spiritual resources and positive work states (Park, 2012; Rosso et al., 2010). Therefore, exploring the relationship between spiritual resources and work engagement among religious workers is the primary focus of the current study.

The JD-R model considers resource types from a broad perspective rather than a focus on any specific resource. This integrated resource approach has proven successful in generating a consistent body of evidence mapping relationships between job and personal resources as higher order constructs with work engagement (Xanthopoulou et al., 2007; 2009a). This thesis follows in this tradition by operationalising a sacred call, collaborative religious coping, and the two dimensions of a secure attachment to God, as a distinct category of personal resources referred to collectively as spiritual resources particularly salient for Christian religious workers.

## **Chapter 2 Conclusion**

As noted above, research among religious workers has been heavily skewed towards burnout, ill-health, and negative occupational outcomes (Meek et al., 2003). Further, research to date has tended to neglect the very aspect of these employees

that makes their work distinct – their spiritual lives (Golden et al., 2004; Parker et al., 2008). Based on the assumptions of an extended JD-R model (Bakker & Demerouti, 2007; Bakker, 2011), this research explores the relationships between spiritual resources (secure attachment to God dimensions, collaborative religious coping, sacred calling) and well-being at work among Australian religious workers. This chapter has provided an overview of the core model of this thesis that illustrates a comprehensive theoretical framework within which is couched the proposed relationships between spiritual resources and work engagement. Subsequent chapters will systematically outline and test hypothesised relationships within this model to confirm relationships between spiritual resources, work engagement, and the personal and occupational well-being of Australian religious workers.

## **Chapter 3: General Methodology**

### **Chapter 3 Introduction and Overview**

This thesis explores the contribution of spiritual resources, as a distinct category of personal resources, to the occupational well-being of Australian religious workers. This investigation was guided by the theoretical assumptions of an extended JD-R model (Schaufeli & Bakker, 2004; Bakker & Demerouti, 2008). Particular attention is given to testing hypothesised relationships between spiritual resources and work engagement. These two constructs have conceptual and theoretical associations (Saks, 2011). The investigation is accomplished through a series of three related studies that employ a combination of cross-sectional and longitudinal designs utilising self-report data. The cross-sectional self-report design is useful for testing and cross-validating the measurement of constructs among a larger sample (Byrne, 2012), together with providing an initial picture of the intercorrelations between numerous intrapersonal constructs (Spector, 1994). Such cross-sectional relationships are best thought as depicting possible causal relationships rather than representing prescriptive statements (Martin, 2011). The longitudinal design is adopted to provide a rigorous testing of hypothesised mediation relationships, and the presence of both causal and reverse causal effects between the variables of central interest (Maxwell, Cole, & Mitchell, 2011; Zapf, Dormann, & Frese, 1996).

The present chapter contains information concerning the methodology followed in this thesis, and is composed of four parts. First, the recruitment procedure and sample is described. Second, the method for selecting demand and resource constructs included in the survey instrument is reported. Third, scales used

to measure study variables are described. Fourth, an introduction to structural equation modelling (SEM) is provided, together with a rationale for its selection and use in this thesis. Thus, the present chapter contains general methodological information that is common across the three studies. This information will be supplemented in subsequent chapters with additional material that is specifically pertinent to the focal investigation of each chapter.

## **Sample Recruitment**

The present research was conducted among employees of Australian Christian religious organisations following approval from the University of Western Sydney Human Research Ethics Committee (approval number: H8412). Fifty-four Christian denominational dioceses, state synods, and para-church organisations (cross-cultural mission agencies, non-denominational Christian youth-work organisations, etc.) were asked if employees associated with their organisation could be approached to take part in the present research. Each organisation was requested to send an email to each of their employees inviting their participation in a “Well-being in ministry” study. The email invitation was sent by each participating organisation to protect the privacy of their employee records. Forty (74.1%) of the organisations approached agreed to distribute the email invitation to an approximate total of 3105 Christian religious workers in September 2010. The email invitation contained a web-link to an online information and consent form that outlined the main purpose of the study, and explained that voluntary participation would consist of completing an anonymous online survey. The information and consent form also included a brief description of the associated longitudinal project and a request for participation in two follow-up surveys. Participants indicated a willingness to take

part in the follow-up surveys by providing their email address to which the subsequent survey invitations could be sent. A copy of the email invitation, information and consent form, and consent to participate in follow-up surveys, is presented in Appendix A.

Time intervals between measurement points used by prospective studies examining the effects of personal and job resources on work engagement have ranged from 4 to 19 months (e.g., Salanova, Bakker, & Llorens, 2006; Simbula, Guglielme, & Schaufeli, 2011; Weigl et al., 2010; Xanthopoulou et al., 2009a). An interval of nine months between measurement points was selected as an average time lag obtained from previous longitudinal research that was also feasible within the constraints of the degree candidature. Thus, data was collected at the three time periods as follows: September 2010 (Time 1: T1), June 2011 (Time 2: T2), and March 2012 (Time 3: T3). The three online surveys utilised the same items to assess the main study variables, with the addition of a personality measure in the T3 survey. Data from individual participants were matched across time by use of self-generated identification codes.

### **Methodological issues concerning the use of an online survey.**

The use of the internet as a platform for collecting survey data within the field of psychology has increased rapidly in recent years (Davies, Oddie, & Prowls, 2007). Advantages of online or internet based surveys include (a) participation of a larger pool of geographically disperse respondents, (b) increased convenience for participants, (c) decreased data collection time, (d) increased accuracy and efficiency of data entry, and (e) reduced cost (Ahern & Le Brocque, 2005; Cantrell & Lupinacci, 2007). Data obtained from online surveys are generally considered to be

consistent with paper-and-pencil versions of the same measures (e.g., Gosling, Vazire, Srivastava, & John, 2004). An online survey methodology was particularly suited for the context of the present study given that religious workers participating were scattered throughout Australia, a large but sparsely populated country.

However, a number of disadvantages have also been reported concerning the use of online surveys. The most significant concerns are low response rates, failure to obtain representative samples, and possible compromising of participant anonymity (Braithwaite, Emery, de Lusignan, & Sutton, 2003; Gigliotti, 2011). To address these concerns, Hoonakker and Carayon's (2009) recommendations were followed. First, a password protected web-based survey platform was employed (administrated by Qualtrics, Provo, UT) with measures taken to increase participant anonymity (e.g., panel email addresses and unidentified survey data were kept in separate data bases). Second, initial email invitations were sent by participating organisations to all employees to encourage greater and more representative sampling, rather than by the researcher who was unknown to the employees. Finally, a reminder email was sent one week prior to the survey closing to increase response rates.

### **Participants.**

From the emails distributed at T1, 1018 survey responses were recorded on the online survey platform. The estimated response rate of 32.8% is consistent with other voluntary self-report research of this nature conducted with religious workers (e.g., Francis et al., 2004; Little et al., 2007; Meek et al., 2003). Of the 1018 survey responses recorded, 937 valid email addresses were entered indicating a willingness to be invited to take part in two follow-up surveys. At Time 2, 682 people

responded, yielding a response rate of 72.8% of the T2 email invitations sent. At Time 3, 664 survey responses were recorded on the online survey platform, a response rate of 70.9% of the T3 email invitations sent.

Table 3.1 summarises the sample size and demographic statistics for the three samples obtained from T1-T3.

Table 3.1

*Demographic Characteristics of Respondents from Time 1, Time 2, and Time 3*

Statistic Description	Time 1	Time 2	Time 3
Total survey responses	1018	682	664
	(183 with missing data and outliers)	(24 with missing data)	(47 with missing data)
Complete survey responses	835	658	617
Mean age (in 2010)	46.5 years ( <i>SD</i> = 13.3).	47.2 years ( <i>SD</i> = 13.1)	47.8 years ( <i>SD</i> = 13.0)
Gender (% male)	63.7%	62.5%	63.4%
Percent completed tertiary education	91.3%	93.0%	93.4%
Average tenure in role	5.8 years ( <i>SD</i> = 6.3)	6.4 years ( <i>SD</i> = 6.3)	7.0 years ( <i>SD</i> = 7.3)
Employed full time (> 30 hours per week)	77.8%	80.7%	77.1%
Ministry role			
<i>Parish ministers</i>	41.9%	42.2%	42.6%
<i>Chaplains</i>	12.0%	11.7%	11.5%
<i>Cross-cultural missionaries</i>	11.5%	12.5%	14.1%
<i>Youth-workers</i>	5.9%	5.8%	5.7%
<i>Other (denominational leaders, theological college lecturers, etc.)</i>	28.7%	27.8%	26.1%



### **Panel data.**

Of the 835 T1 respondents who submitted complete data, 634 were able to be matched with complete data sets at T2, and 492 matched and complete data sets were identified across all three waves (58.9% of T1 participants). The final longitudinal sample thus consisted of 492 Australian Christian religious workers. This sample had a mean age at T1 of 47.3 years ( $SD= 12.7$ ) and 63.2% were male. Participants' mean tenure at T1 was 6.0 years ( $SD= 6.4$ ) in their current role. Most participants worked full-time (79.7%) and 92.5% had completed undergraduate or post-graduate studies. Just under half of the participants (43.3%) worked as parish ministers, 13.4% were cross-cultural missionaries, 10.4% were chaplains, 5.5% youth workers, and 27.4% were in other roles such as theological college lecturers and denominational leaders.

Despite the variety of work roles, ministry role had very little substantive influence on the study variables of interest. A series of unpaired  $t$ -tests were used to compare those religious workers employed in a parish-based role (parish ministers and youth workers;  $N=240$ ) with those employed in non-parish roles (chaplains, cross-cultural missionaries, and others;  $N= 252$ ) in regard to averaged scale scores for each study variable. Given the large sample size and multiple comparison tests conducted, a significance criterion of  $p < .01$  was used. Comparisons revealed that parish-based religious workers reported significantly higher levels for vigour in comparison with those employed in non-parish at roles at Time 2 ( $t[490]= 2.93, p= .004$ ), and significantly less intimacy with God relative to parish based workers at Time 1 ( $t[490]= -2.67, p= .008$ ). However, both of these differences were less than one quarter of one standard deviation. All participants were therefore analysed as one homogenous sample of religious workers.

### ***Attrition analyses.***

Chi-square ( $\chi^2$ ) and unpaired *t*-tests were used to compare the final longitudinal sample with the 343 participants with complete data at T1 and who had subsequently dropped out of the panel or were excluded due to missing data in subsequent surveys. Comparisons were made with respect to T1 levels of demographic variables, and averaged scale scores for each study variable. As above, due to the large sample size and multiple comparison tests conducted, the significance criterion of  $p < .01$  was adopted.

Concerning demographic variables, the panel and drop out sample did not significantly differ in terms of age ( $t[833] = 1.96$ , *ns*), gender ( $\chi^2[1] = 0.01$ , *ns*), education ( $\chi^2[3] = 6.79$ , *ns*), proportion employed full-time ( $\chi^2[1] = 2.33$ , *ns*), tenure at T1 ( $t[833] = 0.74$ , *ns*), or ministry position ( $\chi^2[4] = 11.69$ , *ns*). No significant differences were found between average scores of study variables with the exception of T1 turnover intention. The panel sample had a lower average level of turnover intention at T1 than the drop out sample ( $t[833] = -3.76$ ,  $p < .001$ ). As expected, those with increased intentions to leave religious work at T1 were more likely to have acted on their intentions over the subsequent 18-months, and thus were more likely to be ineligible for the follow-up surveys.

## **Measures**

### **Identification of salient job demands, job resources, and spiritual resources.**

According to the JD-R model, every occupation may have its own unique job demands and resources (Bakker & Demerouti, 2007; Demerouti et al., 2001). A two-stage procedure was followed in order to identify salient job demands and resources for Christian religious workers to be measured (see Cotton et al., 2003). First, a review of the extant literature concerning occupational stress and Christian clergy was undertaken, with particular attention given to research including Australian samples (e.g., Cotton et al., 2003; Fallon & Rice, 2009; Kaldor & Bullpitt, 2001; Miner, 2007a). This material was referred to in Chapter 2.

Second, subject matter expert interviews were conducted with representatives from Christian religious organisations. These interviews included representatives from two different organisational layers (i.e., management, or practising clergy and cross-cultural missionaries) and concerned perceived job demands, job resources, and personal/spiritual resources considered salient for this occupational cohort. A total of 10 representatives were selected from participating agencies. This sample included a diverse range with respect to age, gender, marital status, geographic location, and ministry role. Interviews were conducted face to face or on the telephone and had an approximate duration of 20 minutes. Each interview included three open questions concerning stressors and resources experienced by religious workers. The interview questions are shown in Appendix B.

Following the above procedures, four job demands, three job resources, and three spiritual resources were selected. Identified job demands were role ambiguity (Davey, 1995; Kaldor & Bullpitt, 2001), interpersonal conflict (Cotton et al., 2003;

Krause et al., 1998), work-home interference (Whetham & Whetham, 2000), and work overload (Gyntelberg et al., 2012; Hill et al., 2003). Job resources included autonomy, supervisory/mentor support, and opportunities for growth and development (Buys & Rothmann, 2009). Three spiritual resources emerged; an affirming experiential relationship with God, positive religious coping, and an inner sense of calling by God (Ellison et al., 2010; Kaldor & Bullpitt, 2001; Miner et al., 2010; Meek et al., 2003).

### **Survey instrument.**

The online survey instrument used to assess the study constructs common at all three measurement points is provided in Appendix C. Items measuring the specific job demands and resources selected from the interviews and literature search were adapted for the context of religious work from previously validated scales. In order to maximise the response rate, a number of measures were shortened to reduce the overall length of the survey (Barber, 1998; Hoerger, 2010). The online survey instrument was piloted with an initial 15 religious workers who provided some minor suggestions in phrasing of items to increase clarity and relevance for those employed in Christian ministry.

### **Spiritual resources.**

Two dimensions of attachment to God security, collaborative religious coping, and the presence of a transcendent calling were measured in the present research as spiritual resources. All spiritual resource items were scored on a seven-point scale (1= *strongly disagree*, 7= *strongly agree*) unless stated otherwise.

### ***Attachment to God.***

Attachment to God is concerned with a person's experienced dynamic interaction between God and the self (Zahl & Gibson, 2012). Beck and McDonald's (2004) Attachment to God Inventory is a recommended dimensional measure of a person's God attachment (Gibson, 2007; Hill & Edwards, 2013). The Attachment to God Inventory consists of two 14-item subscales assessing the attachment dimensions of avoidance of intimacy with God and anxiety about abandonment by God. Avoidance of intimacy with God reflects a preference for self-reliance and resistance towards emotional intimacy with God. Anxiety about abandonment by God concerns anxiety regarding not being accepted by God and craving reassurance of God's love. Reliability coefficients for both subscales have ranged from .77 - .88 for the Avoidance of Intimacy with God scale, and .82 - .87 for the Anxiety about Abandonment by God scale, and have been found valid predictors of a diverse range of religious and well-being outcomes in expected ways among Christian samples (Beck, 2006a, 2006b; Beck & McDonald, 2004; Hall, Fujikawa, Halcrow, Hill, & Delaney, 2009; Homan, 2012; Homan & Boyatzis, 2010; McDonald et al., 2005; Zahl & Gibson, 2012). Both subscales were originally scored such that low scores on each dimension indicate security of attachment to God (Beck & McDonald, 2004). In this research, all items were reverse scored to be consistent with the scoring of other spiritual resources for which higher scores are indicative of greater resources. Thus, each subscale was conceptualised as providing a measure of *secure intimacy with God* and *security from abandonment by God*.

Previous studies have shown that scales that are short in length have some advantages in that they may increase online response rates and reduce some forms of bias that are produced by respondent fatigue and carelessness (Hinkin, 1995;

Hoerger, 2010; Stanton, Sinar, Balzer, & Smith, 2002). Further, scales that have 14-items per factor are unlikely to meet minimum fit criteria in confirmatory factor analyses (CFAs) (Marsh, Hau, Balla, & Grayson, 1998). In order to create shorter subscales for the follow-up surveys (T2 and T3) and associated statistical analyses, five items from the Avoidance subscale (e.g., “I prefer not to depend too much on God”) and four items from the Anxiety subscale (e.g., “I often worry about whether God is pleased with me”) were selected on the basis of their domain coverage, high factor loadings as reported in the original study (Maloney, Grawitch, & Barber, 2011), and high factor loadings and low uniquenesses in preliminary CFAs reported in Chapter 3. Items from the Attachment to God Inventory included in the Time 1 survey that were removed from surveys at T2 and T3 are italicised in Appendix C.

### ***Collaborative religious coping.***

The Religious Problem Solving Scale (Pargament et al., 1988) is a dispositional measure of religious coping that assesses how people typically use religion as a way of enhancing a sense of control. This measure consists of three different religious coping subscales – Collaborative, Self-directing, and Deferring religious coping methods. Collaborative religious coping was measured by the 6-item Collaborative subscale of the Religious Problem Solving Scale – Short form (Pargament, 1997). This style of problem solving was theoretically developed around the construct of a person sharing control with God, and has been identified as a distinct factor of positive religious coping that is consistently associated with psychological, social, and physical well-being (Ellison et al., 2010; Pargament, 1997, Spilka et al., 2003). Previous research using the 6-item Collaborative subscale has yielded reliability coefficients ranging from .90 - .93 (Belavich & Pargament, 2002;

Pargament et al., 1988; Pargament, Cole, Vandecreek, Belavich, Brant, & Perez, 1999; Schaefer & Gorsuch, 1993; Yangarber-Hicks, 2004). Items (e.g., “When it comes to deciding how to solve a problem, God and I work together as partners”) were measured using a seven-point Likert-type scale (1= *never*; 7= *always*).

### ***Calling.***

Calling was measured by the 4-item Presence of a Transcendent Summons subscale of the Calling and Vocation Questionnaire (Dik, Eldridge, & Steger, 2008; Dik, Eldridge, Steger, & Duffy, 2012). This subscale measures a call to a particular career or line of work that originates from a transcendent power (e.g., “I was drawn by something beyond myself to pursue my current line of work”). Hagmaier and Abele (2012) found that the sense of a transcendent guiding force is most closely related to a direct calling measure, and provides security and certainty concerning the enacting of work roles. This subscale strongly correlates with measures of purposeful work and work that has a perceived pro-social orientation (Dik et al., 2012). In their instrument development study, Dik et al. (2008) reported a Cronbach’s alpha coefficient for the Presence of a Transcendent Summons subscale of .85 and a 1-month test-retest reliability of .67.

### **Job demands.**

Four job demands identified as causes of strain among religious workers were included in the present study; role ambiguity, interpersonal conflict, work-home interference, and work overload. All job demand items were scored on a seven-point scale (1= *strongly disagree*, 7= *strongly agree*).

### ***Role ambiguity.***

Role ambiguity has been defined as uncertainty about what actions to take to fulfil a role (Fields, 2002). Role ambiguity was assessed by three items drawn from Ivancevich and Matteson's (1980) Role Ambiguity subscale (e.g., "My work duties and objectives are unclear to me").

### ***Interpersonal conflict.***

Interpersonal conflict was measured by three items (e.g., "I experience personal friction with others at work") adapted from Pearson, Ensley and Amason's (2002) refinement of the Intragroup Conflict Scale.

### ***Work-home interference.***

Work-home interference has been defined as a form of inter-role conflict in which the role pressures from the work domain impinge on one's participation in, or fulfilment of, family or home roles (Thomas & Ganster, 1995). Work-home interference was measured by a 3-item scale (e.g., "The demands of my work interfere with my home/family life") adapted from Netemeyer, Boles and McMurrian's (1996) Work-family Conflict subscale.

### ***Work overload.***

Work overload was measured by two items adapted from Zohar's (1997) Role Overload subscale concerning time pressure and overload of work roles/tasks (e.g., "There is not enough time for me to finish my work"), supplemented by one additional item from Peterson, Smith, Akande, & Ayestaran's (1995) Job Role Overload subscale ("The amount of work I have to do interferes with the quality I



want to maintain”). This additional item assessed the impact of workload on ministry-work quality, a relevant aspect for religious workers striving to meet high expectations of parishioners (Tomic et al., 2004).

### **Job resources.**

Three job resources were measured: autonomy, supervisory support, and development opportunities. These job resources have been commonly associated with work engagement among clergy and other occupational cohorts (Buys & Rothmann, 2009; Hakanen & Roodt, 2010). All job resource items were scored on a seven-point scale (1= *strongly disagree*, 7= *strongly agree*).

### ***Autonomy.***

Autonomy refers to the degree of freedom, independence and discretion an individual employee has over work-related decisions such as the scheduling of work and determining the procedures for its accomplishment (Hackman & Oldham, 1980). Autonomy was measured by three items adapted from Karasek’s (1979) Job Demands and Decision Latitude Survey (e.g., “My job allows me to make my own decisions”), supplemented by one additional item from Gregerson and Black’s (1992) Job Role Discretion Survey concerning ministry role responsibility (“I have discretion over what I am responsible for”). Discretion concerning which roles a religious worker is responsible to fulfil has been related to well-being among clergy (Kaldor & Bullpitt, 2001).

### ***Supervisory support.***

This construct was operationalised as relationships with a supervisor or mentor with the effect of improving work performance. Supervisory support was measured by two items adapted from Greenhaus, Parasuraman and Wormley's (1990) Supervisory Support Scale (e.g., "I have a supervisor/mentor who gives me helpful advice about improving my work performance"), supplemented by an additional item from Oldham and Cummings' (1996) Supportive Supervision subscale ("My supervisor/mentor helps me solve work-related problems"). This latter item was considered important to include as clergy and other religious workers has been found to experience professional isolation (Fallon & Rice, 2009).

### ***Development opportunities.***

Development opportunities, or the extent to which a respondent's work environment affords personal and skill development, was assessed by a 3-item scale adapted from Campion (1988) to suit a religious work context (e.g., "My ministry allows opportunities for increasing my competence").

### **Eustress and distress measures.**

It has been recommended that indicators of occupational distress and eustress such as exhaustion and work engagement should be measured independently (Schaufeli & Bakker, 2010). Thus, measures of work engagement and exhaustion were included in the survey with all items being scored on a seven-point frequency scale from 1 (*never*) to 7 (*always/every day*).

### ***Work engagement.***

Several instruments have been developed based on the various conceptualisations of work engagement (see Attridge, 2009). However, the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2002) is the most cited instrument measuring work engagement (Bakker et al., 2008). The UWES includes items for the assessment of the three dimensions (vigour, dedication, and absorption) included in Schaufeli and colleague's (2002) definition of work engagement. The UWES is available in its original 17-item format, as well as a shortened 9-item version (Schaufeli, Baker, & Salanova, 2006) that has become more widely used (Albrecht, 2010). Both versions have been validated in several countries and among a variety of occupational cohorts (see Schaufeli & Bakker, 2010), including clergy (Joseph, 2010; Joseph et al., 2011). Confirmatory factor analyses have consistently shown the hypothesised three-factor structure of the UWES to be superior to a one-factor model, though the three factors are moderately to strongly related (Bakker & Demerouti, 2008). Therefore, work engagement as assessed by the UWES appears to be a unitary construct that is constituted by three distinct yet closely related dimensions (Schaufeli & Bakker, 2010).

Work Engagement was measured by the 9-item version of the UWES (Schaufeli et al., 2006). Each dimension of work engagement is measured by a 3-item subscale: Vigour (e.g., "At my job, I feel strong and vigorous"); Dedication (e.g., "My job inspires me"); and Absorption (e.g., "I feel happy when I am working intensely"). Meta-analyses of the short version of the UWES conducted on thirty-three samples from nine different countries reveal sample weighted values for Cronbach's alpha of all three subscales that exceed .80, have mean stability coefficients across a 1-year time interval ranging from .56 to .75, and display

discriminate validity in relation to a variety of other occupational health constructs (Schaufeli & Bakker, 2010).

### ***Exhaustion.***

Exhaustion is one of three components of job burnout as defined by Maslach et al. (2001). Although Maslach's three-component conceptualisation of burnout has become widely accepted, many believe that exhaustion arising from work demands is the essential component (Gorgievski & Hobfoll, 2008; Halbesleben & Bowler, 2007; Maslach et al., 2001; McGeary & McGeary, 2012). It has been suggested that the other elements of Maslach's tripartite definition of burnout are better conceptualised as related coping processes or consequences of exhaustion (e.g., Koeske & Koeske, 1989; Shirom, 1989). Further, meta-analyses have identified exhaustion as having the most consistent relationships with job demands and negative outcomes in comparison with other burnout dimensions (Cordes & Dougherty, 1993; Lee & Ashforth, 1996). In light of the above literature, concerns over the overall length of the survey instrument, and that the central focus of this study is on the relationship between spiritual resources and work engagement, exhaustion alone was included as the most obvious manifestation or "root of burnout" (Leiter & Maslach, 2005, p.14).

Exhaustion was assessed using the 5-item Exhaustion subscale of the Maslach Burnout Inventory–General Survey (MBI-GS: Schaufeli, Leiter, Maslach, & Jackson, 1996). The Exhaustion subscale of the MBI-GS parallels the Emotional Exhaustion scale of the Maslach Burnout Inventory–Human Services Survey (MBI-HSS), yet has less emphasis on emotions and is without direct reference to service participants (Schaufeli et al., 1996). Given the variety of religious work roles included in the sample, the Exhaustion subscale of the MBI-GS was selected over the

Emotional Exhaustion subscale of the MBI-HSS. An example item from the Exhaustion subscale is “I feel emotionally drained from my work”. Internal consistencies of the Exhaustion subscale has been shown to be acceptable, and test-retest reliability indicates relative stability over time intervals ranging from 6-month to one year (Richardsen & Martinussen, 2005; Schaufeli et al., 1996).

### **Outcome variables.**

Two outcome variables were included in the survey instrument: emotional ill-health, and turnover intention. These constructs were selected in order to provide outcome measures of psychological and organisational well-being consistent with previous research guided by the JD-R model (e.g., Schaufeli & Bakker, 2004).

#### ***Emotional ill-health.***

Emotional ill-health was operationalised using four items from the 12-item version of the General Health Questionnaire (GHQ-12: Goldberg & Williams, 1988). These 4 items have been identified as representing an anxiety/depression factor by a number of confirmatory factor analyses, and correlate as a factor in expected ways with numerous criterion variables (Goa, Thumboo, Fones, Li, & Chen, 2004; Graetz, 1991; Kalliath, O’Driscoll, & Brough, 2004). These items (e.g., “Been feeling unhappy or depressed”) were answered on a four-point frequency scale (1-*not at all*, 4-*much more than usual*).

#### ***Turnover intention.***

Turnover intention was measured by four items from Bozeman and Perrewé (2001) concerning withdrawal cognitions (e.g., “I intend to look for a new job in the

near future”). Two items are reverse worded (e.g., “I am not thinking about quitting my job at the present time”). These items were scored on a seven-point Likert-type scale (1= *strongly disagree*, 7= *strongly agree*).

### **Personality measure.**

The set of NEO instruments is the most widely used approach to measuring the five factor model of personality (Boyle, 2008). The NEO Five Factor Inventory (NEO-FFI) Form S (Costa & McCrae, 1992) is a 60-item scale measuring the personality dimensions of Neuroticism, Extraversion, Openness to experience, Agreeableness and Conscientiousness. Each dimension is represented by 12 items selected by McCrae and Costa (1989) from the longer NEO-PI and NEO-PI-R based primarily on correlations between each NEO-PI item and factor scores (Costa & McCrae, 1992). The NEO-FFI includes self-descriptive statements including 28 that are reverse-worded. Studies have provided support for the internal reliability and temporal stability of the five NEO-FFI scales across cultures (Costa & McCrae, 1992, 1994; McCrae & Costa, 1997, 2004; Murray, Rawlings, Allen, & Trinder, 2003). To maintain consistency with the majority of other scales in the research instrument, all items were rated along a seven-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

All 60 items of the NEO-FFI were included in the T3 survey (see Appendix D). The decision to include all items rather than a reduced set of items was based on three considerations. First, the NEO-FFI as a whole measure has been found to possess favourable reliability estimates (Costa & McCrae, 1992; Robins, Fraley, Roberts, & Trezsniowski, 2001). Second, the length of this measure was not deemed as critical since it was included only in the final survey rather than as a repeated

measure in all three surveys. Third, previous research using the NEO-FFI testing relationships between personality and variables common to those in this study, have included the full 12 items for each personality dimension under study (e.g., Bakker et al., 2010; Langelaan et al., 2005; Rodgeron & Piedmont, 1998). Therefore, in order to compare and contrast results it was deemed important to retain the full measure.

### **Data Analytic Strategy**

The predominant data analysis strategy used in this research was structural equation modelling (SEM) as employed by the MPlus 6 program (Muthén & Muthén, 1998-2010). Descriptive statistics such as means, standard deviations and Cronbach's alpha reliability coefficients of scales were calculated using the Statistical Package for Social Sciences (SPSS) for Windows Version 18 (2009). SPSS was also used in conducting Chi-square ( $\chi^2$ ) tests for significant relationships between discrete variables and *t*-tests for significant differences in group means. As MPlus does not provide a single measure of multivariate kurtosis, the Analysis of Movement Structures (AMOS) Version 18 (Arbuckle, 2009) program was used to test the normality of the data and identify outliers.

### **Overview of structural equation modelling.**

SEM is a statistical methodology that provides a quantitative test of a theoretical model hypothesised by a researcher (Schumacker & Lomax, 2010). SEM consists of two parts: a test of the measurement model, and a test of relationships between a hypothesised model's latent variables (structural model).

### ***Testing a measurement model.***

CFAs assess the extent to which a set of observed indicators (such as survey item scores) reflect an a priori structure of factors or latent variables (such as the psychological construct of vigour). CFAs allow the researcher to specify not only how many factors are measured by a given set of items, but also which items function as indicators of which factors (Marsh & Hocevar, 1985). Higher-Order CFAs (HCFAs) seek to ascertain the extent to which various combinations of first-order factors (e.g., vigour, dedication, and absorption) may be represented by a smaller number of higher-order factors (e.g., work engagement). Two advantages of higher-order factors are that models may be simplified by their inclusion, and higher-order factors enable researchers to identify hierarchical relationships between first-order factors (Lance, Teachout, & Donnelly, 1992; Marsh & Hocevar, 1985). Table 3.2 lists the measurement model consisting of the final 63 scale items described above, modelled in their a priori structure of 17 first-order factors and higher-order structures.



Table 3.2

*Measurement Model*

Higher-order construct and their respective first-order constructs	Number of survey items
<i>Spiritual Resources</i>	
Secure Intimacy with God	5
Security from Abandonment by God	4
Collaborative Religious Coping	6
Calling	4
<i>Job Demands</i>	
Role Ambiguity	3
Interpersonal Conflict	3
Work-Home Interference	3
Work Overload	3
<i>Job Resources</i>	
Autonomy	4
Supervisory Support	3
Development Opportunities	3
<i>Work Engagement</i>	
Vigour	3
Dedication	3
Absorption	3
<i>First-order constructs not arranged in a higher-order factor</i>	
Exhaustion	5
Emotional Ill-Health	4
Turnover Intention	4

### ***Testing a structural model.***

A set of structural relations linking the hypothesised model's latent variables (e.g., a model in which spiritual resources are related to work engagement) are tested for their viability against the actual relationships found in the data set. If goodness-of-fit is adequate, the plausibility of the hypothesised relations among the model's variables is supported. If the fit of the model is inadequate, the tenability of hypothesised relations is rejected (Byrne, 2012). Figure 2.2 (see Chapter 2) represents the core structural relations tested in this thesis.

### **Advantages of SEM.**

Five considerations were influential in the selection of SEM techniques in this research in preference to other multivariate procedures. First, SEM takes a confirmatory approach allowing both direct testing of hypothesised relationships contained in a model and statistical comparisons between the fit of a hypothesised model against alternative nested models (Kline, 2011). Nested models are hierarchically related to one another in that the parameters estimated in one model are a subset of the other (i.e., particular parameters are freely estimated in one model but fixed to zero in a second model) (Bentler & Chou, 1987; Bollen, 1989). Second, SEM allows for the assessment of simultaneous relations between multiple independent and dependent variables, thereby statistically controlling for all relations estimated between these variables (Schumacker & Lomax, 2010). Third, item-level SEM techniques explicitly estimate and control for measurement error at the item level, thereby increasing the accuracy of parameter estimates between latent variables (Ullman, 2006). Fourth, SEM is recommended for the testing of mediation and moderation effects (Baron & Kenny, 1986; Cheung & Lau, 2008; Cole &

Maxwell, 2003; Holmbeck, 1997). Fifth, SEM has been adopted as the analytic method of choice when investigating the numerous relationships hypothesised by the JD-R model (e.g., Hakanen, Schaufeli, & Ahola, 2008; Schaufeli & Bakker, 2004; Xanthopoulou et al, 2007; 2009a).

### **Assumptions of SEM.**

#### ***Normality.***

An important assumption when conducting SEM analyses is that the observed data are multivariate normal (Kline, 2011). Research has shown that whereas skewness tends to impact tests of means, kurtosis severely affects tests of variances and covariances, on which SEM is based (Byrne, 2012). Departures from normality can invalidate statistical hypothesis testing by affecting the  $\chi^2$  test statistic, the Comparative Fit Index (CFI), Tucker-Lewis Fit Index (TLI), the Root Mean Square Error of Approximation (RMSEA) index, and the standard errors of model parameters (Byrne, 2012; Hu, Bentler, & Kano, 1992; West, Finch, & Curran, 1995).

Univariate normality is a necessary though not sufficient condition for multivariate normality (DeCarlo, 1997). Although a review of the literature reveals no clear consensus regarding the question of univariate kurtosis (see Kline, 2011), when a variable demonstrates skewness values of 2 or more, and/or kurtosis of 7 or more, they are considered to be problematic (Finney & DiStefano, 2006; West et al., 1995).

Mardia's (1970) coefficient of multivariate skewness and kurtosis is most commonly used in SEM software for the assessment of multivariate normality (Gao, Mokhtarian, & Johnston, 2008). The distribution of data can be considered

multivariate normal when the critical ratio of Mardia's multivariate kurtosis coefficient is less than 5.00 (Bentler, 2005).

Results for Mardia's critical ratio of multivariate kurtosis (MCR) for each of the three studies were as follows: Study 1 MCR= 93.82; Study 2 MCR= 85.44; Study 3 MCR= 91.74. As each of these exceeds 5.00, the level of non-normality present within these data sets makes interpreting the results of SEM analyses using Maximum Likelihood estimation problematic (Byrne, 2001). Inspection of univariate skewness and kurtosis values showed that the items from the calling scale exceeded acceptable skewness and kurtosis scores. Given that all participants were employed religious workers, this non-normal distribution is consistent with previous theory that suggests when work is viewed as an extension of a person's faith it is likely to be perceived as a calling (Davidson & Caddell, 1994).

Satorra-Bentler (1988) developed a corrected model test statistic ( $S-B\chi^2$ ) that incorporates a scaling correction for the  $\chi^2$  statistic when distributional assumptions are violated. The  $S-B\chi^2$  is the most reliable test statistic for evaluating mean and covariance structure models under various distributions and sample sizes (Curran, West, & Finch, 1996; Hu et al., 1992). The  $S-B\chi^2$  statistic is available in MPlus when the Maximum Likelihood Mean adjusted (MLM) estimator is specified. Further, the MLM estimator is also capable of generating parameter estimates with standard errors, and CFL, TLI, and RSMEA indices that are robust to data nonnormality (Muthén & Muthén, 1998-2010). Therefore, all SEM analyses were conducted employing the MLM estimator to account for the violation of multivariate normality in the data collected. However, it should be noted that the MLM estimator does not allow for confidence intervals for RSMEA to be calculated, which has been

a recommended practice in determining model fit (MacCallum, Browne, & Sugawara, 1996).

### *Sample size.*

An adequate sample size in SEM is important in order to ensure the stability and accuracy of parameter estimates and fit indices, and to achieve an adequate level of power for testing model fit (MacCallum et al., 1996). However, there is no clear consensus in the literature concerning the determination of a minimum sample size and under what circumstances (Marsh et al., 1998; Muthén & Muthén, 2002; Wang & Wang, 2012). Factors considered to influence the determination of what constitutes an adequate sample size include the complexity of the model, normality of data, estimation method, number of indicators, and the communality levels of variables (Jackson, 2003; MacCallum, Widaman, Shaobo, Zhang, & Hong, 1999).

Bentler and Chou (1987) suggest that a rule of thumb ratio of 5 to 10 cases/observations per indicator variable is sufficient when latent variables have multiple indicators. However, rules positing minimum ratios of sample size to the number of indicators or estimated parameters have not been consistently supported (e.g., Marsh & Bailey, 1991; Velicer & Fava, 1987), and can encourage an unwarranted practice of reducing observed indicators or items (Marsh et al., 1998).

In contrast to the rule of thumb approach, MacCallum et al. (1996) developed a method for calculating the required sample size to achieve an appropriate level of statistical power that can generate an accurate RMSEA value given the degrees of freedom for a particular model. This approach has been increasingly popular (Wang & Wang, 2012). However, adequate power for testing RMSEA can be achieved with relatively small sample sizes using this approach when a model includes large

degrees of freedom. This is due to the calculation being biased towards large degrees of freedom. Thus, MacCallum and colleagues (1996) caution its application when the degrees of freedom of a given model is very high.

Given the different shortcomings of both approaches, a balance shall be adopted in this thesis by referring both to Bentler and Chou's (1987) rule of thumb and MacCallum and colleagues' (1996) method for determining sample size as applied by Preacher and Coffman's (2006) web-based calculator. A recommended statistical power level of 0.80 was used when performing calculations for required sample size for testing model fit (Wang & Wang, 2012).

#### **Fit indices used to evaluate models.**

The evaluation of measurement and structural models may be assessed through a variety of goodness-of-fit indices and parameter investigations (Hu & Bentler, 1995). Five statistics used to assess model fit are reported in the subsequent analyses: Satorra-Bentler  $\chi^2$  statistic (S-B $\chi^2$ ; Satorra & Bentler, 1988); Comparative Fit Index (CFI; Bentler, 1990); Tucker-Lewis Index (TLI; Tucker & Lewis, 1973), the Root Mean Square Error of Approximation (RMSEA; Steiger, 1990); and the Standardised Root Mean Square Residual (SRMR; Bentler, 1995). The theoretical plausibility of a hypothesised model is a precondition for the interpretation of any suite of goodness-of-fit indices (Hu & Bentler, 1999; Kline, 2011; Schumacker & Lomax, 2010).

#### ***Satorra-Bentler $\chi^2$ statistic (S-B $\chi^2$ ).***

As introduced above, the S-B $\chi^2$  controls for non-normality in the data by adjusting downward the  $\chi^2$  value by a scaling correction factor (SCF) reflecting the

degree of kurtosis (Chou & Bentler, 1995). This statistic tests the null hypothesis that the covariance matrix implied by the model is the same as the observed covariance matrix (Kline, 2011). A non-significant S-B $\chi^2$  value indicates that the implied theoretical model significantly reproduces the sample variance-covariance relationships in the matrix. However,  $\chi^2$  is sensitive to sample size such that it has an artificial tendency to reject model fit as samples increase above 200 (Schumacker & Lomax, 2010). In response to this problem, a number of approximate fit indices have been developed to assess model fit in addition to those based on the  $\chi^2$  value (Byrne, 2001; Hu & Belter, 1999; Kline, 2011).

#### ***Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI).***

Both the CFI and TLI are incremental fit indices that are derived from a comparison of the hypothesised model with a model that does not specify any relations among variables (Browne, MacCallum, Kim, Andersen, & Glaser, 2002; Hu & Bentler, 1995; Marsh, Balla, & McDonald, 1988). Values for the CFI are normed in the sense that they range from zero to 1.00, with values close to 1.00 being indicative of a well-fitting model. In contrast, the TLI is a nonnormed index, having possible values that extend outside the range of 0.0 to 1.0. Further, the TLI favours model parsimony, including a penalty function that detects parameters that contribute minimally to improvements in model fit (Byrne, 2012).

Values of CFI and TLI exceeding .90 are generally considered acceptable fit (Bentler, 1992), and values of .95 or greater indicate that the model fits the observed data well (Hu & Bentler, 1999). However, CFI and TLI often function less well in complex models (i.e., those containing large numbers of variables), leading to the possible rejection of correctly specified models (Marsh, Hau, & Grayson, 2005).

### ***Root Mean Square Error of Approximation (RMSEA).***

The RMSEA is referred to as an absolute index of fit (Byrne, 2012). In contrast to the above incremental fit indices, RMSEA is determined by how well the hypothesised model (with optimal parameter values) fits the sample data rather than a comparison with a reference model. Thus, the lower the value of RMSEA, the closer the model fits the sample data (Browne et al., 2002). Values less than .05 indicate good fit, .05 - .08 indicate a reasonable fit, .08 - .10 indicate mediocre fit, and greater than .10 indicate poor fit (Browne & Cudek, 1993; MacCallum, et al., 1996).

### ***Standardised Root Mean Square Residual (SRMR).***

The SRMR is a second absolute index of fit, which reflects the difference between the covariances that are implied by the model and those that exist in the data (Byrne, 2012). As with the RMSEA, lower values imply that the model fits well and higher values indicate misspecification (Vandenberg & Lance, 2000). Values below .06 are considered to indicate good model fit, .06 - .08 indicate an acceptable fit (Hu & Bentler, 1999), values between .08 and .10 indicate mediocre fit, and values above .10 indicate poor fit (Vandenberg & Lance, 2000).

### ***Cautionary note concerning cut-off values of fit indices.***

There has been significant debate concerning the rigid application of specific cut-off values for fit indices. These values are influenced by a wide range of factors including sample size, model complexity, method of estimation used, and the degree of model misspecification (Marsh, Hau, & Wen, 2004). Thus, this study follows



recommendations that the above cut-off criteria be regarded as general guidelines and indicators rather than definitive rules (Kline, 2011). There is considerable evidence that large factor structures that have more than 50 items and at least five factors, such as is the case in this research, are typically unable to satisfy even the minimally acceptable standards of fit (Marsh et al., 2005; Marsh et al., 1998). Findings need to be interpreted in light of relevant theory in combination with the consideration of a number of fit statistics and how these may be influenced by the aforementioned factors (Hu & Bentler, 1999).

### **Data preparation.**

The online surveys utilised a forced response feature ensuring all items had an answer selected. Listwise deletion was employed with data sets that had missing data due to participants exiting the survey prior to completion. Though listwise deletion of cases may cause some biases in parameter and reliability estimates (Kline, 2011), it is still widely accepted as an appropriate and rigorous procedure for dealing with missing data (Byrne, 2010; Little & Rubin, 2002).

Multivariate outliers were identified using Mahalanobis d-squared values. A multivariate outlier has an extreme score on two or more variables (Kline, 2011). The Mahalanobis d-squared statistic represents the squared distance from the centroid of a data set. The top one hundred observations ranked in order of their Mahalanobis distances are displayed as part of the normality check output in AMOS (Arbuckle, 2009). Following Byrne (2010), all observations with Mahalanobis d-squared values substantially higher than remaining cases were individually examined and removed if they appeared invalid responses given the population under study. The test for outliers was conducted prior to each analysis. As with skewness and

kurtosis problems, the majority of multivariate outliers reflected higher scores on spiritual constructs as was expected among religious workers. However, three cases of extreme responding were detected and deleted from the Time 1 sample, leaving a final *N* of 835. Extreme responses were judged not to affect the Time 2 or Time 3 samples.

All item responses were collected by means of a Likert-type or ordinal response scale. Though classified as categorical data, Likert-type or ordinal response formats with five or more scale points may be treated as continuous variables in SEM analysis (Byrne, 2012). The data collected was therefore treated as continuous, as a 7-point ordinal response format was used for all items. The exceptions to this 7-point response format were the four items taken from the GHQ-12 (Goldberg & Williams, 1988) scored on a 4-point scale. However, these items were also treated as continuous as a 4-point variation has been shown to be sufficient when the items are normally distributed (Bentler & Chou, 1987).

## **Summary and Significance of General Methodology Chapter**

This thesis is concerned with testing hypothesised relationships between spiritual resources and work engagement among Australian religious workers. The task was approached by considering these constructs within the theoretical framework of an extended JD-R model (Schaufeli & Bakker, 2004; Bakker & Demerouti, 2008). This chapter has described the overall research design, sample, procedures, measures, and analytical strategy selected to accomplish these aims. This information has been provided to outline the suitability of the proposed methods and establish a context for understanding how the specific methods reported in

subsequent chapters are nested within this overall methodology, and hence, contribute to addressing the central aim of the research.

Participants were recruited from forty Christian organisations throughout Australia. All participants were employed in a variety of ministry roles such as local church ministers, chaplains, cross-cultural missionaries, youth workers, and other positions such as denominational leaders and theological college lecturers. Self-report data was gathered from three anonymous online surveys separated by intervals of nine months. These surveys contained measures of the key elements of the JD-R model extended to include spiritual resources (see Figure 2.2). An additional personality measure was included in the T3 survey. Though anonymous, the data sets were linked by means of a unique code generated by participants at each measurement period. Data were assessed for normality, outliers, and incomplete responses.

CFA and SEM techniques were used to test hypotheses concerning the presence and nature of relationships between spiritual resources and the JD-R model, with special attention given to work engagement. Models were assessed by a combination of recommended goodness-of-fit indices and interpretability of parameter estimates as guided by relevant theory.

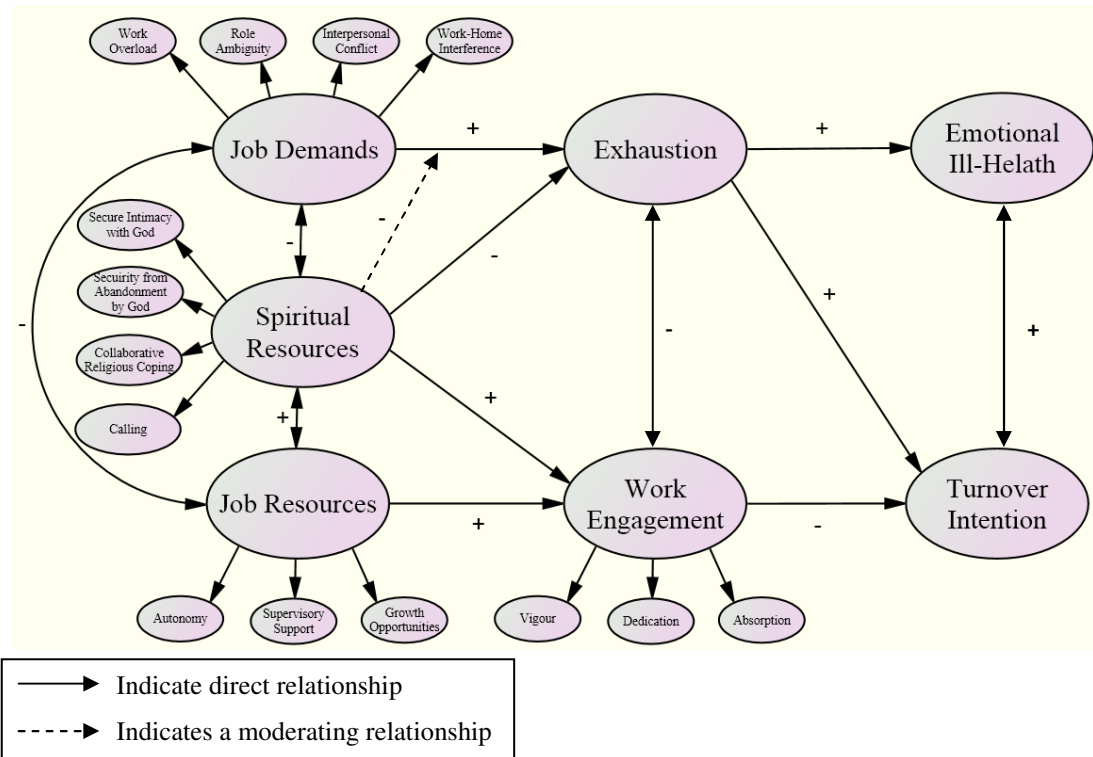
Chapters 4-6 report on a series of three related studies that progressively test hypothesised relationships between spiritual resources and occupational well-being among religious workers. Chapter 4 reports on a cross-sectional analysis that provides an initial testing of the measurement model and hypothesised relationships between spiritual resources and the dual processes of the JD-R model. The incremental significance of spiritual resources on work engagement and exhaustion is assessed in Chapter 5 by including the covariate of personality dimensions into the

model. This analysis used a separate data set from that analysed in Chapter 4, and thereby provides an additional validation test of those findings. Using the three-wave panel data, Chapter 6 reports on analyses testing the causal structure of the motivational process implied by the extended JD-R model. That is, spiritual resources reduce turnover intention among religious workers as mediated by increased work engagement. Chapter 6 includes an additional testing of a hypothesised gain spiral between spiritual resources and work engagement based on the principles of the COR theory (Hobfoll, 1989, 2002).

## Chapter 4: Spiritual Resources and the Dual Processes of the JD-R Model

### Introduction to Chapter 4

This chapter reports on an initial cross-sectional testing of hypothesised relationships between spiritual resources and the processes related to both work engagement and exhaustion guided by the theoretical framework of the job demands-resources (JD-R) model (Demerouti et al., 2001) as shown in Figure 4.1. Spiritual resources are defined as a category of personal resources derived from an interaction with the sacred. That is, spiritual resources comprise personal beliefs, practices and experiences related to the sacred that enhance a person's resilience and perceived ability to control and impact their environment successfully.



*Figure 4.1.* Cross-sectional research model. Relationships central to the study hypotheses between first-order and higher-order factors are shown.

### **Spiritual resources and the dual processes of the JD-R model.**

The overall argument in support of the JD-R model is not repeated here.

However, theoretical and empirical evidence supporting the hypothesised relationships between spiritual resources and the motivational and health-impairment processes of the JD-R model require some review and further justification.

#### ***Spiritual resources and the motivational process.***

Spiritual resources have been proposed to influence work engagement particularly through Kahn's (1990) psychological conditions of meaningfulness and psychological availability (Rothmann & Buys, 2011; Saks, 2011). When work is seen as serving God or fulfilling divine purposes, work-related strivings take on new significance and increased meaning (Davidson & Caddell, 1994). As the meaning of work is imbued with a sacred character, work related goals are invested with increased time and energy, sustained commitment, and a greater likelihood of success (Paloutzian et al., 2010).

Psychological availability refers to having the perceived physical, emotional, or psychological capacities to invest oneself in the work role (Kahn, 1990; May et al., 2004). Spiritual resources are expected to increase psychological availability through perceived access to divine support and assistance that promotes perceived control over the environment (Park, 2012; Spilka et al., 1985). Rothmann and Buys (2011) found that looking to God for strength, support and guidance was a significant predictor of work engagement among clergy, partially mediated by psychological availability.

Given that work engagement and spiritual resources have been associated with positive organisational outcomes among clergy and other highly religious

populations (e.g., Buys & Rothmann, 2010; Carroll, 2013; Pargament et al., 2001), the first hypothesis relating to the cross-sectional research model is as follows:

1. *Work engagement will mediate the negative relationship between spiritual resources and turnover intentions. That is, spiritual resources will be positively related to work engagement, and work engagement will be negatively related to turnover intention.*

### ***Spiritual resources and the health impairment process.***

This study considers two possible ways that spiritual resources may influence the health impairment process. First, spiritual resources may directly reduce exhaustion through their association with positive emotions such as joy, hope, contentment, satisfaction, and gratitude (Carlisle & Tsang, 2013; Fredrickson, 2002). Spiritual resources reflect an affirming connection with a higher reality and create experiences of joy, security and gratitude (Krause & Ellison, 2009; Piedmont, 1999b). According to the broaden-and-build theory (Fredrickson, 2001), positive affective states broaden people's thought-action repertoires and build or replenish other personal and social resources increasing personal energy and initiative. The emotional uplift resulting from a vital spirituality may compensate or even 'undo' the negative consequences of job demands such as exhaustion and allostatic load (Cummings & Pargament, 2012; Oman & Thoresen, 2005; Sweetman & Luthans, 2010). Among clergy, spiritual resources have been associated with lower scores on both burnout and negative personal and occupational outcomes such as turnover intentions and depression (Eriksson et al., 2009; Kaldor & Bullpitt, 2001; Knox et al., 2005).

Second, spiritual resources may moderate the relationship between job demands and exhaustion. In addition to the main effects of resources on work engagement, the JD-R model further proposes that resources may buffer the impact of job demands on job strain (Bakker et al., 2005). Park, Cohen and Herb (1990) suggest that religious beliefs act as life stress moderators by influencing the perceived availability and activation of specific religious coping strategies. Spirituality has been shown to protect against both mundane and high magnitude stressors (Slattery & Park, 2011). Although the presence of moderation effects attributed to spiritual resources have not been consistent (e.g., Bradshaw et al., 2010; Fabricatore et al., 2004; Kutcher, Bragger, Rodriguez-Srednicki, & Masco, 2010), a review by Pargament (1997) concludes that the majority of studies (73%) offer at least partial support for religion acting as a stress moderator. Thus, spiritual resources are expected to moderate the relationship between job demands and exhaustion.

The final two hypotheses associated with the cross-sectional research model are proposed on the basis of the above theoretical and empirical research, together with exhaustion among clergy being highly correlated with turnover intention (Randall, 2004):

2. *Exhaustion will mediate the negative relationship between spiritual resources and both emotional ill-health and turnover intention. That is, spiritual resources will be negatively related to exhaustion, and exhaustion will be positively related to emotional ill-health and turnover intention.*



3. *Spiritual resources will moderate the relationship between job demands and exhaustion. Specifically, the positive relationship between job demands and burnout will be attenuated by spiritual resources.*

***Additional relationships contained in the research model .***

In addition to the above hypotheses, Figure 4.1 contains hypothesised relationships based on consistent research findings associated with the JD-R model (see Hakanen & Roodt, 2010). Specifically, job demands will be positively related to emotional ill-health and turnover intentions as mediated by exhaustion, and job resources will be negatively related to turnover intentions as mediated by work engagement. Further, a negative relationship between exhaustion and work engagement (Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007), and a positive relationship between emotional ill-health and turnover intentions (Lee & Ashforth, 1996) are also expected. Finally, spiritual resources, as a type of personal resources, are expected to be negatively correlated with job demands and positively correlated with job resources (Xanthopoulou et al., 2007; Bakker, 2011).

## **Chapter 4 Method**

### **Participants and procedure.**

This cross-sectional analysis was conducted using data obtained from the sample of 835 Australian religious workers who returned completed online survey responses in September 2010 (i.e., the Time 1 measurement period). See Chapter 3 for a description of this sample.

### **Measures.**

As discussed in Chapter 3, the survey instrument used in this study was developed to measure constructs included in the JD-R model extended to include spiritual resources among Christian religious workers. Table 4.1 lists the original number of scale items assigned to the 17 first-order constructs, and their hypothesised higher-order groupings.

Table 4.1

*List of First-Order and Higher-Order Constructs*

Higher- and first-order constructs	Number of survey items	Range
<i>Spiritual Resources</i>		
Secure Intimacy with God	14	1-7
Security from Abandonment by God	14	1-7
Collaborative Religious Coping	6	1-7
Calling	4	1-7
<i>Job Demands</i>		
Role Ambiguity	3	1-7
Interpersonal Conflict	3	1-7
Work-Home Interference	3	1-7
Work Overload	3	1-7
<i>Job resources</i>		
Autonomy	4	1-7
Supervisory Support	3	1-7
Development Opportunities	3	1-7
<i>Work engagement</i>		
Vigour	3	1-7
Dedication	3	1-7
Absorption	3	1-7
<i>First-order factors not arranged in a higher-order structure</i>		
Exhaustion	5	1-7
Emotional ill-health	4	1-4
Turnover intention	4	1-7

### **Data analysis procedure for testing Hypotheses 1-3.**

Confirmatory Factor Analyses (CFAs) and Structural Equation Modelling (SEM) techniques were employed to test all three hypotheses. In all models, scale items were treated as observed indicators loading onto their respective hypothesised first-order latent factor. This method was chosen over item parcelling in order to model data as closely as possible to participants' responses and to avoid the potential imposition of a false structure (Little, Cunningham, Shahar, & Widaman, 2002).

Measurement and structural models that incorporate spiritual resources in an extended JD-R model have not been tested prior to the analyses of this chapter. Given the model complexity and the fact that a number of the latent factors were indicated by more than 5 items, it was expected that some post hoc model adjustments may be required in order to meet acceptable model fit criteria (Marsh et al., 2005). Post hoc model adjustments in CFA and SEM are problematic. Item and model modifications based on factor loading and goodness-of-fit statistics risk capitalising on chance factors. That is, model modifications may be driven by unique characteristics specific to the single sample under study (MacCallum, Roznowski, & Necowitz, 1992). One approach to address problems associated with post hoc modifications is to employ a cross-validation strategy whereby a modified model is tested on a second independent sample (Schumacker & Lomax, 2010). In order to do this, the total sample ( $N= 835$ ) was split into two random groups to enable the cross-validation of measurement and structural model modifications (see Cudek & Browne, 1983).

Group A ( $N= 418$ ) was used as the calibration group on which the initial hypothesised measurement and structural models were tested, as well as any post hoc analyses conducted in the process of attaining a well-fitting model. Once this final

model was determined, the validity of its structure was then tested on the validation sample (Group B:  $N = 417$ ) using multi-group analyses following the procedure outlined by Byrne (2012). The sample size of each group exceeded the minimum size necessary for performing CFA/SEM analyses based on this measurement model at a power level of .80 as calculated by Preacher and Coffman's (2006) web-based calculator, as well as met Bentler and Chou's (1987) minimum rule of thumb ratio of cases per indicator variable.

First-order CFAs were used to assess the extent to which the initial 82 observed indicators (scale items) measured the 17 underlying first-order factors of interest. As shown in Table 4.1, a higher-order measurement model constructed on the basis of this first-order CFA and guided by the JD-R model (see Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007), included four second-order factors: (a) Job Demands operationalised by Work-Home Interference, Role Ambiguity, Work Overload, and Interpersonal Conflict; (b) Job Resources operationalised by Autonomy, Supervisory Support, and Development Opportunities; (c) Spiritual Resources operationalised by Secure Intimacy with God, Security from Abandonment by God, Collaborative Religious Coping, and Calling; and (d) Work Engagement operationalised by Vigour, Dedication, and Absorption.

The cross-sectional mediation type effects (Hypotheses 4.1 and 4.2) were tested using Holmbeck's (1997) approach. The first step of this approach involves fitting a direct effects model (i.e., without mediating variables). If the fit of the direct effects model is adequate, and the magnitude and direction of the effects are interpretable, the hypothesised indirect effects (mediation) model is then tested. In the context of testing this model, the mediational effect is determined by comparing the fit of the hypothesised model under two conditions; (a) when the predictor to

outcome path is freely estimated, and (b) when the predictor to outcome path is constrained to zero. Evidence for a full mediation effect is provided if the model including the predictor to outcome paths constrained to zero does not yield a significantly inferior fit when compared to the less restrictive model. Evidence for partial mediation is provided when the model estimated under condition (b) fits the data significantly less well than the model estimated under condition (a), and all direct effects in the model estimated under condition (a) retain significance. Model comparisons were conducted by means of the Satorra-Bentler-scaled chi-square difference statistic ( $\Delta S-B\chi^2$ ; Satorra & Bentler, 2001).

MPlus does not provide overall model fit statistics for models with interaction effects. However, parameter estimates from interacting exogenous variables to an endogenous variable may be assessed for significance in the presence of all other variables. A moderation effect (as specified in Hypothesis 4.3) is demonstrated if the path coefficient from an interacting predictor variable to an outcome variable is statistically significant (Baron & Kenny, 1986).

### **Age, gender, tenure, and same source bias.**

Age has emerged as the demographic variable most consistently related to burnout (Maslach et al., 2001). This relationship has been found among clergy and other religious workers (Eriksson et al., 2009; Randall, 2007). Further, previous longitudinal studies have identified the demographic variables of gender and job tenure to be significantly related to work engagement (Bal, De Cooman, & Moi, 2013; Simbula et al., 2011; Weigl et al., 2010). Therefore, age, gender, and job tenure were included in the final model as manifest variables loading onto Exhaustion, Work Engagement, Emotional Ill-Health, and Turnover Intention, to

assess the influence of these variables on the relationships between Spiritual Resources and all endogenous variables.

Given the reliance on self-report data, common method bias was examined by comparing the relationships observed in the final model with an alternative model that controlled for the effects of an unmeasured latent Common Methods factor. That is, all items are allowed to load on their hypothesised constructs as well as onto a latent Common Methods factor. The magnitude and significance of the structural parameters with the latent Common Methods factor included in the model are compared with the magnitude and significance of the structural parameters when the latent common methods factor is not included (see Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff, MacKenzie, & Podsakoff, 2012).

## **Chapter 4 Results**

### **Measurement models: Group A (*N* = 418).**

Construct validity of the measurement instrument was explored via CFAs. CFAs were conducted to ensure all factors showed good internal validity in terms of observed items converging on the latent factor they were designed to measure. The initial 82 item, 17 first-order CFA results did not meet typically accepted CFI and TLI criterion levels ( $S-B\chi^2 = 5308.20$ ;  $df = 3103$ ;  $SCF = 1.07$ ;  $CFI = .86$ ;  $TLI = .85$ ;  $RMSEA = .04$ ;  $SRMR = .06$ ). As a result of this finding, a subset of each of the two subscales from the Attachment to God Inventory was chosen on the basis of high item-factor loadings and low uniquenesses generated by CFA (Hooper, Coughlan, & Mullen, 2008), high item-factor loadings in the original scale development (Beck & McDonald, 2004), and representativeness as a reduced set of the target construct.

Specifically, Secure Intimacy with God was represented by five items and Security from Abandonment by God was represented by four items.

The modified 63 item, 17 first-order factor CFA yielded an adequate fit to the data ( $S-B\chi^2 = 2582.30$ ;  $df = 1754$ ;  $SCF = 1.09$ ;  $CFI = .93$ ;  $TLI = .92$ ;  $RMSEA = .03$ ;  $SRMR = .05$ ). This model fit suggests good construct validity. Of the seventeen first order factors, thirteen had Average Variance Extracted (AVE) values that exceeded the recommended value of 0.5 (Hair, 2010). However, the Secure Intimacy with God, Absorption, Autonomy, and Exhaustion first-order factors fell below this threshold (AVE= .32, .39, .40, and .49 respectively). All final scales demonstrated good reliabilities, with only two of the seventeen Cronbach's alpha coefficients falling just below the nominal criterion of .70 (Secure Intimacy with God:  $\alpha = .69$ ; Absorption:  $\alpha = .66$ ) (see Table 4.2).

The higher-order measurement model also yielded an acceptable fit to the data ( $S-B\chi^2 = 2961.61$ ;  $df = 1855$ ;  $SCF = 1.09$ ;  $CFI = .91$ ;  $TLI = .90$ ;  $RMSEA = .04$ ;  $SRMR = .07$ ), and was superior in comparison with an alternative model representing job and spiritual resources as a "general resources" factor ( $\Delta S-B\chi^2[6] = 205.06$ ;  $p < .001$ ). The standardised factor loadings associated with the Spiritual Resources higher-order factor were all positive with  $p < .001$ . However, Security from Abandonment by God loaded relatively weakly (.28) on the higher-order Spiritual Resources factor according to Garson's (2010) rule of thumb criterion levels. The Security from Abandonment by God factor was nevertheless retained given its theoretical importance as an underlying dimension of attachment to God (Beck & McDonald, 2004). Together, these results provide evidence for the overall appropriateness of the measurement model used in testing the study hypotheses.



***Descriptive statistics pertaining to measurement model: Group A (N= 418).***

Means, standard deviations, internal consistencies, and intercorrelations between all first-order factors and demographic covariates for Group A are presented in Table 4.2. All significant relationships between the variables were in the expected direction. Notably, all correlations between spiritual resource and work engagement first-order factors were positive and significant, and negative and significant between spiritual resources and Exhaustion. Further, all correlations between spiritual resources and outcome variables (Emotional Ill-Health and Turnover Intention) were negative and significant with the exception of Calling and Emotional Ill-Health ( $r = -.08$ ; *ns*). Exhaustion positively correlated with Emotional Ill-Health and Turnover Intention, whereas work engagement first-order factors negatively correlated with the outcome variables. Consistent with previous research (see Randall, 2007), age was negatively correlated with Exhaustion. Correlations between age and work engagement factors were positive and significant, and between age and outcome variables were negative and significant. Age was also positively correlated with all spiritual resource first-order factors with exception of Secure Intimacy with God ( $r = .06$ ; *ns*). Gender was weakly correlated with all first-order spiritual resources with the exception of Security from Abandonment by God ( $r = .00$ ; *ns*). Tenure demonstrated weak relationships with only a few of the 17 first-order factors (Role Ambiguity, Supervisory Support, Security from Abandonment by God, and Emotional Ill-Health).

Table 4.2

*Descriptive Statistics, Intercorrelations, and Cronbach's alphas for the Study Variables and Covariates (Group A)*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Gender (0= male; 1= female)	-	-	-																			
2. Age	46.40	13.54	-.14	-																		
3. Tenure	5.78	6.66	-.16	.36	-																	
4. Role Ambiguity	3.35	1.30	.01	-.23	-.16	.80																
5. Interpersonal Conflict	3.36	1.31	-.09	-.05	-.03	.54	.74															
6. Work-Home Interference	3.71	1.36	-.08	-.03	.05	.43	.48	.77														
7. Work Overload	4.12	1.46	-.16	-.06	.05	.44	.45	.79	.85													
8. Autonomy	5.56	0.76	.01	.16	.11	-.38	-.34	-.35	-.27	.71												
9. Supervisory Support	4.78	1.67	.18	-.06	-.17	-.23	-.27	-.15	-.16	.30	.94											
10. Development Opportunities	5.57	1.01	.11	.04	-.09	-.38	-.32	-.29	-.24	.65	.51	.86										
11. Secure Intimacy with God	4.76	1.00	.22	.06	.04	-.20	-.14	-.17	-.18	.19	.11	.22	.69									
12. Security from abandonment by God	5.30	1.25	.00	.42	.17	-.38	-.18	-.15	-.08	.35	.22	.32	.18	.81								
13. Collaborative Religious Coping	4.83	0.85	.13	.19	.05	-.22	-.13	-.16	-.12	.18	.11	.14	.71	.19	.86							
14. Calling	6.23	0.85	.16	.27	.01	-.12	-.07	.00	-.06	.22	.18	.21	.34	.16	.38	.83						
15. Exhaustion	3.89	0.97	-.01	-.38	-.08	.44	.40	.54	.43	-.24	-.26	-.32	-.14	-.47	-.25	-.19	.82					
16. Vigour	4.69	0.85	.07	.22	.00	-.39	-.34	-.20	-.09	.37	.32	.50	.30	.30	.35	.30	-.56	.80				
17. Dedication	5.28	0.82	.12	.19	.01	-.42	-.36	-.24	-.20	.46	.34	.54	.43	.34	.40	.42	-.46	.82	.82			
18. Absorption	4.88	0.75	.15	.20	.10	-.17	-.14	.00	.00	.33	.20	.31	.29	.13	.36	.38	.24	.72	.73	.66		
19. Emotional Ill-Health	2.01	0.61	.07	.27	-.15	.47	.42	.42	.27	-.26	-.19	-.30	-.10	-.49	-.20	-.08	.68	-.44	-.39	-.15	.82	
20. Turnover Intention	2.32	1.52	-.05	.15	.01	.33	.33	.23	.15	-.31	-.13	-.41	-.22	-.27	-.17	-.35	.36	-.37	-.52	-.34	.38	.88

*Note.*  $N = 418$ . Cronbach's alpha reliability coefficients are in italics on the diagonal. Correlations with absolute values between 0.10 and 0.13 are statistically significant,  $p < .05$ ; between 0.14 and 0.18 are statistically significant,  $p < .01$ ; and  $\geq 0.19$  are statistically significant,  $p < .001$ .

### **Structural models: Group A.**

#### ***Test of mediation.***

Table 4.3 shows that all structural models estimated to test for mediation effects (M1<sub>A</sub>-M4<sub>A</sub>) had an acceptable fit to the data. In the Direct Effects model (M1<sub>A</sub>), Spiritual Resources was significantly related to both Emotional Ill-Health and Turnover Intention in the expected direction ( $\gamma = -.11, p = .043$ ; and  $-.17, p = .002$  respectively). The second model (M2<sub>A</sub>) represented a partial mediation model with parameters from Spiritual Resources to both Emotional Ill-Health and Turnover Intention freely estimated in addition to the hypothesised mediation effects of Work Engagement and Exhaustion. However, both path coefficients from Spiritual Resources to Emotional Ill-Health ( $\gamma = -.03, ns$ ) and Turnover Intention ( $\gamma = -.01, ns$ ) failed to reach significance. The third model (M3<sub>A</sub>) constrained the parameters from Spiritual Resources to the outcome variables to zero. Comparison statistics revealed no significant difference between M3<sub>A</sub> and M2<sub>A</sub>. On the basis of parsimony, M3<sub>A</sub> is a preferred model to M2<sub>A</sub>. Together, these results provide initial support for both Hypothesis 4.1 (Work Engagement fully mediated the relationship between Spiritual Resources and Turnover Intention) and Hypothesis 4.2 (Exhaustion fully mediated the relationship between Spiritual Resources and both Emotional Ill-Health and Turnover Intention). The modification indices suggested that the fit of the full mediation model (M3<sub>A</sub>) could be improved by an additional freely estimated path from Job Resources to Turnover Intention (JR→TI). As this modification is consistent with theory associated with the JD-R model (Bakker & Demerouti, 2007), the modification was included in a new model (M4<sub>A</sub>) which was superior in terms of fit indices in comparison to M3<sub>A</sub>.

Table 4.3

*Results of Structural Equation Modelling (Maximum Likelihood Mean adjusted estimator) for Group A (N= 418) and Group B (N= 417)*

Model	S-B $\chi^2$	df	SCF	CFI	TLI	RSMEA	SRMR	Model Comparisons	$\Delta$ S-B $\chi^2$	$\Delta$ df
M1 <sub>A</sub> : Direct effects model	1714.73	1107	1.11	.93	.93	.04	.07			
M2 <sub>A</sub> : Partial mediation model	2974.30	1862	1.09	.91	.90	.04	.07			
M3 <sub>A</sub> : Full mediation model	2974.45	1864	1.09	.91	.90	.04	.08	M3 <sub>A</sub> vs. M2 <sub>A</sub>	0.15	2
M4 <sub>A</sub> : Modified Full mediation model (added JR→TI)	2969.21	1863	1.09	.91	.90	.04	.07	M3 <sub>A</sub> vs. M4 <sub>A</sub>	5.24*	1
M4 <sub>B</sub> : Modified Full mediation model (added JR→TI)	3059.87	1863	1.08	.90	.90	.04	.08			
M5 Configural	6032.21	3727	1.08	.90	.90	.04	.08			
M6 Factor Loadings invariant	6083.14	3772	1.09	.90	.90	.04	.08	M6 vs. M5	53.83	45
M7 Factor Loadings & Intercepts invariant	6144.42	3833	1.09	.90	.90	.04	.08	M7 vs. M6	59.03	61
M8 Factor Loadings, Intercepts & Factor Covariances Invariant	6153.73	3838	1.09	.90	.90	.04	.08	M8 vs. M7	9.31	5
M9 Factor Loadings, Intercepts, Covariances & Structural	6169.72	3847	1.09	.90	.90	.04	.08	M9 vs. M8	16.00	9
Model Regression Paths Invariant								M9 vs. M5	139.09	120

*Note.* S-B $\chi^2$  = Satorra-Bentler-scaled chi-square goodness of fit statistic; df = degrees of freedom; SCF = Scaling Correction Factor; TLI=

Tucker-Lewis Index; CFI = Comparative Fit Index; RMSEA = Root Means Square Error of Approximation; SRMR= Standardised Root Mean

Square Residual. JR→TI refers to a structural relationship freely estimated from Job Resources to Turnover Intention.

\* $p < .05$ .

M4<sub>A</sub> explained 53.4% of the variance in Work Engagement, 42.2% in Exhaustion, 48.4% in Emotional Ill-Health, and 27.8% in Turnover Intention. In this model, Spiritual Resources had a significant direct relationship with Work Engagement ( $\gamma = .43$ ;  $p < .001$ ) and Exhaustion ( $\gamma = -.17$ ;  $p < .001$ ). Further, Spiritual Resources had a significant indirect relationship with Turnover Intention via Work Engagement ( $\beta_{\text{indirect}} = -.13$ ;  $p < .001$ ) and Exhaustion ( $\beta_{\text{indirect}} = -.03$ ;  $p = .01$ ), and on Emotional Ill-Health via Exhaustion ( $\beta_{\text{indirect}} = -.12$ ;  $p < .001$ ).

### ***Test of moderation.***

In order to test whether Spiritual Resources moderated the relationship between Job Demands and Exhaustion (Hypothesis 4.3), M4<sub>A</sub> was re-estimated with an interaction term (the interaction between Spiritual Resources and Job Demands) loading on Exhaustion. The unstandardised path coefficient associated with this interaction term was not significant ( $\gamma = -.01$ ;  $SE = .08$ ;  $ns$ ). Hypothesis 4.3 was therefore not supported.

### **Cross-validation sample: Group B.**

#### ***Descriptive statistics pertaining to measurement model: Group B.***

Means, standard deviations, internal consistencies, and intercorrelations between all first-order factors for Group B ( $N = 417$ ) are reported in Appendix E. As with Group A, all significant relationships between the first-order factors were in the expected direction.

### ***Cross-validation of SEM analyses.***

The results of the SEM analyses conducted with Group A were cross-validated using data gathered from the hold out sample (Group B) of religious workers ( $N = 417$ ). Table 4.3 shows the preferred model from Group A (i.e.,  $M4_A$ ) fitted Group B data adequately ( $M4_B$ ). Figure 4.2 shows that Spiritual Resources were again positively related to Work Engagement and negatively related to Exhaustion. Further,  $M4_B$  demonstrated significant indirect relationships between Spiritual Resources and Turnover Intention via Work Engagement ( $\beta_{\text{indirect}} = -.04$ ;  $p = .022$ ) and Exhaustion ( $\beta_{\text{indirect}} = -.02$ ;  $p = .018$ ), and on Emotional Ill-Health via Exhaustion ( $\beta_{\text{indirect}} = -.08$ ;  $p = .004$ ). Results gathered from the Group B analyses indicated no significant moderation effect of Spiritual Resources on the relationship between Job Demands and Exhaustion ( $\gamma = -.08$ ;  $SE = .07$ ;  $ns$ ). Thus, all relationships of significance found among Group A were replicated with data obtained from Group B.

### ***Testing for measurement and structural invariance.***

After fitting a configural model ( $M5$ ) in which no parameters estimated were constrained to be equal, a model that constrained all factor loadings to be equal was estimated ( $M6$ ). Table 4.3 shows that the resultant change in model fit was not significant. The next model estimated ( $M7$ ) additionally constrained all intercepts to be equal. These constraints did not result in a significant deterioration of fit to the data. Model 8 additionally constrained all covariances between latent variables in the preferred model to be equal. Again the S-B $\chi^2$  difference test was not significant. Finally, all regression paths between latent variables in the structural model were additionally constrained to be equal across groups ( $M9$ ). Results confirmed that  $M9$

did not differ significantly from either M8 or the configural model in terms of model fit. Based on Meredith's (1993) categorisation, these results indicate evidence of strong measurement and structural invariance, and support the stability of the final model (Schreiber, Stage, King, Nora, & Barlow, 2006). That is, the adequate fit of the final measurement and structural model are not an artefact of modifications that capitalise on chance, but rather reflect the plausibility of relationships between observed items and their hypothesised latent factors (i.e., the 63 items measuring the 17 first order factors), and structural relationships of interest between latent factors (e.g., the positive relationship found between Spiritual Resources and Work Engagement).

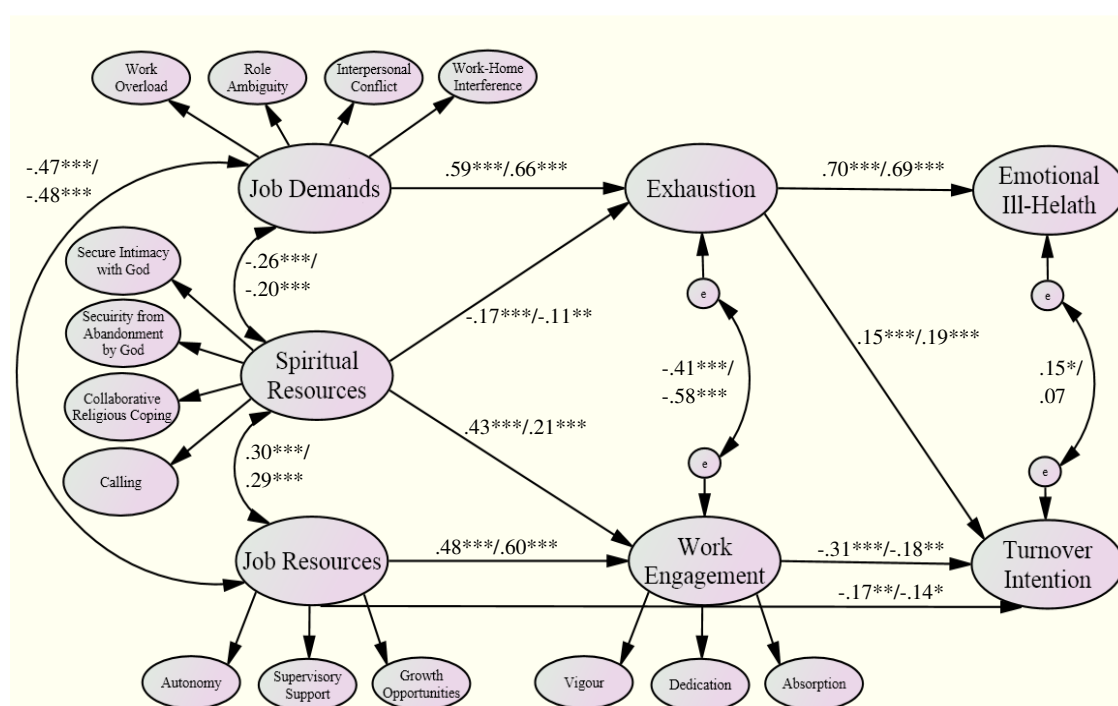


Figure 4.2. Model 4 with standardised parameter estimates for Group A (N=418) shown on left, and Group B (N= 417) shown on right. For figure parsimony, measurement model factor loadings are not shown. Measurement model factor loadings are displayed in Table F1 and Table F2 (see Appendix F).

Note. \*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ .

### **Testing for gender, age, and tenure effects.**

To test for any age, gender, or tenure effects on the relationships of interest to this thesis, the preferred model (M4) was refitted with manifest gender, age and tenure variables loading onto all endogenous variables for both samples. In these models, the significance of all structural relationships between the study variables was unaltered from those found in M4<sub>A</sub> and M4<sub>B</sub>. Further, the magnitude of the structural relationships of interest (i.e., between Spiritual Resources and Work Engagement, and Spiritual Resources and Exhaustion) were essentially unaltered. These models did not meet conventional threshold levels for CLI and TLI (Group A: CFI= .89, TLI= .88; Group B: CFI= .89, TLI= .88). As gender, age and tenure neither influenced the hypothesised relationships nor improved the model fit, they were excluded from all subsequent analyses reported on in this thesis.

### **Assessment of the effects of same-source biases.**

It is possible that a same-source or common method effect may have inflated or deflated the strengths of the observed relationships between the study constructs as all data were obtained from the same source (i.e., religious workers) using a self-report methodology (Podsakoff et al., 2003). To assess the potential impact of this form of bias, the preferred model (M4) was re-estimated with an additional Common Method first-order latent factor on which all items were allowed to load in addition to their intended constructs. This procedure has the effect of controlling for that portion of variance in the indicators that is attributable to obtaining measures from the same source (Richardson, Simmering, & Sturman, 2009). For identification purposes, it was necessary to constrain the Common Method factor loadings to be equal when estimating these models (MacKenzie, Podsakoff, & Paine, 1999).



The standardised parameter estimates concerning the study hypotheses obtained from analyses including the Common Method factor are shown in the last two numerical columns of Table 4.4. As shown in this table, the overall pattern of significant relationships from both groups was not affected by the inclusion of a Common Method factor (i.e., paths that were significant when common method variance was not controlled remained significant and similar in magnitude when common method variance was controlled). The exception was that the specific indirect relationship between Spiritual Resources on Turnover Intention mediated by Exhaustion in Group A became insignificant. This was not surprising as this relationship only just attained significance in the original model. Therefore, hypothesised relationships between Spiritual Resources and outcome variables as mediated by Work Engagement and Exhaustion remained stable when same-source or common method bias was taken into account.

Table 4.4

*Standardised Parameter Estimates Concerning Hypothesised Relationships from Model 4 for Group A (N=418) and Group B (N=417)*

Description of Direct and Indirect effects	Not Controlling for		Controlling for	
	Common Method Variance		Common Method Variance	
	Group A	Group B	Group A	Group B
Spiritual Resources → Exhaustion	-.17***	-.11**	-.20***	-.12**
Spiritual Resources → Exhaustion→ Emotional Ill-Health	-.12***	-.08**	-.14***	-.09**
Spiritual Resources → Exhaustion→ Turnover Intention	-.03**	-.02*	-.02	-.02*
Spiritual Resources → Work Engagement	.43***	.21***	.41***	.20***
Spiritual Resources → Work Engagement → Turnover Intention	-.13***	-.04*	-.15***	-.05*

*Note.* → indicate parameters freely estimated.

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$

### Summary of results.

The series of SEM analyses provided support for Hypothesis 4.1 and Hypothesis 4.2: Work Engagement fully mediated the relationship between Spiritual Resources and Turnover Intention, and Exhaustion fully mediated the relationships between Spiritual Resources and both Emotional Ill-Health and Turnover Intention. However, evidence supporting Hypothesis 4.3 was not found, as Spiritual Resources did not significantly moderate the relationship between Job Demands and Exhaustion. Moreover, these results were both invariant across the two randomised samples of religious workers, and remained stable when controlling for age, gender, tenure, and common method effects.

## **Chapter 4 Discussion**

The purpose of this first study was to conduct an initial cross-sectional analysis testing hypothesised relationships between selected spiritual dimensions conceptualised as personal resources within an extended JD-R model (van den Heuvel et al., 2010). As hypothesised, both work engagement and exhaustion were found to mediate the relationship between spiritual resources and (low) negative occupational outcomes. This finding is important as it is the first study to identify spiritual resources as significantly related to both the motivational and health impairment processes proposed by the JD-R model. Results add to a growing body of literature that has found spiritual resources to be negatively related to exhaustion and other burnout measures (Golden et al., 2004; Kaldor & Bullpitt, 2001; Turton & Francis, 2007), but further demonstrates the salience of a positive motivational process in shaping turnover intentions in addition to burnout (see Randall, 2004).

Contrary to the hypothesis that spiritual resources would moderate the relationship between job demands and burnout, the effect of job demands on exhaustion appears to be quite robust regardless of the level of spiritual resources. This finding is consistent with previous research exploring non-religious personal resources (Xanthopoulou et al., 2007). In other words, although a negative relationship between spiritual resources and levels of exhaustion was found, this result was not due to spiritual resources buffering the toxic effects of job demands.

## **Chapter 4 Conclusion**

By conceptualising selected religious dimensions as personal resources, the analyses presented in this chapter comprise an initial cross-sectional testing of the contribution of spiritual resources to the occupational well-being of Australian

religious workers. Spiritual resources have been shown to have a significant relationship with both the motivational and health impairment processes of the JD-R model. Specifically, spiritual resources demonstrated significant direct relationships with work engagement and exhaustion, and indirect relationships with health-related and occupational outcomes (as mediated by work engagement and exhaustion). Therefore, this preliminary cross-sectional analysis provides support for the hypothesis of spiritual resources being significantly related to other variables in the JD-R model, and that these relationships warrant the further research attention provided in subsequent chapters.

## **Chapter 5: Spiritual Resources and Personality in the JD-R Model: A Study of Incremental Validity**

The aim of this chapter is to build on the previous analyses by testing the unique effects of spiritual resources in the JD-R model beyond those of the five-factor model (FFM) of personality (McCrae & Costa, 1995). Given the consistent relationships found between personality dimensions and all variables contained in the JD-R model (Bakker et al., 2010; Kim et al., 2009), failure to account for the effects of personality may inflate relationships with spiritual resources observed in the previous chapter.

### **Introduction to Chapter 5**

Spiritual resources, as a sub-group of state-like personal resources, were found to be significantly related to both processes of the JD-R model among clergy and other religious workers in the previous chapter. Specifically, spiritual resources were associated with the work-related psychological states of engagement (positively) and exhaustion (negatively), engagement and exhaustion in turn fully mediated the influence of spiritual resources on reduced turnover intentions and emotional ill-health. However, some have questioned whether religious and spiritual constructs represent a distinct domain of individual difference, or merely the re-labelling or ‘religification’ of already established personality constructs (Van Wicklin, 1990). The criticism of a lack of discriminate validity between spiritual resources and personality dimensions is particularly important for this thesis as various dimensions of personality have been associated with both burnout and work engagement among clergy (e.g., Joseph et al., 2011). Therefore, this chapter reports

on a study testing the factorial independence of spiritual resources from measures of personality, as well as the incremental validity of spiritual resources in relation to the dual process of the JD-R model over and above personality constructs.

### **Spiritual resources and personality.**

Rodgers and Piedmont (1998) assert that in order for spiritual constructs to be recognised and accepted as legitimate individual difference dimensions, two conditions must be satisfied. First, that spiritual constructs are distinct from other established psychological variables. Second, that spiritual constructs are able to explain unique variance observed in psychological outcomes beyond the effects of such established psychological variables. The FFM of personality has been developed and confirmed over the past five decades (Digman, 1990) as a reliable organisation of individual differences. These five dimensions are highly stable over time, and provide a comprehensive outline of an individual's motivational, emotional, interpersonal, experiential, and attitudinal styles (Costa & McCrae, 1994; McCrae & Costa, 1995). As such, the FFM can be a useful reference point in evaluating the incremental validity of other proposed individual difference constructs such as spiritual resources (Piedmont, 1999a).

While the exact names attributed to each FFM dimension may vary, most have agreed upon the following five traits: (a) Neuroticism, the tendency to experience negative affect such as anxiety, depression, hostility, and embarrassment; (b) Extraversion, the person's general sociability, positive disposition, and tolerance for interpersonal sensory stimulation; (c) Openness to experience, referring to an person's preference for novel experiences, levels of intellectual curiosity, and comfort with change; (d) Agreeableness, the tendency to value harmony,

compassion, and expectation of the general helpfulness of others; and (e) Conscientiousness, referring to a preference for methodical, diligent, and focused attention towards goal-directed behaviours (Costa & McCrae, 1992).

Reviews of the relationships between the FFM and a variety of spiritual and religious measures indicate that various dimensions of religiosity and spirituality are differentially related to the five factors of personality (Piedmont, 2005; Saroglou, 2002). For example, religiosity (i.e., involvement in religious activities such as prayer and attending religious services) is most related to agreeableness and conscientiousness. This finding essentially confirms earlier research using Eysenck's three dimensional model of personality, that demonstrated a relationship between religion and low psychoticism (e.g., Eysenck, 1998; Francis, 1992), a factor normally including both agreeableness and conscientiousness (Saroglou, 2002). Measures of spiritual maturity are also related to extraversion, (low) neuroticism, and openness to experience in addition to agreeableness and conscientiousness. In contrast, possessing an extrinsic religious orientation is related to neuroticism. However, the magnitudes of all these relationships have not been sufficient to indicate redundancy between the various dimensions of spirituality and personality (see, Piedmont, 2005; Saroglou, 2002).

MacDonald (2000, 2011a, 2011b) identified a factor of spirituality labelled Existential Well-Being. This aspect of spirituality is expressed through a sense of meaning or purpose in life, and a perception of the self as being competent and able to cope with perceived difficulties. The functional definition of the Existential Well-Being factor of spirituality bears similarity to the definition of spiritual resources proposed in this thesis. Both are concerned with aspects of spirituality that relate to resilience and increased perceived control over the environment.

The Existential Well-Being factor has been found to be related to both personality dimensions and positive occupational outcomes. First, this empirically derived aspect of spirituality correlates negatively with neuroticism, and positively with extraversion, conscientiousness, and agreeableness (MacDonald, 2000). Second, in a study of religiously affiliated health care workers, the Existential Well-Being factor of spirituality was positively related to work ethic, job satisfaction, organisational commitment, and organisational citizenship behaviours (Affeldt & MacDonald, 2010).

Concerning the specific dimensions of spirituality included in this thesis, both dimensions of attachment to God indicative of greater security (i.e., low anxious attachment to God and low avoidant attachment to God) and collaborative religious coping have been found to positively relate to agreeableness, conscientiousness, and extraversion, and negatively relate to neuroticism (Rodgers & Piedmont, 1998; Rowatt & Kirkpatrick, 2002). These findings reflect the patterns previously associated with the Existential Well-Being factor and a mature cognitive orientation towards spirituality (MacDonald, 2000; Saroglou, 2002). Some measures of calling have been correlated with optimism (Dobrow & Tosti-Kharas, 2011), positive affect (Steger et al., 2010), and core self-evaluations reflecting positive self-esteem, global self-efficacy, low neuroticism, and internal locus of control (Duffy, Allan, & Bott, 2012). However, no systematic relationships between divine calling and the FFM of personality have been explored.

Observations of spirituality differentially relating to numerous domains of the FFM have led researchers to argue that spirituality not only should be considered conceptually distinct from established personality dimensions, but that spirituality represents major aspects of personality not represented in the FFM (Cloninger,



Svrakic, & Pryzbeck, 1993; MacDonald, 2000; Saucier & Goldberg, 1998).

Piedmont (1999b) reports that spirituality embodies qualities of solitude, simplicity, detachment, and dispassion, in addition to its overlap with extraversion, openness and agreeableness.

Spiritual resources may also be distinguished from personality in terms of their temporal stability and developmental phase. Costa and McCrae (1994) argue that personality dimensions are trait-like genotypic tendencies of individuals to think, act, and feel in consistent ways that are ‘set like plaster’ before the age of 30. In contrast, spirituality is conceptualised by most religious and spiritual traditions as a dynamic construct that can change, grow, or deteriorate over time as influenced by interactions with life events and personal experiences (Hill & Pargament, 2008; Ullman, 1989; Zellars, Perrewé, & Brees, 2010). Thus, it seems preferable to consider spiritual resources as a category of state-like personal resources open to change and development, consistent with other personal resources that have received the most attention in research involving the JD-R model to date (e.g., Xanthopoulou et al., 2007; 2009a). If spiritual resources represent individual state-like characteristics akin to other state-like personal resources, they are expected to be influenced by, yet not reducible to, personality domains (van den Heuvel et al., 2010).

On the basis of the empirical and theoretical evidence presented above, the first hypothesis tested in this chapter is as follows:

*5.1. Spiritual resources will be related to, yet distinct from, individual personality dimensions.*

### **Spiritual resources, personality and elements of the JD-R model.**

Spiritual resources were identified as having significant relationships with both the motivation and health impairment processes of the JD-R model in the previous chapter. Researchers have also substantiated relationships between personality traits and numerous elements of the dual processes of the JD-R model. For example, neuroticism has been directly related to health impairment and indirectly through its effect of amplifying perceived job demands, while extraversion has been positively related to organisational commitment both directly and indirectly through its effect of amplifying perceived job resources (Bakker et al., 2010).

Burnout has been shown to correlate most strongly with the personality dimension of neuroticism (Bakker, Van Der Zee, Lewig, & Dollard, 2006; Kim et al., 2009; Langelaan et al., 2006; Piedmont, 1993; Zellars, Perrewé, & Hochwarter, 2000). Studies among clergy have found similar results (Francis et al., 2004; Joseph et al., 2011; Miner, 2007a; Tomic et al., 2004; Turton & Francis, 2007; Rodgers & Piedmont, 1998). Other FFM dimensions related to burnout among religious workers and employees from other occupations include extraversion (negatively) (Francis et al., 2004; Joseph et al., 2011; Rodgers & Piedmont, 1998; Tomic et al., 2004), openness (negatively) (Miner, 2007a; Zellars et al., 2000), agreeableness (Rodgers & Piedmont, 1998), and conscientiousness (negatively) (Joseph et al., 2011; Mostert & Rothmann, 2006; Piedmont, 1993; Rodgers & Piedmont, 1998).

To date, four published studies have identified relationships between work engagement and dimensions of the FFM of personality. Langelaan and colleagues (2006) found extraversion and (low) neuroticism to be related to work engagement, yet did not include other personality dimensions. Including all five factors of personality, Kim et al. (2009) found work engagement to have the strongest

relationship with conscientiousness followed by low neuroticism, yet failed to detect a significant relationship with extraversion, openness, or agreeableness. Wefald, Reichard, and Serrano (2011) found that engagement mediated the relationship between the personality dimensions of extraversion and conscientiousness, and work outcomes of job satisfaction, affective commitment, and turnover intention. Joseph et al. (2011) found work engagement among Indian clergy to be positively associated with extraversion, agreeableness, and conscientiousness, and negatively associated with neuroticism. Openness to experience is the only 'Big Five' factor that has not demonstrated a significant relationship with work engagement.

It has been argued above that spirituality is distinct from personality. Further, when correlated individually, both spirituality and personality show significance with constructs within the JD-R model (see previous chapter and literature reviewed above). This leads to the question of the incremental significance of spiritual resources within the JD-R model in the presence of personality. It has been argued that spiritual resources theoretically increase meaningfulness of work tasks and perceived control over the environment (Hood et al., 2009; Park, 2012). Such protective processes associated with spirituality in the workplace have been proposed to function in addition to personality traits (see Zellars et al., 2010). Supporting this theoretical proposal, two studies have found empirical evidence indicating that spiritual constructs have incremental significance in predicting burnout levels among clergy when controlling for personality (Golden et al., 2004; Rodgerson & Piedmont, 1998).

On the basis of the theoretically distinct processes associated with spiritual resources and empirical findings of the incremental validity of spirituality in relation to burnout, the following hypothesis is proposed:

5.2. *Spiritual resources will be significantly related to the dual processes of the JD-R model consistent with the findings of Chapter 4, over and above the influence of personality dimensions. That is, spiritual resources will be significantly related to outcome variables (turnover intention and emotional ill-health) mediated by work engagement and exhaustion when personality dimensions are included.*

## **Chapter 5 Method**

### **Participants and procedure.**

Analyses were conducted using data collected from 617 religious workers who returned complete surveys during the third measurement period (response rate of 65.8% of all who received an email inviting their participation). See Chapter 3 for a description of this Time 3 sample.

### **Measures.**

Measures were identical to those used in the final analyses conducted in Chapter 3, with the addition of a personality measure (NEO Five-Factor Inventory [NEO-FFI] Form S, Costa & McCrae, 1992). See Chapter 3 for a description of measures.

### **Data analysis.**

Data were analysed by means of confirmatory factor analysis (CFA) and structural equation modelling (SEM). Goodness-of-fit for both the CFA and SEM models were assessed using identical indices of fit and respective acceptability guidelines as reported in Chapter 3. Nested models were compared by means of the

Satorra-Bentler-scaled chi-square difference statistic ( $\Delta S-B\chi^2$ ; Satorra & Bentler, 2001).

As in Chapter 4, a higher-order measurement model was constructed as guided by the JD-R model extended to include personal resources (see Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007). Job Demands was included as a second-order latent factor composed of four first-order factors (Role Ambiguity, Interpersonal Conflict, Work-Home Interference, and Work Overload). Job Resources was included as a second-order latent factor comprising three first-order factors (Autonomy, Supervisory Support, and Development Opportunities). Spiritual Resources was included as a second-order latent factor comprising four first-order factors (Secure Intimacy with God, Security from Abandonment by God, Collaborative Religious Coping, and Calling). Work engagement was included as a second-order latent factor comprising three first-order factors (Vigour, Dedication, and Absorption). Exhaustion, Emotional Ill-Health, and Turnover Intention were also included as first-order latent factors. The 17 first-order latent factors were indicated by their respective scale items (total of 63 items).

Prior CFAs of the NEO-FFI conducted at the item level have not supported their a priori structure (e.g., Schmitz, Hartkamp, Baldini, Rollnik, & Tress, 2001). These findings have led some researchers to question the applicability of CFAs to the study of personality structure (McCrae, Zonderman, Costa, Bond, & Paunonen, 1996). Although a recently devised methodology known as exploratory structural equation modelling (ESEM) has demonstrated promise for overcoming this statistical impasse for the NEO-FFI specifically (see Marsh et al., 2010; Rosellini & Brown, 2011), the sample size of the present study was not sufficiently large for ESEM given the number of scale items and complexity of the hypothesised model to be tested (H.

Marsh, personal communication, August 1, 2012). In order to address these issues, the analyses conducted in this chapter followed the practice of previous researchers of computing average scores for each of the personality dimensions (Neuroticism, Extraversion, Openness to experience, Agreeableness, and Conscientiousness) and including these in the measurement and structural models as manifest variables (e.g., Bakker et al., 2010).

The sample size of  $N=617$  exceeded the minimum required for conducting CFA/SEM analyses at a power level of .80 as calculated by Preacher and Coffman's (2006) web-based calculator. The obtained ratio of 9:1 observations per indicator variable is also acceptable according to Bentler and Chou's (1987) rule of thumb for minimum sample size.

***Testing Hypothesis 5.1: Spiritual resources distinct from personality dimensions.***

To test Hypothesis 5.1, three procedures were followed. First, scores of the personality dimensions were correlated with the spiritual resource first-order factors (Piedmont, 1999a). Correlation magnitudes between spiritual resources and personality dimensions were inspected and compared with correlation magnitudes within spiritual resource factors. Second, Dillon and Goldstein's (1984) rule of thumb criterion for discriminant validity was applied. The average variance extracted (AVE) for each spiritual resource first-order factor was compared with its corresponding squared inter-construct correlation (SIC) estimate with each personality variable. If the AVE estimate for each spiritual resource factor is larger than the SIC values, each spiritual resource has more in common with the other spiritual resources than with the personality variables. Third, the hypothesised

measurement model (HMM) was compared with a series of five alternative measurement models (Alt.1-5), each with an expanded Personal Resources higher-order factor. The five alternative Personal Resources factors comprised the four first-order spiritual resource factors and one of the five personality dimensions in turn. That is, Alt.1 included a Personal Resources factor comprising the four spiritual resources factors with Neuroticism; Alt.2 , included a Personal Resources factor comprising the four spiritual resources factors with Extraversion; Alt.3 included a Personal Resources factor comprising the four spiritual resources factors with Openness; Alt.4 included a Personal Resources factor comprising the four spiritual resources factors with Agreeableness; and Alt.5 included a Personal Resources factor comprising the four spiritual resources factors with Conscientiousness. Evidence supporting Hypothesis 5.1 is provided if the hypothesised measurement model (HMM) provides a superior fit relative to the five alternatives (Alt.1-5) that do not model Spiritual Resources as a factor distinct from each of the personality dimensions.

***Testing Hypothesis 5.2: Incremental validity of spiritual resources in the JD-R model.***

The incremental validity of spiritual resources in the JD-R model was tested by evaluating the relative contributions of the Spiritual Resources higher-order factor to the dual processes of the JD-R model in the presence of all personality dimensions. This was accomplished by comparing a series of nested structural models. First, the hypothesised JD-R model extended to include spiritual resources was fitted to the data with each of the NEO-FFI manifest variables additionally loading onto Job Demands, Job Resources, Spiritual Resources, Work Engagement,

Exhaustion, Emotional Ill-Health, and Turnover Intention. Model fit indices and the significance of structural paths of this hypothesised expanded JD-R model (M1) were then compared with those of an alternative model (M2) in which the relationships between Spiritual Resources and the endogenous variables of Work Engagement and Exhaustion were constrained to zero. If the structural paths between Spiritual Resources and the endogenous variables of Work Engagement and Exhaustion in M1 are significant, and the model fit of M2 is significantly different (worse) in comparison with that of M1, it can be concluded that Spiritual Resources have a significant relationship to the dual processes of the JD-R model over and above those of work characteristics and personality dimensions. A measure of the incremental validity of Spiritual Resources on both Work Engagement and Exhaustion was assessed by the difference in  $R^2$  values for the latent variables of Work Engagement and Exhaustion from M1 to M2.

For the sake of completeness, the incremental validity of personality dimensions and work conditions were also assessed by comparing  $R^2$  values for the latent variables of Work Engagement and Exhaustion observed in M1 with those associated with two additional alternative models: Model 3 (M3) representing M1 with relationships between NEO-FFI manifest variables to both Work Engagement and Exhaustion constrained to zero; and Model 4 (M4) representing M1 with relationships between both Job Demands and Exhaustion, and between Job Resources and Work Engagement constrained to zero. As above, if the model fit of either (or both) M3 and M4 are significantly different (worse) in comparison with that of M1, it can be concluded that those variables constrained to zero have significant relationships with the dual processes of the JD-R model.



## **Chapter 5 Results**

### **Descriptive statistics.**

Means, standard deviations, intercorrelations between constructs, and the reliability coefficients of scales are presented in Table 5.1. All variables had acceptable reliability coefficients, with only the Absorption scale falling just below the rule of thumb figure of .70 (Nunnally & Bernstein, 1994). All significant relationships between variables included in the extended JD-R model were in the expected direction and consistent with prior analyses reported in Chapter 4.

As expected, several significant correlations were found between spiritual resource factors and personality dimensions. One correlation emerged that was strong in magnitude. Security from Abandonment by God was negatively correlated with neuroticism ( $r = -.65$ ). All other correlations between first-order spiritual resource factors and personality dimensions had an absolute average correlation below .20, in comparison with an average correlation of .34 between first-order spiritual resource factors. This difference in average correlation coefficients supports the contention that individual spiritual resources can be considered relatively independent of personality related content.

Table 5.1

*Means, Standard Deviations, Intercorrelations, and Reliability Coefficients of Constructs Included in Chapter 5.*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1. Neuroticism	3.21	.94	<i>.86</i>																					
2. Extraversion	4.75	.81	-.45	<i>.83</i>																				
3. Openness	4.55	.74	-.08	.18	<i>.73</i>																			
4. Agreeableness	5.26	.53	-.31	.27	.12	<i>.76</i>																		
5. Conscientiousness	5.24	.73	-.36	.18	-.07	.32	<i>.85</i>																	
6. Role Ambiguity	3.03	1.23	.49	-.26	-.01	-.33	-.39	<i>.82</i>																
7. Interpersonal Conflict	3.15	1.28	.37	-.11	.05	-.37	-.24	.66	<i>.79</i>															
8. Work-Home Interference	3.67	1.41	.22	-.01	-.02	-.17	-.19	.35	.44	<i>.86</i>														
9. Work Overload	3.94	1.45	.25	-.07	-.04	-.20	-.24	.40	.44	.78	<i>.86</i>													
10. Autonomy	5.99	0.74	-.26	.23	.01	.15	.13	-.37	-.33	-.24	-.20	<i>.80</i>												
11. Supervisory Support	4.81	1.68	-.01	.16	.09	.07	.01	-.18	-.21	-.08	-.06	.15	<i>.93</i>											
12. Development Opportunities	5.85	0.86	-.23	.25	.03	.18	.18	-.36	-.32	-.15	-.10	.64	.39	<i>.90</i>										
13. Secure Intimacy with God	4.94	0.93	-.16	.18	-.06	.30	.25	-.20	-.18	-.14	-.09	.21	.11	.23	<i>.73</i>									
14. Security from abandonment by God	5.51	1.08	-.65	.29	.14	.25	.32	-.42	-.24	-.14	-.17	.22	-.04	.16	.18	<i>.78</i>								
15. Collaborative Religious Coping	4.77	0.88	-.24	.26	.03	.30	.21	-.26	-.19	-.12	-.10	.18	.07	.22	.73	.19	<i>.88</i>							
16. Calling	6.38	0.72	-.20	.17	.00	.24	.16	-.20	-.15	-.01	.02	.33	.14	.36	.40	.16	.35	<i>.85</i>						
17. Exhaustion	3.70	0.96	.56	-.30	-.04	-.24	-.30	.49	.48	.49	.49	-.33	-.10	-.33	-.16	-.46	-.29	-.25	<i>.82</i>					
18. Vigour	4.83	0.92	-.48	.58	.10	.21	.35	-.45	-.30	-.21	-.21	.45	.18	.47	.27	.34	.36	.33	-.60	<i>.86</i>				
19. Dedication	5.39	0.83	-.44	.53	.11	.30	.32	-.51	-.39	-.15	-.17	.47	.21	.63	.35	.32	.43	.45	-.54	.87	<i>.80</i>			
20. Absorption	4.96	0.77	-.25	.43	.12	.23	.26	-.24	-.12	.14	.06	.32	.15	.37	.22	.13	.33	.31	-.22	.71	.78	<i>.68</i>		
21. Emotional Ill-Health	1.89	0.61	.59	-.27	-.03	-.23	-.23	.41	.42	.38	.42	-.26	-.06	-.17	-.18	-.41	-.27	-.13	.66	-.42	-.38	-.17	<i>.82</i>	
22. Turnover Intention	2.23	1.40	.21	-.14	.01	-.15	-.08	.36	.33	.08	.02	-.39	-.14	-.41	-.24	-.16	-.20	-.43	.30	-.32	-.46	-.33	.25	<i>.86</i>

*Note.*  $N = 617$ . Cronbach's alpha reliability coefficients are in italics on the diagonal. Range of scores for all variables is 1-7, with the exception of emotional ill-health which has a range of 1-4. Correlations with absolute values between 0.08 and 0.10 are statistically significant at  $p < .05$ ; between 0.11 and 0.14 are statistically significant at  $p < .01$ ; and  $\geq 0.15$  are statistically significant at  $p < .001$ .

### **Measurement models.**

The first-order latent factors and five manifest variables representing the FFM were assessed by CFA to ensure that all latent factors showed good internal validity. This first-order model yielded an adequate fit to the data ( $S-B\chi^2 = 3379.91$ ;  $df = 1984$ ; SCF = 1.11; CFI = .93; TLI = .92; RMSEA = .03; SRMR = .04). Indeed average factor loadings for each latent factor ( $\gamma_{\text{average}}$  from .60 to .91) suggest good construct validity. Further, the AVE estimates of the spiritual resource first-order factors ( $AVE_{\text{range}} = .49-.60$ ) were all greater than the corresponding squared correlations between personality dimensions and spiritual resource first-order factor estimates ( $SIC_{\text{range}} = .00 - .42$ ). This last finding suggests the discriminant validity of the spiritual resource first-order factors in relation to personality dimensions (Dillon & Goldstein, 1984).

The hypothesised higher-order measurement model (HMM) including the five manifest variables representing the FFM of personality achieved a good fit in terms of RMSEA and SRMR, though comparative fit statistics (CFI and TLI) fell just below the acceptable value of .90 (see Table 5.2). All first-order factor loadings were positive, significant with  $p < .001$ , and greater than .50 with the exception of Security from Abandonment with God (.31) and Supervisory Support (.38). In this model, the higher-order Spiritual Resources factor was positively correlated with Agreeableness ( $r = .39, p < .001$ ), Conscientiousness ( $r = .30, p < .001$ ), and Extraversion ( $r = .30, p < .001$ ), and negatively with Neuroticism ( $r = -.32, p < .001$ ). Spiritual Resources was not significantly related to Openness to experience ( $r = .01, ns$ ).

To further test the distinctness of Spiritual Resources in relation to personality dimensions, five alternative higher-order measurement models were

estimated (Alt.1-5). In the five alternative models, each personality dimension was systematically modelled as loading onto an expanded personal resources factor together with the four first-order spiritual resource factors. As can be seen from the model comparisons presented in Table 5.2, the hypothesised measurement model that represents spiritual resources as distinct from personality dimensions has a significantly different (superior) fit to the data in terms of fit statistics relative to all alternative higher-order measurement models.

Overall, the results gathered from the correlation matrix and CFAs support Hypothesis 5.1 that spiritual resources are related to, yet distinct from, individual personality dimensions.

Table 5.2

*Results of Higher-Order Confirmatory Factor Analyses (Maximum Likelihood Mean adjusted estimator)*

Model description	S-B $\chi^2$	df	SCF	CFI	TLI	RMSEA	SRMR	Model Comparison	$\Delta$ S-B $\chi^2$	$\Delta$ df
Hypothesised Measurement Model (HMM)	4277.23	2135	1.11	.89	.89	.04	.07			
Alt. Measurement Model 1 - SRs with Neuroticism (Alt.1)	4835.28	2146	1.11	.87	.86	.05	.09	Alt.1 vs. HMM	558.05***	11
Alt. Measurement Model 2 - SRs with Extraversion (Alt.2)	4433.14	2146	1.11	.89	.88	.04	.08	Alt.2 vs. HMM	155.91***	11
Alt. Measurement Model 3 - SRs with Openness (Alt.3)	4411.70	2146	1.11	.89	.88	.04	.08	Alt.3 vs. HMM	134.47***	11
Alt. Measurement Model 4 - SRs with Agreeableness (Alt.4)	4384.75	2146	1.11	.89	.88	.04	.07	Alt.4 vs. HMM	107.52***	11
Alt. Measurement Model 5 - SRs with Conscientiousness (Alt.5)	4394.88	2146	1.11	.89	.88	.04	.07	Alt.5 vs. HMM	117.65***	11

*Note.*  $N= 617$ . S-B $\chi^2$ = Satorra-Bentler-scaled chi-square goodness of fit statistic;  $df$ = degrees of freedom; SCF= Scaling Correction Factor; TLI= Tucker-Lewis Index; CFI= Comparative Fit Index; RMSEA= Root Means Square Error of Approximation; SRMR= Standardised Root Mean Square Residual. SRs= Four first-order spiritual resource factors.

\*\*\* $p < .001$ .

### **Structural models.**

All model solutions converged properly, and all parameters were plausible.

Table 5.3 displays model fit statistics for all structural models estimated in the analysis.

### ***Preliminary analysis validating JD-R model extended to include spiritual resources.***

Prior to the fitting of the structural models used to test Hypothesis 5.2, the JD-R model extended to include spiritual resources was fitted to the data without the inclusion of personality variables to confirm the adequacy of model fit suggested by previous analyses (see Chapter 4). This model (M0) achieved an adequate fit to the data. Parameter estimates were found to be consistent in direction and significance with analyses from Chapter 4, with the exception of the relationship between Exhaustion and Turnover Intention being reduced to insignificance ( $\beta = .07, ns$ ). In this model, Spiritual Resources were significantly related to Work Engagement ( $\beta = .35, p < .001$ ) and indirectly related to Turnover Intention via Work Engagement ( $\beta_{\text{indirect}} = -.07, p = .006$ ). Further, Spiritual Resources were negatively related to Exhaustion ( $\beta = -.22, p < .001$ ) and indirectly related to Emotional Ill-Health via Exhaustion ( $\beta_{\text{indirect}} = -.15, p < .001$ ). Given that this model was tested on a set of data independent from the analysis reported in Chapter 4, these results provide further validation for the findings from that chapter.

Table 5.3

*Results of Structural Equation Modelling (Maximum Likelihood Mean adjusted estimator)*

Model (M) description	S-B $\chi^2$	df	SCF	CFI	TLI	RMSEA	SRMR	Model Comparison	$\Delta$ S-B $\chi^2$	$\Delta$ df
M0 Expanded JD-R without FFM	3689.18	1863	1.12	.90	.90	.04	.08			
M1 Hypothesised Expanded JD-R	4345.32	2146	1.11	.89	.88	.04	.08			
M2 Expanded JD-R with SR→WE@0 and SR→EX@0	4382.44	2148	1.11	.89	.88	.04	.09	M2 vs. M1	37.12***	2
M3 Expanded JD-R with FFM→WE@0 and FFM→EX@0	4497.94	2156	1.11	.88	.87	.04	.08	M3 vs. M1	152.62***	10
M4 Expanded JD-R with JR→WE@0 and JD→EX@0	4553.48	2148	1.11	.88	.87	.04	.09	M4 vs. M1	208.16***	2

*Note.*  $N= 617$ . S-B $\chi^2$ = Satorra-Bentler-scaled chi-square goodness of fit statistic;  $df$ = degrees of freedom; SCF= Scaling Correction Factor; TLI= Tucker-Lewis Index; CFI= Comparative Fit Index; RMSEA= Root Means Square Error of Approximation; SRMR= Standardised Root Mean Square Residual. FFM= manifest variables of Neuroticism, Extraversion, Openness, Agreeableness, and Conscientiousness; SR= Spiritual Resources latent variable; WE= Work Engagement latent variable; EX= Exhaustion latent variable; JR= Job Resources latent variable; JD= Job Demands latent variable.

\*\*\* $p < .001$ .

### ***Incremental validity of spiritual resources in the JD-R model.***

The hypothesised expanded JD-R model was fitted to the data with the inclusion of all personality dimensions as described in the method (M1). As shown in Table 5.3, M1 achieved an acceptable overall fit to the data. As shown in Table 5.4, M1 explained 63% of the variance in Work Engagement ( $R^2 = .630$ ), and 56.2% in Exhaustion ( $R^2 = .562$ ). To test the significance of the contribution of spiritual resources to the dual processes of the JD-R model, Model 2 (M2) was fitted to the data representing the hypothesised model with relationships between Spiritual Resources and both Work Engagement and Exhaustion constrained to zero. M2 was significantly different (inferior) from M1 in terms of fit indices. M2 explained 59.7% of the variance in Work Engagement ( $R^2 = .597$ ) and 54.8% in Exhaustion ( $R^2 = .548$ ), a reduction of 3.3% and 1.4% respectively. In support of Hypothesis 5.2, these comparisons indicate that M1, which includes relationships between Spiritual Resources and both Work Engagement and Exhaustion in the presence of personality dimensions and work characteristics, is preferred over M2 as a representation of the data. Further, Spiritual Resources account for a unique proportion of variance explaining both Work Engagement and Exhaustion over and above personality and work characteristics.



Table 5.4

*Variance in Work Engagement and Exhaustion Explained by Competing Structural Models*

	Work Engagement	Exhaustion
	R <sup>2</sup> value	R <sup>2</sup> value
<i>Models</i>		
M1 Hypothesised Extended JD-R	.630	.562
M2 Expanded JD-R with SR→WE and SR→EX constrained to zero	.597	.548
M3 Expanded JD-R with FFM→WE and FFM→EX constrained to zero	.592	.518
M4 Expanded JD-R with JR→WE and JD→EX constrained to zero	.516	.354
<i>Model Comparisons</i>		
M1 v M2 $\Delta R^2$	.033	.014
M1 v M3 $\Delta R^2$	.038	.044
M1 v M4 $\Delta R^2$	.114	.208

*Note.* FFM= manifest variables of Neuroticism, Extraversion, Openness, Agreeableness and Conscientiousness; SR= Spiritual Resources latent variable; WE= Work Engagement latent variable; EX= Exhaustion latent variable; JR= Job Resources latent variable; JD= Job Demands latent variable.

When the relationships between the five personality variables and both Work Engagement and Exhaustion were constrained to zero (M3), the model fit was found to be significantly different (inferior) from M1. As shown in Table 5.4, M3 represents a reduction in R<sup>2</sup> of .038 for Work Engagement and .044 for exhaustion in comparison with M1. The final model fitted (M4) represented the hypothesised expanded JD-R model with relationships between Job Resources and Work

Engagement and between Job Demands and Exhaustion both constrained to zero. Similar to previous comparisons, M4 represents an inferior fit to the data in comparison with M1. Further,  $R^2$  for Work Engagement of M4 was reduced by .114, and .208 for Exhaustion in comparison with M1. Overall, M1 is the preferred model tested in comparison with M2-M4.

Direct and indirect structural relationships of M1 pertinent to Hypothesis 2 are displayed in Table 5.5. Supporting Hypothesis 2, relationships between Spiritual Resources and the dual processes of the JD-R model supported in Chapter 4 retained significance in the presence of personality dimensions. Specifically, Spiritual Resources was directly related to Work Engagement and indirectly to (low) Turnover Intention via Work Engagement, and directly related to Exhaustion and indirectly to (low) Emotional Ill-Health via Exhaustion. However, Spiritual Resources is not indirectly related to (low) Turnover Intention via Exhaustion due to an insignificant relationship between Exhaustion and Turnover Intention.

Table 5.5

*Standardised Direct and Indirect Relationships between Spiritual Resources and the Dual Processes of the JD-R Model in the Presence of Personality*

Relationships between Spiritual Resources and the dual processes of the JD-R model	Standardised parameter estimate	Standard error	<i>p</i> -value
Spiritual Resources → Work Engagement	.26	.04	<i>p</i> < .001
Spiritual Resources → Work Engagement → Turnover Intention	-.08	.02	<i>p</i> < .001
Spiritual Resources → Exhaustion	-.15	.04	<i>p</i> < .001
Spiritual Resources → Exhaustion → Emotional Ill-Health	-.07	.02	<i>p</i> < .001
Spiritual Resources → Exhaustion → Turnover Intention	-.01	.01	<i>ns</i>

*Note:* Appendix G presents all standardised parameter estimates between study variables from Model 1 not contained in the above table (see Table G1). Table G1 is accompanied by a brief discussion.

## Chapter 5 Discussion

The aim of this chapter has been to test the incremental validity of spiritual resources in relation to the dual processes of the JD-R model, over and above the effects of the FFM of personality. Supporting Hypothesis 5.1, results indicate that spiritual resources represent a construct that is conceptually distinct but related to personality dimensions. Supporting Hypothesis 5.2, spiritual resources were significantly related to the dual processes of the JD-R model beyond the effects of personality. This is the first study to assess the unique contributions of spiritual resources to well-being at work over and above both personality and work

characteristics, and to provide evidence of the value of spiritual resources in predicting work engagement and burnout among religious workers.

### **Spiritual resources and the FFM of personality.**

Spiritual resources were positively related to agreeableness, conscientiousness, and extraversion, and negatively related to neuroticism. The specific pattern of significant relationships between spiritual resources and the FFM of personality is consistent with MacDonald's (2000) Existential Well-Being dimension of spirituality. As described above, the Existential Well-Being dimension represents aspects of spirituality expressed through a sense of meaning and purpose, and a perception of self as competent and able to cope with the difficulties of life and limitations of human existence. Thus, using the FFM as a reference point (Piedmont, 1999a; 2005), spiritual resources as operationalised in this thesis appear to be tapping aspects of spirituality that enhance resilience through increased meaningfulness and perceived abilities to control the environment.

A large negative correlation was observed between Security from Abandonment by God and Neuroticism. Given that this spiritual resource is derived from a measure of anxiety about abandonment by God (Beck & MacDonald, 2004), this considerable overlap with neuroticism is understandable, and is consistent with other findings concerning the anxiety dimension in similar human attachment measures (see Nofle & Shaver, 2006; Shaver & Brennan, 1992).

### **Spiritual resources and the JD-R model.**

Spiritual resources provide unique personal information that is related to the well-being of religious workers. Spiritual resources were found to be best

represented as a construct distinct from individual personality dimensions. This finding supports previous literature suggesting spiritual variables are not simply the “religification” of already established individual difference constructs (Golden et al., 2004; Piedmont, 1999a; 2005; Piedmont & Wilkins, 2013; Rodgerson & Piedmont, 1998).

Concerning the motivational process, spiritual resources were positively related to work engagement, and negatively related to turnover intention via work engagement. The proportion of unique variance attributed to spiritual resources in explaining work engagement was comparable to that of personality (3.3% and 3.8% respectively). However, job resources were observed to account for approximately three times the magnitude of variance (11.4%) of work engagement than either of these individual difference variables. Taken together, these results indicate that spiritual resources represent a set of individual difference factors that are both distinct from personality dimensions and have incremental validity in relation to the motivation process of the JD-R model among religious workers. However, this cross-sectional analysis suggests that these individual difference variables of spiritual resources and personality traits are not as strongly related to work engagement as job resources.

Spiritual resources were also found to significantly influence the health impairment process through a negative relationship with exhaustion, which in turn was related to emotional ill-health. Though the unique contribution of spiritual resources to the reporting of exhaustion was three times less than that of personality (1.4% versus 4.4% respectively), the contribution accounted for by the characteristics of the work in the form of job demands was much larger than both (20.8%). This finding is consistent with previous research that has found situational and

organisational factors to have a greater effect on burnout than individual difference dimensions (Burke & Richardsen, 2001; Maslach et al., 2001). Although spiritual resources are significantly related to the health impairment process of the JD-R model, this study confirms previous incremental studies that indicate the influence of spirituality on burnout measures to be weak in the presence of personality dimensions (Golden et al., 2004; Rodgeron & Piedmont, 1998).

## **Chapter 5 Conclusion**

This chapter has examined the relationships between spiritual resources and both work engagement and exhaustion, in the presence of work characteristics and all five dimensions of the FFM of personality. Spiritual resources emerged as being a related yet distinct construct relative to personality, which demonstrated incremental validity in explaining unique variance concerning measures of work engagement and exhaustion among religious workers. In light of these findings, especially since it has been shown that including personality into the expanded JD-R reduced the model fit criteria to marginally acceptable levels, personality will be excluded in all subsequent analyses reported in this thesis.

## **Chapter 6: A Longitudinal Analysis of Spiritual Resources in the Motivational Process**

This chapter tests relationships between spiritual resources and work engagement observed in preceding cross-sectional analyses by means of a three-wave longitudinal design. Further, this analysis includes an additional test of hypothesised reciprocal relationships between spiritual resources and work engagement based on the principles of the Conservation of Resources (COR) theory (Hobfoll, 2002).

### **Introduction to Chapter 6**

The presence and nature of relationships between spiritual resources and work engagement among religious workers is the central concern of this thesis. A focused testing of this relationship is important as extant research among clergy and other religious workers has not only concentrated on ill-health and burnout, but has tended to neglect a category of resources intimately related to their work identity and practices – spiritual resources (Meek et al., 2003; Golden et al., 2004). Cross-sectional analyses presented in Chapters 4 and 5 tested hypothesised relationships between spiritual resources and work engagement within the context of an extended JD-R model, a comprehensive heuristic of well-being at work (Bakker & Demerouti, 2007). The results presented from those analyses demonstrated that spiritual resources, conceptualised as a specific group of personal resources related to the sacred, have distinct relationships with both the motivational and health impairment processes of the JD-R model. In particular, work engagement was found to have a mediating type relationship between spiritual resources and (low) turnover intention

among Australian religious workers. This relationship was shown to be robust in the presence of age, gender, tenure, job resources, personality dimensions, and a common method factor.

However, cross-sectional data has a number of significant drawbacks in determining mediation effects (Cole & Maxwell, 2003; Gollob & Reichardt, 1991). Further, cross-sectional analyses do not permit the direction of relationships to be discussed (Taris, 2000). Thus, is it true that, in line with the JD-R model's assumptions, spiritual resources act as antecedents of work engagement, which in turn leads to reduced turnover intentions? Or could it be that being engaged in religious work promotes increases in spiritual resources? Alternatively, are there reciprocal relationships between spiritual resources and work engagement, such that spiritual resources have a causal effect on work engagement over time and work engagement has a reverse causal effect also? Replication of the significant findings concerning the relationships between spiritual resources, work engagement, and other variables in the motivational process of the traditional JD-R model via a longitudinal design would allow for the nature of these relationships to be examined (Zapf et al., 1996). Therefore, this chapter reports on an analysis of longitudinal data with the dual aims of confirming the significance of spiritual resources in the motivational process of the JD-R model, and testing hypothesised reciprocal relationships between spiritual resources and work engagement.

### **A longitudinal test of spiritual resources in the motivational process.**

Gollob and Reichardt (1991) outline three significant problems concerning the application of traditional mediation models to cross-sectional data. First, as mediation is a causal chain, a fundamental requirement for one variable to cause



another is that the cause must precede the outcome in time (Holland, 1993; Sobel, 1990). However, the use of cross-sectional data implies that the effects are contemporaneous. Secondly, a model based on cross-sectional data omits the significant confound of prior levels of dependent variables. When previous levels of dependent variables are not controlled for, the paths in the mediation model may be over- or underestimated relative to their true values (Selig & Preacher, 2009). Third, use of cross-sectional data assumes not only that causal effects are contemporaneous, but also that the magnitude of the effect is not dependent on the length of time that elapses between the measurement of the variables. However, the detection of a causal effect is dependent on selecting the time-lag appropriate for the hypothesised effect of the predictor on a dependent variable (Dormann & Zapf, 2002; Oud, 2002). In practice, the notion of effect contingent upon required lag is ignored when cross-sectional designs are employed (Maxwell & Cole, 2007).

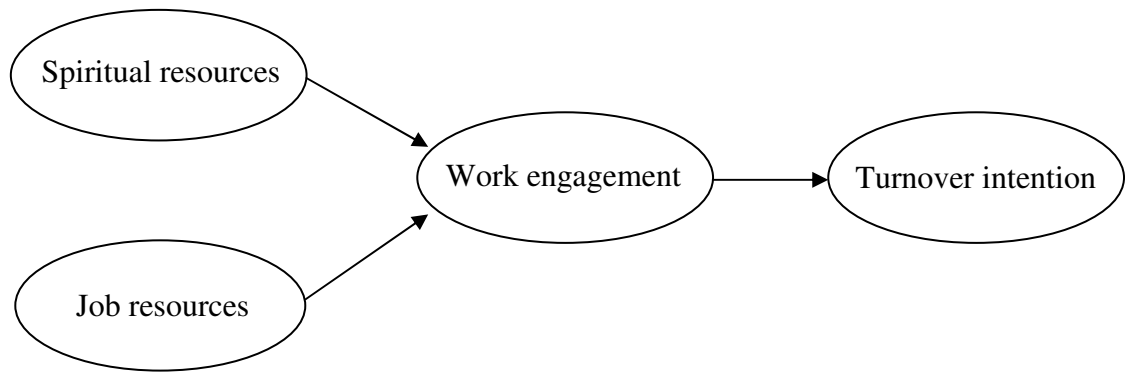
The cross-lagged panel model for testing mediation relationships allows time for causes to have their effects, supports stronger inference about the direction of causation in comparison to models using cross-sectional data, and can control for prior levels of variables measured at previous times (Cole & Maxwell, 2003). At least three waves of data are needed to test whether the relationship between a predictor and outcome variable is fully mediated by a third variable (Taris & Kompier, 2006). Therefore, the present analysis utilised a carefully devised three-wave cross-lagged panel design to test hypothesised relationships between spiritual resources and the motivational process of the JD-R model supported in previous chapters. That is, the effect of spiritual resources (independent variable) at Time 1 (T1) on work engagement (mediator variable) at Time 2 (T2) and turnover intention (outcome variable) at Time three (T3) was tested. Given the theoretical significance

of job resources in the JD-R model (Schaufeli & Bakker, 2004; Bakker & Demerouti, 2008) as well as strong empirical associations between job resources and work engagement in the previous chapters and other research involving clergy (Buys & Rothmann, 2010; Rothmann & Buys, 2011), this study included job resources as an additional predictor of work engagement to control for their effects.

Based on the assumptions of the JD-R model and previous cross-sectional analyses, the following five hypotheses are proposed:

- 6.1. *Spiritual resources will have a positive cross-lagged effect on work engagement.*
- 6.2. *Work engagement will have a negative cross-lagged effect on turnover intention.*
- 6.3. *T1 spiritual resources will be negatively related to T3 turnover intention as mediated by T2 work engagement.*
- 6.4. *Job resources will have a positive cross-lagged effect on work engagement.*
- 6.5. *T1 job resources will be negatively related to T3 turnover intention mediated by T2 work engagement.*

The theoretical model encompassing these hypothesised relationships is shown in Figure 6.1.



*Figure 6.1.* Theoretical model illustrating relationships between study variables in Hypotheses 6.1 – 6.5.

### **Work engagement antecedent to resources.**

COR theory (Hobfoll, 1989, 2002) is a leading theory for studying dynamic motivational processes associated with work engagement over time (Gorgievski et al., 2011). COR theory proposes that individuals strive to protect, retain, and accumulate resources. Resources are those entities that are either valued in their own right (e.g., work-task accomplishment, job satisfaction, health), or act as a means to obtain valued ends (e.g., self-efficacy, social support, autonomy, physical energy) (Hobfoll, 2002). Within the COR framework, work engagement is considered a state of enhanced energetic resources expressed through its affective (vigour), cognitive (dedication), and behavioural (absorption) components (Gorgievski & Hobfoll, 2008).

According to COR theory, people must invest resources in order to gain, retain, or protect other resources (Hobfoll, 2002). Therefore, those with greater initial resources are less vulnerable to resource loss, more capable of resource gain, and more capable of further resource reinvestment leading to additional future resource gains. This dynamic of initial resource gain producing future resource gains

has been referred to as a gain spiral (Hobfoll, 2001). A growing body of longitudinal research suggests that reciprocal relationships exist between personal- and job resources and work engagement (e.g., Simbula et al., 2011; Weigl et al., 2011; Xanthopoulou et al., 2009a). Therefore, a second aim of this chapter is to test for the presence of a gain spiral between spiritual- and job resources and work engagement (as an energetic resource) among religious workers.

A gain spiral between spiritual- and job resources on the one hand, and work engagement on the other, implies that they are positively and reciprocally related to one another. Work engagement, as an outcome of both spiritual- and job resources, is a valued state of enhanced energetic resources. The engaged state is then an antecedent of spiritual and job resources as it increases employee capacity for further investments of energy and motivation to generate additional job and personal/spiritual resources (Gorgievski & Hobfoll, 2008; Hobfoll, 2011).

Job crafting has been proposed as a possible process explaining reversed relationships between work engagement and job and personal resources (Bakker, 2011). Job crafting is defined as changing the tasks, relationships, or cognitions related to work (Wrzesniewski & Dutton, 2001). Engaged workers have been found to be more likely to fulfil work goals (Halbesleben, 2010). Such accomplishment of work tasks among religious workers may reinforce and strengthen both perceived control, divine affirmation and involvement in the religious work associated with spiritual resources (Fiori et al., 2006; Pargament & Hahn, 1986), and perceptions of calling to their work (Hall & Chandler, 2005). Additionally, engaged workers who are intrinsically motivated to accomplish work goals, undertake crafting behaviours that increase job resources (e.g., requesting feedback from supervisors, and skill development) that can then be used to manage job demands and realise work

objectives (Tims & Bakker, 2010; Tims, Bakker & Derks, 2012). Thus, engaged religious workers may increase spiritual resources by shaping and buttressing religious beliefs and cognitions concerning their work, and increase job resources by crafting work tasks and relationships.

On the basis of the above theoretical and empirical evidence, the following hypotheses are proposed in addition to those above:

- 6.6. *Work engagement will have a positive cross-lagged effect on spiritual resources.*
- 6.7. *Work engagement will have a positive cross-lagged effect on job resources.*

In other words, spiritual resources will be reciprocally related to work engagement (Hypothesis 6.1 and Hypothesis 6.6), and job resources will be reciprocally related to work engagement (Hypothesis 6.4 and Hypothesis 6.7).

## **Chapter 6 Method**

### **Participants and procedure.**

The sample consisted of 492 participants who provided complete responses to online surveys in September 2010 (T1), June 2011 (T2), and March 2012 (T3). The panel and attrition analyses are described in Chapter 3.

### **Measures.**

Data were obtained from measures assessing the constructs of interest to the hypotheses from the broader survey instrument described in detail in Chapter 3. That is, spiritual resources were measured by a 5-item scale indicating Secure Intimacy with God ( $\alpha = .70$  [T1],  $.70$  [T2],  $.73$  [T3]), a 4-item Security from Abandonment by

God scale ( $\alpha = .78$  [T1],  $.78$  [T2],  $.78$  [T3]), a 6-item Collaborative Religious Coping scale ( $\alpha = .84$  [T1],  $.85$  [T2],  $.88$  [T3]), and a 4-item scale concerning the presence of a transcendent Call ( $\alpha = .83$  [T1],  $.83$  [T2],  $.85$  [T3]).

Job resources were assessed by a 4-item Autonomy scale that yielded a Cronbach's alpha of  $.69$  (T1),  $.81$  (T2),  $.84$  (T3); a 3-item Supervisory Support scale ( $\alpha = .94$  [T1],  $.93$  [T2],  $.93$  [T3]); and a 3-item Development Opportunities scale that had internal consistencies of  $.87$  (T1),  $.89$  (T2),  $.92$  (T3).

Work engagement was indicated by three 3-item subscales measuring the dimensions of vigour, dedication and absorption. Cronbach's alpha coefficients for Times 1, 2 and 3 were: Vigour  $\alpha = .86$  (T1),  $.87$  (T2), and  $.86$  (T3); Dedication  $\alpha = .83$  (T1),  $.85$  (T2), and  $.80$  (T3); and Absorption  $\alpha = .69$  (T1),  $.74$  (T2), and  $.72$  (T3).

Turnover intention was measured by four items developed by Bozeman and Perrewé (2001) concerning withdrawal cognitions. Alpha coefficients for Turnover Intention across the three waves were  $.89$  (T1),  $.86$  (T2), and  $.87$  (T3).

### **Data analyses.**

Confirmatory factor analysis (CFA) techniques were used to assess the legitimacy of the proposed measurement model and the adequacy of construct meaning equivalence across time (e.g., Schaubroeck & Green, 1989). Latent-variable structural equation modelling (SEM) techniques were used to test hypothesised structural relationships between direct (both autoregressive and cross-lagged) and indirect (i.e., mediated) relations among constructs over time (Little, Preacher, Selig, & Card, 2007). Models were constructed in order to test the study hypotheses in the most parsimonious manner on the basis of cut-off criteria for fit indexes described in Chapter 3.

Longitudinal modelling can be problematic when numerous first-order factors are arranged into higher-order factors (Holmes-Smith, Cunningham, & Coote, 2006). To overcome this, weighted composite indicators were calculated for each subscale. A precondition of this practice is the confirmation of the unidimensionality of items for their assigned construct (Jöreskog & Sörbom, 1989; Little, Cunningham et al., 2002). Composite indicators were derived by utilising item factor loadings to weight item responses, which were then averaged across all items in a factor. The latent Spiritual Resources variable had four indicators comprising composite scores calculated for each spiritual resource subscale (Secure Intimacy with God, Security from Abandonment by God, Collaborative Religious Coping, and Call) at all measurement points. The latent Job Resources variable had three indicators comprising composite scores calculated from the job resource scales (Autonomy, Supervisory Support, and Development Opportunities) at T1, T2, and T3. The latent Work Engagement variable had three indicators comprising composite scores calculated from the work engagement subscales (Vigour, Dedication, and Absorption) at each measurement point. The exception to this practice concerned the latent variable of Turnover Intention that was not included in a hypothesised higher-order structure. That is, the latent Turnover Intention variable was indicated by the four turnover intention scale items at each measurement point.

Correlations among the residual error terms of corresponding manifest indicators across the three waves were included in all models (Jöreskog, 1979; Marsh, 1993). Auto-regression effects were included in order to control for stability within latent variables over time (Gollob & Reichardt, 1991; Selig & Preacher, 2009). Finally, synchronous correlations between the latent variables were allowed in all tested models.

### *Strategy of analysis.*

The strategy of analysis followed Cole and Maxwell's (2003) recommendations for testing mediation models with longitudinal panel data. First, the measurement model was tested and compared with two nested alternative models. The measurement model was then tested for measurement invariance across the three waves using a stepwise approach (see Byrne, 2012). This series of model comparisons tests that the relation of the manifest variables to the latent variables are constant over time.

Study hypotheses concerning mediational and reciprocal relationships were tested by verifying the most parsimonious model that both clarifies the causal ordering among variables, and provides a good fit to the data (Cole & Maxwell, 2003). This was accomplished by comparing a series of nested structural models based on Farrell's (1994) analytic procedure. Specifically, these models were:

1. A *stability model* (M1) that included only autoregression paths for each construct from T1 to T2 and from T2 to T3, together with synchronous correlations between the latent study variables (Spiritual Resources, Job Resources, Work Engagement, and Turnover Intention) at each time point.
2. A *causality model* (M2) representing the hypothesised mediation relationships (see Figure 6.1). This model incorporated the stability model with additional cross-lagged structural paths from:
  - T1 Spiritual Resources and T1 Job Resources to T2 Work Engagement;
  - T2 Spiritual Resources and T2 Job Resources to T3 Work Engagement;



- T1 Work Engagement to T2 Turnover Intention; and
  - T2 Work Engagement to T3 Turnover Intention.
3. A *reversed causation model* (M3) that incorporated the stability model with additional cross-lagged paths from:
- T1 Work Engagement to T2 Spiritual Resources and T2 Job Resources,
  - T2 Work Engagement to T3 Spiritual Resources and T3 Job Resources,
  - T1 Turnover Intention to T2 Work Engagement; and
  - T2 Turnover Intention to T3 Work Engagement.
4. A *reciprocal model* (M4) that incorporated the stability model and the additional 12 cross-lagged structural paths represented in the causality and reversed causation models.
5. A trimmed model (M5) representing the reciprocal model with relationships removed between variables found to be non-significant across both time lags.

Nested models were compared using the Satorra-Bentler-Scaled chi-square difference statistic ( $\Delta S-B\chi^2$ ; Satorra & Bentler, 2001).

## Chapter 6 Results

### Measurement model.

Prior to constructing composite variables, it was necessary to demonstrate the unidimensionality of items hypothesised to load onto a common factor. This was tested by means of a series of one-factor congeneric models being constructed and tested by means of CFA for each construct at each measurement point. All

congeneric models achieved satisfactory model fit, with the exception of the 4-item Call scale at each measurement point (T1 Call:  $S-B\chi^2[2]= 58.70$ ,  $SCF= 2.17$ ,  $CFI= .87$ ,  $TLI= .59$ ,  $RMSEA= .24$ ,  $SRMR= .09$ ; T2 Call:  $S-B\chi^2[2]= 15.99$ ,  $SCF= 2.05$ ,  $CFI= .94$ ,  $TLI= .83$ ,  $RMSEA= .12$ ,  $SRMR= .04$ ; T3 Call:  $S-B\chi^2[2]= 15.33$ ,  $SCF= 2.83$ ,  $CFI= .96$ ,  $TLI= .86$ ,  $RMSEA= .12$ ,  $SRMR= .04$ ). Inspection of modification indices suggested that the fit of this factor could be significantly improved by allowing the error terms of item 2 (“I was drawn by something beyond myself to pursue my current line of work”) and item 3 (“I believe that a force beyond myself has helped guide me to my career”) to covary. Such covariation represents systematic rather than random measurement error in item responses derived from characteristics specific either to the items or to the respondents (Aish & Jöreskog, 1990). Inspection of these particular items indicates that allowing them to covary can be justified on the basis of similarity of item content (Byrne, 2012). The congeneric models of T1 Call, T2 Call, and T3 Call were respecified with this modification resulting in each subsequently achieving a good fit to the data according to criterion levels discussed in Chapter 3. Fit statistics for all one-factor congeneric models tested are displayed in Appendix H.

Having established the unidimensionality of each set of items loading into their hypothesised latent constructs, composite variables for each of the Spiritual Resources, Job Resources, and Work Engagement subscales were constructed as outlined above. The resultant measurement model included 12 first-order factors, each with their assigned composite variables or scale items acting as manifest variables. This hypothesised measurement model was found to have a good fit to the data ( $SBS-\chi^2[774]= 1112.38$ ;  $SCF= 1.13$ ;  $CFI= .97$ ;  $TLI= .96$ ;  $RMSEA= .03$ ;  $SRMR= .06$ ). All manifest variables loaded significantly on their intended latent

factors. The high average factor loadings for each latent factor ( $\gamma_{\text{average}}$  from .55 to .83) suggest good construct validity. Furthermore, the hypothesised measurement model demonstrated a significantly better fit than either a 6-factor model representing all manifest variables of Spiritual Resources, Job Resources, and Work Engagement loading onto one general predictor latent variable at each time point ( $\Delta\text{S-B}\chi^2[51]= 490.38, p< .001$ ), or a 9-factor model including a generalised resources latent variable comprised of both Spiritual Resources and Job Resources indicators ( $\Delta\text{S-B}\chi^2[30]= 293.54, p< .001$ ).

The measurement model demonstrated invariance across the three waves. Following Cole and Maxwell (2003), the unconstrained configural model was first compared with a model that constrained all first-order factor loadings to be equal for T1, T2, and T3. The change in Satorra-Bentler-Scaled chi-square was not significant ( $\Delta\text{S-B}\chi^2[20]= 11.75, ns$ ), as was the case when equality constraints were then additionally extended to factor variances and covariances ( $\Delta\text{S-B}\chi^2[20]= 22.77, ns$ ). This insignificance indicates that the study variables did not differ in their meaning across the three waves of data collection.

Means, standard deviations, and zero-order correlations for latent variables are presented in Table 6.1. All correlations between Spiritual Resources, Job Resources, and Work Engagement were positive and significant. Correlations between Turnover Intention and all other latent variables were negative and significant.

Table 6.1

*Descriptive Statistics and Intercorrelations*

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12
1. T1 Spiritual Resources	5.10	.65	.55											
2. T2 Spiritual Resources	5.13	.65	.88***	.58										
3. T3 Spiritual Resources	5.23	.63	.85***	.85***	.56									
4. T1 Job Resources	5.32	.89	.27***	.22***	.14*	.63								
5. T2 Job Resources	5.38	.86	.27***	.41***	.24***	.73***	.62							
6. T3 Job Resources	5.53	.84	.24***	.23***	.32***	.59***	.68***	.63						
7. T1 Work Engagement	4.94	.75	.48***	.39***	.34***	.64***	.56***	.48***	.75					
8. T2 Work Engagement	4.98	.78	.50***	.54***	.43***	.46***	.67***	.46***	.78***	.78				
9. T3 Work Engagement	4.99	.77	.42***	.38***	.52***	.41***	.50***	.59***	.71***	.75***	.79			
10. T1 Turnover Intention	2.11	1.39	-.21***	-.19**	-.15*	-.44***	-.35***	-.26***	-.45***	-.32***	-.28***	.83		
11. T2 Turnover Intention	2.20	1.36	-.19***	-.26***	-.20***	-.30***	-.48***	-.24***	-.39***	-.43***	-.32***	.52***	.82	
12. T3 Turnover Intention	2.21	1.41	-.23***	-.28***	-.35***	-.22***	-.33***	-.45***	-.31***	-.35***	-.43***	.38***	.51***	.80

*Note.*  $N = 496$ .  $M$ = Mean;  $SD$ = Standard Deviation; T1= Time 1; T2= Time 2; T3= Time 3. Average factor scores for latent variable indicators are shown in italics on the diagonal. Latent variable means scored on a range of 1-7.

\* $p < .05$ , \*\* $p < .01$ ; \*\*\* $p < .01$

In order to detect any general patterns of positive or negative trends among the variables under study, a series of eight pairwise *t*-tests assessed changes in means across consecutive measurement points. Spiritual Resources remained stable from T1 to T2 ( $t[491] = -1.50, ns$ ), but increased from T2 to T3 ( $t[491] = -4.78, p < .001$ ). Job Resources similarly remained stable from T1 to T2 ( $t[491] = -1.73, ns$ ), yet increased between T2 and T3 ( $t[491] = -4.59, p < .001$ ). No significant changes were observed in Work Engagement between T1 to T2 ( $t[491] = -1.66, ns$ ), or between T2 and T3 ( $t[491] = -0.43, ns$ ). No significant changes were found in Turnover Intention between T1 to T2 ( $t[491] = -1.34, ns$ ), or between T2 and T3 ( $t[491] = -0.18, ns$ ). Thus, while there was no variation between the first two measurement points, there does seem to be a slight increase in reported Job Resources and Spiritual Resources throughout the second half of the testing period. However, these increases were small – both less than one fifth of one standard deviation.

### **Structural models.**

Table 6.2 displays the fit indices for the structural models and comparison statistics used to test the study hypotheses. All models demonstrated a good fit to the data (i.e., RMSEA < .05; SRMR < .08; CFI and TLI > .95).

Table 6.2

*Structural Equation Modelling Results (Maximum Likelihood Mean adjusted estimator)*

Structural models	S-B $\chi^2$	df	SCF	CFI	TLI	RSMEA	SRMR	Model Comparisons	$\Delta$ S-B $\chi^2$	$\Delta$ df
M1 Stability	1219.63	754	1.13	.96	.95	.04	.07			
M2 Causality: SR→WE; JR→WE; WE→TI.	1188.45	748	1.13	.96	.96	.04	.07	M1 vs. M2	31.18***	6
M3 Reversed Causation: WE→SR; WE→JR; TI→WE.	1209.29	748	1.13	.96	.95	.04	.08	M1 vs. M3	10.34	6
M4 Reciprocal: SR→WE; JR→WE; WE→TI; WE→SR; WE→JR; TI→WE.	1175.36	742	1.13	.96	.96	.04	.07	M1 vs. M4 M2 vs. M4	44.27*** 13.09*	12 6
M5 Trimmed: SR→WE; WE→TI; WE→JR.	1181.45	748	1.13	.96	.96	.03	.07	M1 vs. M5 M5 vs. M4	38.18*** 6.09	6 6
M6 Modified Trimmed: SR→WE; WE→TI; WE→JR; JR→SR.	1171.35	746	1.13	.96	.96	.03	.07	M2 vs. M5	10.10**	2
M7 WE partial mediator: M6 + T1SR→T3TI.	1169.70	745	1.13	.96	.96	.03	.06	M6 vs. M7	1.65	1
M8 JR partial mediator: M6 + T1WE→T3SR.	1171.08	745	1.13	.96	.96	.03	.07	M6 vs. M8	0.27	1
M9 Modified Trimmed: T1 and T2 data only.	579.68	317	1.14	.96	.95	.04	.07			
M10 Modified Trimmed: T2 and T3 data only.	566.16	317	1.18	.96	.95	.04	.06			
M11 Modified Trimmed: T1 and T3 data only.	563.57	317	1.13	.96	.95	.04	.07			

*Note.*  $N=492$ . S-B $\chi^2$  = Satorra-Bentler-Scaled chi-square;  $df$ = degrees of freedom; SCF= scaling correction factor; CFI= Comparative Fit Index; TLI= Tucker-Lewis Index; RMSEA= Root Mean Square Error of Approximation, SRMR= Standardised Root Mean Square Residual. SR= Spiritual Resources; JR= Job Resources; WE= Work Engagement; TI= Turnover Intention.

\*\*\* $p < .001$ ; \*\* $p < .01$ ; \* $p < .05$ .

As shown in Table 6.2, the reciprocal model (M4) fitted the data better than the stability model, the causality model, and the reversed causation model. However, inspection of the parameter estimates of the reciprocal model revealed that only four standardised path coefficients of the twelve cross-lagged paths achieved statistical significance (T1 Spiritual Resources  $\rightarrow$  T2 Work Engagement:  $\beta = .14, p < .001$ ; T1 Work Engagement  $\rightarrow$  T2 Turnover Intention:  $\beta = -.19, p = .001$ ; T1 Work Engagement  $\rightarrow$  T2 Job Resources:  $\beta = .15, p = .004$ ; T2 Work Engagement  $\rightarrow$  T3 Turnover Intention:  $\beta = -.15, p = .001$ ). Thus, a trimmed model (M5) was fitted that included three unidirectional cross-lagged effects: Spiritual Resources on Work Engagement; Work Engagement on Turnover Intention; and Work Engagement on Job Resources. M5 achieved a superior fit to the data relative to the stability model, and fitted the data as well as the reciprocal model (M4) which had an additional six parameters freely estimated. According to the parsimony principle (Kline, 2011), this trimmed model is preferred over the reciprocal model.

Modification indices of the trimmed model indicated that the fit of M5 could be improved by including cross-lagged paths that would have a negative valence from Job Resources to Spiritual Resources. A negative relationship between job resources and spiritual resources is theoretically consistent with religious coping research indicating that people are less likely to draw on spiritual resources when a person has greater nonreligious resources that are both available and compelling for the situation at hand (Pargament, 1997). For example, job resources may appear more proximal than spiritual resources in relation to common job demands faced by religious workers such as parish administration (Kaldor & Bullpitt, 2001). Given this theoretical rationale, a post hoc modification was made to the trimmed model to include additional cross-lagged paths from Job Resources to Spiritual Resources

(Modified Trimmed model; M6), which resulted in a superior fit to the data relative to M5.

The modified trimmed model (shown in Figure 6.2) represents a series of four unidirectional cross-lagged relationships; (a) Spiritual Resources as a positive antecedent of Work Engagement (supporting Hypothesis 6.1); (b) Work Engagement as a negative antecedent of Turnover Intention (supporting Hypothesis 6.2); (c) Work Engagement as a positive antecedent of Job Resources (supporting Hypothesis 6.7); and (d) Job Resources as a negative antecedent of Spiritual Resources.

In addition to these significant direct effects, T1 Spiritual Resources was found to have a negative indirect effect on T3 Turnover Intention via T2 Work Engagement ( $\beta_{\text{indirect}} = -.06, p = .007$ ), and T1 Work Engagement was also found to have a *negative* indirect effect on T3 Spiritual Resources via T2 Job Resources ( $\beta_{\text{indirect}} = -.02, p = .036$ ). The significant indirect estimates are both necessary and sufficient for establishing the presence of mediation effects (Cole & Maxwell, 2003). No other indirect effects were significant.

Two additional models were estimated to determine the nature of each mediation relationship (i.e., partial or full mediation). Model 7 (M7) comprised relationships estimated in the modified trimmed model with an additional direct effect estimated from T1 Spiritual Resources to T3 Turnover Intention. Model 8 (M8) comprised relationships estimated in the modified trimmed model with an additional direct effect estimated from T1 Work Engagement to T3 Spiritual Resources. As both of these models failed to improve model fit (see Table 6.2), and neither of the additional parameters estimated was significant (T1 Spiritual Resources  $\rightarrow$  T3 Turnover Intention:  $\beta = -.07, ns$ ; T1 Work Engagement  $\rightarrow$  T3 Spiritual Resources:  $\beta = -.00, ns$ ), it can be concluded that the negative relationship



between T1 Spiritual Resources and T3 Turnover Intention is fully mediated by T2 Work Engagement, and the negative relationship between T1 Work Engagement and T3 Spiritual Resources is fully mediated by T2 Job Resources.

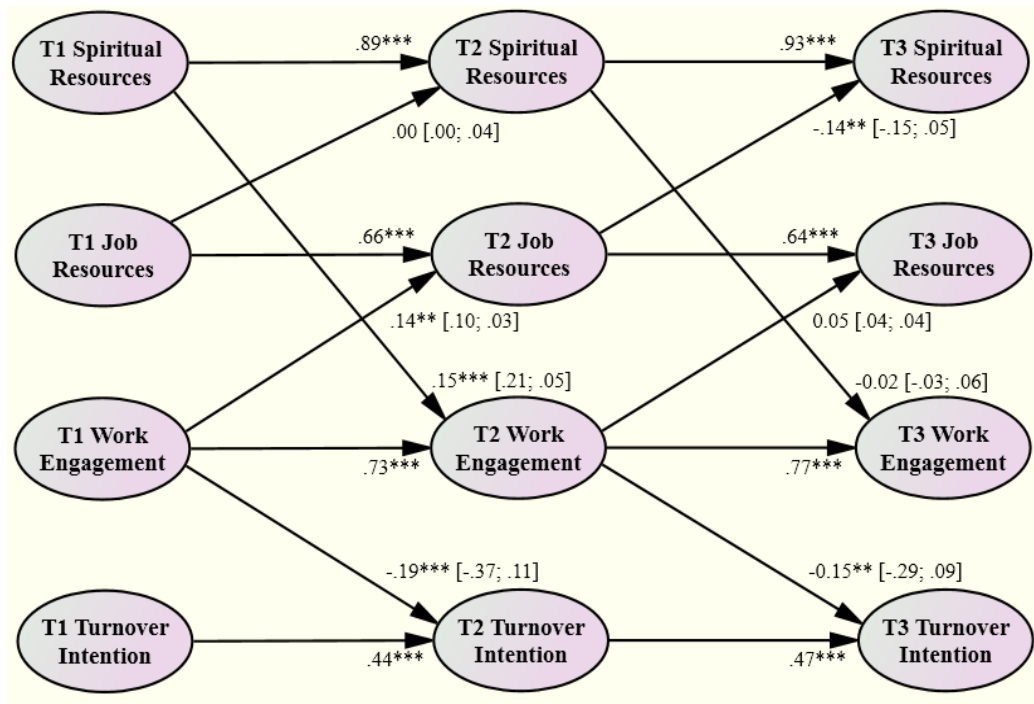


Figure 6.2. Preferred structural model (M6).  $N=492$ ; Values in brackets are unstandardised estimates and standard errors of measurement. For clarity of presentation, manifest indicators, autocorrelations between identical manifest indicators, and synchronous correlations between latent variables are not displayed. Spiritual Resources were operationalised by four composite scores acting as manifest indicators; Job Resources and Work Engagement both were operationalised by three composite scores acting as manifest indicators, and Turnover Intention was operationalised by four scale items.

\*\*\* $p < .001$ , \*\* $p < .01$ .

### **Post-hoc models.**

Given the inconsistency of path significance across the two time periods, a further three structural models were estimated that included the direct paths of significance from the above preferred model (Spiritual Resources to Work Engagement; Work Engagement to Turnover Intention; Work Engagement to Job Resources; Job Resources to Spiritual Resources). Model 9 (M9) included T1 data and T2 data only, and yielded paths of significance consistent with those modelled in M6 for that time span. That is, T1 Spiritual Resources positively predicted T2 Work Engagement ( $\beta = .15, p < .001$ ); T1 Work Engagement negatively predicted T2 Turnover Intention ( $\beta = -.17, p = .003$ ); T1 Work Engagement positively predicted T2 Job Resources ( $\beta = .12, p = .021$ ); but T1 Job Resources failed to significantly predict T2 Spiritual Resources ( $\beta = -.00, ns$ ). Model 10 (M10) included T2 data and T3 data only, and yielded paths of significance consistent with those modelled in M6 for that time span. That is, T2 Spiritual Resources failed to significantly predict T3 Work Engagement ( $\beta = .00, ns$ ); T2 Work Engagement negatively predicted T3 Turnover Intention ( $\beta = -.15, p < .01$ ); T2 Work Engagement failed to significantly predict T3 Job Resources ( $\beta = .03, ns$ ); and T2 Job Resources negatively predicted T3 Spiritual Resources ( $\beta = -.13, p = .008$ ). Model 11 (M11) included T1 and T3 data only, modelling an 18-month time lag and confirmed the significance of all four unidirectional relationships. That is, T1 Spiritual Resources positively predicted T3 Work Engagement ( $\beta = .09, p < .039$ ); T1 Work Engagement negatively predicted T3 Turnover Intention ( $\beta = -.18, p < .001$ ); T1 Work Engagement positively predicted T3 Job Resources ( $\beta = .15, p < .028$ ); and T1 Job Resources negatively predicted T3 Spiritual Resources ( $\beta = -.08, p < .035$ ).

## Chapter 6 Discussion

The aim of this chapter was to test across time relationships between spiritual resources and the three variables comprising the motivational process as hypothesised by the JD-R model (Schaufeli & Bakker, 2004) and the COR theory (Hobfoll, 2002). Longitudinal SEM analyses conducted on data gathered from a three-wave cross-panel design over an 18-month period were used to confirm the significance of spiritual resources in the motivational process and to test hypothesised reciprocal relationships between spiritual resources and work engagement. Contrary to hypothesised reciprocal relationships, a model representing a series of four unidirectional relationships achieved a superior fit to the data in comparison with both the reciprocal effects model and a series of alternative models. The four unidirectional relationships included:

- spiritual resources positively related to subsequent work engagement;
- work engagement negatively related to subsequent turnover intention;
- work engagement positively related to subsequent job resources; and
- job resources negatively related to subsequent spiritual resources.

In addition to the significant direct effects, spiritual resources negatively related to turnover intention as mediated by work engagement, and work engagement negatively related to subsequent spiritual resources via job resources.

Three post-hoc models that compared the presence of the four unidirectional effects across varying time lags (i.e., 9-month versus 18-month) indicate that the optimal time lag required for stable relationships between resources and work engagement among religious workers may be closer to 18-months rather than 9-months. Further, the positive effects of spiritual resources on work engagement, and work engagement on job resources may peak and begin to dissipate between 9-18

months, while the deleterious effects of job resources on spiritual resources may not be noticed until after a period of nine months. The effects of work engagement on reducing turnover intention appear within nine months and remain stable across at least an 18 month period.

The results confirm the relationships observed in previous cross-sectional analyses concerning spiritual resources, work engagement, and turnover intention. This research is not only the first longitudinal test of the motivational process of the JD-R model among clergy, but also the first study to test causal and reverse causal effects between spiritual resources and work engagement among religious workers.

## **Chapter 6 Conclusion**

The focus of this thesis is testing hypothesised relationships between spiritual resources and work engagement among Australian religious workers. This chapter has reported on a longitudinal analysis which sought to confirm previous cross-sectional relationships found between spiritual resources in the motivational process, and which tested hypothesised reciprocal relationships between spiritual resources and work engagement in the presence of job resources over time. Concerning the motivational process of the JD-R model for religious workers, spiritual resources function as an important antecedent of work engagement, which fully mediates the relationship between spiritual resources and turnover intention. Indeed, spiritual resources emerged as the only predictor of work engagement. However, work engagement not only failed to have a significant positive direct effect on spiritual resources over time, but negatively predicted future levels of spiritual resources via job resources. There seems to be a new dark side of work engagement for this population. Engagement and subsequent increased job resources for religious

workers appear to constrict the development of spiritual resources vital to the engaged state itself. Taken together, the results of this study suggest that spiritual resources should be considered an important category of resources for religious workers. The pursuit of job resources must be balanced with the ongoing cultivation of spiritual resources if work engagement and reduced turnover intentions are to be maintained over the longer-term.

## Chapter 7: General Discussion

### Introduction to Chapter 7

*“Never be lacking in zeal, but keep your spiritual fervour, serving the Lord.”*

*(Romans 12:11, New International Version)*

This exhortation from the writings of the Christian New Testament concerns the desired state from which individuals are to conduct their Christian religious service – with zeal and spiritual fervour. However, the vocational experience of many Christian religious workers (clergy, chaplains, cross-cultural missionaries, youth workers, etc.) in an increasingly secularised society such as Australia is more often characterised by unmet expectations, work overload, tiredness, and social isolation (Cotton et al., 2003; Miner, 2007a, 2007b). In recognition of the high demands and strain experienced by this occupational cohort, research among religious workers has been heavily skewed towards burnout, ill-health, and negative occupational outcomes (Hall et al., 2006; Meek et al., 2003). However, such a focus can equate health with the absence of illness or negative outcomes (Durán, Extremera, & Rey, 2010). In contrast, the emerging trend of positive organisational scholarship (e.g., Luthans, 2002), together with the ancient text quoted above, suggest that the desired state for religious workers is a positive passion and work motivation that encourages optimal performance amidst the personal, social, financial, and lifestyle challenges associated with this vocation. The occupational health goal for religious workers is *not* simply the *absence* of exhaustion and burnout, but the *presence* of work engagement.

In addition to the bias towards states of dysfunction, research among clergy and other religious workers has tended to neglect the very aspect of these employees

that makes their work distinct – their spiritual lives (Golden et al., 2004; Hall et al., 2006). Religious workers have largely been treated as homogenous with other human service providers in relation to the causes, contexts, outcomes, and interventions for occupational stress (Parker et al., 2008). Yet it is spirituality that makes this occupational cohort unique in terms of the high personal faith commitments of the workers themselves, their vocational education and job roles, and occupational goals to be accomplished (Doolittle, 2010). Hence, spirituality may be expected to have a significant and distinct influence on how religious workers experience their work (Cummings & Pargament, 2012; Davidson & Caddell, 1994).

This thesis has addressed the intersection of this double research gap by exploring the relationship between spiritual resources and work engagement among Australian religious workers. This task was accomplished through a series of analyses that systematically tested hypothesised relationships between spiritual resources and work engagement within the overarching framework of the job demands-resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti et al., 2001). A sense of sacred calling to the work, collaborative religious coping, and the two underlying dimensions comprising secure attachment to God, were dimensions of spiritual belief, practice and experience operationalised as personal *spiritual* resources salient for Christian religious workers. Although research has documented numerous ways in which religious and spiritual dimensions influence mental and physical well-being, few studies have considered the relationships between spiritual resources and positive work states such as work engagement (Csiernik & Adams, 2002; Park, 2012; Saks, 2011).

Findings were presented from three studies utilising both cross-sectional and full panel longitudinal designs. Spiritual resources were shown to represent a

construct distinct from personality dimensions and work characteristics. Cross-sectional structural equation modelling analyses of an extended JD-R model demonstrated (a) a positive direct relationship between spiritual resources and work engagement, (b) a negative indirect relationship between spiritual resources and turnover intentions via work engagement, (c) a negative direct relationship between spiritual resources and exhaustion, and (d) a negative indirect relationship between spiritual resources and emotional ill-health via exhaustion. The magnitude and significance of these relationships remained stable when controlling for the effects of job demands, job resources, age, gender, job tenure, personality, and a common method factor. However, spiritual resources were not found to moderate the relationship between job demands and exhaustion.

Longitudinal analyses confirmed the importance of spiritual resources in the motivational process suggested by the cross-sectional analyses. That is, spiritual resources had a positive cross-lagged effect on subsequent work engagement, and work engagement mediated the relationship between spiritual resources and subsequent (low) turnover intentions. However, longitudinal analyses failed to support the hypothesis of a positive reciprocal relationship between spiritual resources and work engagement. Rather, work engagement was found to have a *negative* cross-lagged indirect effect on subsequent spiritual resources mediated by increased job resources. This chapter discusses the theoretical and practical implications of these main results, together with limitations and directions for future research.



## Spiritual Resources and the JD-R Model

This study makes theoretical advances exploring how constructs from the psychology of religion and spirituality can be integrated within a well-documented model of occupational well-being – the JD-R model. A basic premise of the JD-R model is the importance of identifying the most salient job demands and resources for the specific occupational context in focus (Demerouti et al., 2001; Gorgievski et al., 2011; Hakanen & Roodt, 2010). This model differs from a number of other occupational stress models that reduce demands to a limited set of pre-determined variables that may or may not be relevant for the particular occupation or work environment being considered (Bakker & Demerouti, 2007). This research has supported the need to identify salient demands and resources, by demonstrating the significance of selected spiritual dimensions as a category of personal resources. Thus, this research affirms the importance of including categories of resources most relevant for individual occupations in addition to a validation of the basic structure of the JD-R model as applied to religious workers.

Previous research has affirmed the role of job demands and job resources in predicting burnout and work engagement among clergy (Buys & Rothmann, 2010). Further, various personality dimensions have also been identified as acting as a source of personal resources related to both burnout and work engagement (Joseph et al., 2011). This research has extended the literature by demonstrating the incremental validity of an additional class of personal resources - *spiritual resources*. Spiritual resources were significantly related to both the motivational and health impairment processes beyond the effects of job demands, job resources, and personality dimensions. This finding supports empirical studies which have identified spiritual constructs as a distinct domain of individual differences

(Cloninger et al., 1993; MacDonald, 2000; Piedmont, 1999b) that demonstrate incremental validity in predicting organisational and personal well-being outcomes among religious workers (Golden et al., 2004; Rodgers & Piedmont, 1998).

Though some work and personal characteristics appear to have consistent relationships with well-being measures across numerous occupations (for a review see Hakanen & Roodt, 2010), spiritual resources emerge a category of personal resources that are additionally significant for those employed in religious vocations.

Contrary to hypotheses, spiritual resources failed to moderate the relationship between job demands and exhaustion. The presence of significant moderation effects attributed to dimensions of religion/spirituality has not been consistently demonstrated in the extant literature. For example, Fabricatore et al. (2004) found no moderation effect of collaborative religious coping on the relationship between stressors and mental health variables. In contrast, Ellison et al. (2010) found some support for collaborative religious coping moderating the deleterious effect of stressful life events on well-being among US clergy. One explanation for these inconsistent findings is a lack of 'matching' between respective types of stressors, resources, and strains. The triple match hypothesis (de Jonge & Dormann, 2006) proposes that resources are most likely to moderate the relationship between stressors and strains if resources, stressors, and strains all are of the same type (i.e., cognitive, emotional, or physical). According to this theory, therefore, it is unlikely that a cognitive moderator (such as a perceived sacred calling to a role) would have a significant buffering effect on the relationship between an emotional stressor (such as interpersonal conflict) and physical ill-health outcomes (such as exhaustion or health complaints). As this study treated spiritual resources and job demands as unidimensional higher-order constructs, the possible buffering effects of each

spiritual resource on the various relationships between individual demands and exhaustion may have been obscured.

### **Spiritual Resources as an Antecedent in the Motivational Process**

The finding that spiritual resources were positively related to work engagement among religious workers over time extends previous cross-sectional associations between spirituality and occupational well-being among clergy (e.g., Chandler, 2009; Doolittle, 2010; Ellison et al., 2010). Among the numerous and eclectic work roles performed by religious workers, it is those that are directly associated with being a spiritual role model and developing the spiritual well-being of others have been identified by religious workers as most meaningful and important (Kaldor & Bullpitt, 2001). Thus, spiritual resources, reflecting positive beliefs and experiences of the Divine in the life and roles of the religious worker, emerge as a significant category of resources for work engagement among religious workers as they are closely related to the religious work duties considered most important.

Spiritual resources positively predicted work engagement, which in turn had a negative effect on turnover intention over time. Previous research has found positive relationships between burnout and intentions to leave ministry (Randall, 2004). This research extends the literature by identifying spiritual resources as indirectly reducing intentions to leave ministry over time, mediated by work engagement. The identification of additional predictors of reduced turnover intentions is important for religious workers, given that they represent an occupational cohort for whom up to 50% leave ministry within the first five years of service (Meek et al., 2003). This research indicates that the psychological state of work engagement, as promoted by

spiritual resources, is a further pathway to reducing turnover intentions in addition to that of reducing exhaustion and other burnout symptoms.

The neglect of work engagement and its salutary effects may contribute to explaining the ineffectiveness of current burnout interventions for religious workers. The standard advice of taking time out, developing a hobby to nurture life balance, etc., has done little to improve the occupational outcomes for clergy and other religious workers (Grosch & Olsen, 2000). Reducing workload and taking a holiday may improve aspects of exhaustion, but such interventions have little impact on other burnout symptoms such as cynicism/depersonalisation, and indeed may make self-evaluations of accomplishment even worse. This research indicates that a more comprehensive approach to improving occupational health outcomes for religious workers involves the generation of the motivated state of engagement in addition to managing job demands and symptoms of burnout.

Further, this research has demonstrated that this engaged state among religious workers is contingent upon the maintenance and development of spiritual resources. Therefore, spiritual resources represent an important category of resources that need to be considered when designing interventions to reduce attrition among religious workers. Interventions to promote well-being among religious workers should not only attend to managing job demands and reducing negative affective states, but in addition seek to build relevant spiritual, personal, and job resources that are associated with employees who are positively engaged and inspired to apply their full capabilities in their religious work roles.

Contrary to hypotheses, job resources failed to display a significant cross-lagged effect on work engagement. This was an unexpected result given the strong theoretical and empirical role of job resources in predicting work engagement among

numerous occupational cohorts including clergy (see Bakker & Demerouti, 2008; Buys & Rothmann, 2010). One possible explanation for this null result is that the job resources measured may be less associated with the work roles unique to this occupational cohort that are considered most important (e.g., promoting others' spiritual growth). Rather, job resources may be expected to aid in managing demands and conducting work roles common with other helping professions (e.g., administrative duties, managing interpersonal conflicts, organising and supervising the daily activities of the workplace community, etc.). Such work roles take up significant proportions of a religious worker's time, yet are not considered as meaningful or desirable as those more spiritual roles perceived as central to this vocation (Kaldor & Bullpitt, 2001; Kaldor, Dixon, & Powell, 1999; Lauer, 1973). This distinction between meaningful and routine work roles that religious workers undertake, may account for the finding that more generic job resources were not significant predictors of work engagement over time when the effect of spiritual resources and the strong autoregression effects of previous levels of work engagement, were simultaneously accounted for.

A similar finding concerning the influence of personal resources relative to job resources, was found in a study among employed breast cancer survivors (Hakanen & Lindbohm, 2008). Cross-sectional SEM analyses identified the personal resource of optimism to be more strongly associated with work engagement in comparison with the association between job resources and work engagement. Thus, the significance of specific and highly relevant personal resources may eclipse those of job resources in relation to work engagement for unique occupational cohorts.

## **Work Engagement and Subsequent Job and Spiritual Resources**

Although the latent variable of spiritual resources was observed to have a positive causal effect on work engagement, work engagement failed to have a positive reverse causal effect on spiritual resources. The hypothesis of work engagement having a positive reverse causal effect on spiritual resources was based on the premise of work engagement being associated with the increased accomplishment of work tasks (Bakker & Demerouti, 2008). The accomplishment of religious work tasks was expected to strengthen and reinforce the validity of cognitions concerning divine affirmation, collaborative involvement in, and calling to the work via the process of job crafting (Bakker, 2011; Hall & Chandler, 2005). One possible explanation for the lack of a direct reverse causal effect is that the psychological state of work engagement among religious workers may not be primarily associated with the accomplishment of work tasks. Rather, engagement in religious work may be more a consequence of spiritual resources imbuing such work with sacred meaning and significance (Hernandez & Mahoney, 2012; Paloutzian et al., 2010; Pargament & Mahoney, 2005). If work engagement is not associated with increased task accomplishment, spiritual beliefs and cognitions concerning the religious work may not be reinforced or enhanced. Hence, spiritual resources and engagement would not necessarily be reciprocally related.

Alternatively, the between-wave time intervals utilised in this study may have been insufficient for the accomplishment of religious work tasks to have been either realised or readily recognised. Spiritual goals such as growth in spiritual maturity or demonstrations of internally motivated ethical behaviour are often longer-term and intangible. It may be harder to recognise interim achievements towards such goals, or there may be a longer 'lead time' before any evidence of progress is able to be

discerned. Further, performance expectations and job descriptions for religious workers tend to be vague and unspecified, while performance evaluation and feedback is notoriously lacking due to little direct and consistent oversight (Chang, 2000). Such factors impede the recognition of specific task accomplishments.

Rather than the hypothesised positive reverse causal relationship between work engagement and spiritual resources, work engagement demonstrated a *negative* indirect effect on spiritual resources via increased job resources. That is, work engagement was found to have a positive effect on job resources over time, but job resources demonstrated a negative effect on spiritual resources over time. This result should be interpreted cautiously since the high stability of spiritual resources observed over the nine-month time lags left only a small amount of variance in spiritual resources unexplained. However, the change in spiritual resources that did occur over time was negatively predicted by job resources, and indirectly by work engagement via job resources. This result indicates a potential new ‘dark side’ of work engagement for this occupational cohort.

From a COR theory perspective, the investment of energy in one domain suggests a strategic decision not only to invest in that domain, but *not* to invest in another domain (Halbesleben, 2011). George (2011) suggests that highly engaged workers are likely to have diminished time and energy available for pursuits outside their work roles, and as a result make real sacrifices in other areas such as their personal and family lives (see Halbesleben et al., 2009). This is not to be confused with workaholism where an employee experiences a compulsion to work and associated negative affect (Schaufeli et al., 2006; Schaufeli et al., 2008). Rather, the “positive” qualities of dedication and absorption characteristic of engagement lead to a prioritization of energy and time investments towards work over home and

personal (including spiritual) spheres (George, 2010). In a qualitative study of Australian clergy, one participant stated, “Like most relationships, my one with God often gets pushed down by workloads and responsibilities I feel I’ve got. So spending time, intentionally, alone with God, doesn’t happen very often” (Whetham & Whetham, 2000, p.22). Thus, the current findings may reflect engaged religious workers constricting their energy resource investments towards the accumulation of job resources to meet common high and eclectic job demands, at the expense of maintaining and developing spiritual resources through renewal practices such as personal spiritual disciplines (Chandler, 2009).

Pargament (1997) suggests that an individual is less likely to draw upon spiritual resources when relevant alternative (i.e., non-religious) resources are available. The development of job resources may have an unintended effect of making personal spiritual resources appear less compelling. Over time, when spiritual resources are neglected, they are likely to be perceived as being weaker and less available. It may be that high levels of dedication to, and absorption in, work that is associated with engagement results in preferences to expend energy resources in ministry tasks and the accumulation of job resources that may appear more proximal to urgent job demands, rather than replenishing spiritual resources. Thus, the prioritising of energy investments of engaged religious workers into the development of job resources to meet job demands may paradoxically lead to neglecting the maintenance of the very resources (i.e., spiritual resources) that most strongly promote religious work engagement.



## Summary of Study Findings

Overall, the present research provides evidence that spiritual resources are an important and distinct form of personal resources that have incremental significance in relation to both the motivational and health impairment process of the JD-R model among Australian religious workers. Spiritual resources were directly associated with work engagement and lower exhaustion, which in turn fully mediate the influence of spiritual resources on reduced turnover intentions and emotional ill-health. These relationships were replicated using a hold out sample (in Chapter 4) and an independent sample (in Chapter 5), and were robust when controlling for demographic variables (age, gender, tenure), the influence of personality, and common method effects. However, spiritual resources were not found to moderate the relationship between job demands and exhaustion.

Longitudinal analyses supported the hypothesised relationship of spiritual resources positively predicting work engagement over time; work engagement, in turn, predicted reduced turnover intentions. That is, spiritual resources were negatively related to turnover intentions, fully mediated by work engagement. Contrary to hypotheses, relationships between spiritual resources and work engagement failed to be reciprocally related over time. Rather, results suggest that work engagement has a negative indirect effect on spiritual resources, mediated by job resources. Work engagement had a positive direct effect on job resources over time, which in turn had a negative direct effect on future spiritual resources. This result suggests a new dark side of the engaged state that may be unique among religious workers. Engaged religious workers, who are likely to be highly committed to serving and responding to the needs of their congregations (Buys & Rothmann, 2010), appear to make strategic investments of energy into increasing job resources

at the expense of maintaining and developing spiritual resources. Given that the only positive cross-lagged antecedent of work engagement among this occupational cohort was spiritual resources, this finding provides a further explanation as to why religious workers who commence their service with great fervour can lose motivation over the span of only a few years. Spiritual resources are an important category of resources that require constant replenishment to sustain motivation in the longer-term.

### **Practical Applications of the Research Findings**

This section proposes some practical applications for religious workers arising from the research findings. Though this research has focused on the significance of personal *spiritual* resources in promoting well-being among Australian religious workers, it is important for practical applications to be addressed at the level of both the organisation and the individual (Maslach, Leiter & Jackson, 2012). Indeed cross sectional analyses presented in Chapter 4 and Chapter 5 identified job demands and job resources as being significant predictors of health and occupational outcomes through exhaustion and work engagement respectively. Organisational interventions are usually necessary to change the mix of job demands and resources, but are insufficient unless individuals appropriate resources and development opportunities available. For religious workers, the ‘organisational’ dynamics in question may be influenced by the employing denomination or Christian organisation, the ministry team within which he or she may work, or the congregation/community to whom they minister.

Kompier and Kristensen (2001) suggest three levels of interventions to manage work stress and promote well-being; the primary level, the secondary level,

and the tertiary level. This structure provides a framework for discussing the following practical applications relevant for both individual religious workers and their wider organisational context.

### **Primary interventions.**

Primary interventions are focused on promoting the optimal functioning of individuals who do not display signs of ill-health, by reducing or altering stressors in the work situation and encouraging the development of resources. It is important for religious organisations and individual religious workers alike to adopt a proactive approach to occupational well-being (Walter, Plaumann, & Krugmann, 2013). Schaufeli and Salanova (2010) refer to this as ‘amplition’ which concerns positive interventions that promote, enlarge, and improve employee health rather than focusing only on the treatment of what is diseased or broken.

This research has validated a comprehensive model of well-being at work for religious workers – the JD-R model extended to include spiritual resources. The extended JD-R model tested in this research outlines antecedents that promote employee ill-health (i.e., job demands and low spiritual resources) and motivation (i.e., spiritual resources and job resources) among religious workers. Further, the JD-R model includes psychological states (exhaustion and work engagement) that have been identified as mediating the relationships between these three antecedent constructs and both personal and occupational health outcomes.

An important primary intervention is for individual religious workers and organisational bodies to be educated using the extended JD-R model concerning the specific constructs that promote positive well-being in ministry. Such education introduced early in a religious worker’s career, such as during their preparation for

ministry, may promote the early establishment of resource enriching practices that enhance sustainable work-related flourishing. Darling et al. (2004) report how clergy “need assistance in clarifying their call, reflecting on their experiences, sorting out what is happening to them professionally and personally, developing healthy habits of ministry and self-care, learning where to get resources they need, and developing healthy peer relationships” (p. 275). These needs are particularly pertinent for younger religious workers who have been identified as being more vulnerable to negative work states and attrition (Randall, 2004, 2007). Educational interventions early in a religious worker’s career may therefore improve the management of demands and resources to assist younger workers in avoiding burnout and negative occupational outcomes. The JD-R model is a useful framework within which such issues can be communicated, understood, and addressed, that is also able to include the vital role of spiritual resources for well-being in ministry.

### **Secondary interventions.**

Secondary-level interventions are targeted towards individuals who are already showing some signs of decreased work wellness. Leiter and Maslach (2010) propose that the most effective and efficient approach to developing a supportive work environment requires a complete and ongoing assessment of the employee’s experience of his or her work life. The JD-R model extended to include spiritual resources identifies the key constructs to be measured by organisations in order to monitor the health of employed religious workers. By gathering relevant data from individuals concerning their levels of job demands, job resources, spiritual resources, burnout, engagement, and current personal and organisational health, organisations

can make strategic decisions to implement organisational initiatives that target the experienced needs of employees and early signs of ill-health.

For example, Bakker and Demerouti (2007) suggest that when both demands and resources are high, workers are particularly stimulated in their work roles. However, findings from the longitudinal analyses presented in this research suggest that a religious worker may be experiencing high levels of work engagement and job resources in the presence of high demands, but if levels of spiritual resources are low or have been declining, it is likely that a corresponding drop in motivation may be expected over the coming nine to 18-months. In contrast, a worker who is experiencing high levels of job resources coupled with low levels of job demands and spiritual resources, is likely to be under-challenged and may become bored or may plateau in his or her role. If detected, interventions that provide fresh challenges accompanied by the development of appropriate spiritual and job resources would result in fresh engagement at work (Salanova, Peiró, & Schaufeli, 2002). In general however, extant research suggests that religious workers may routinely require organisational assistance to manage and reduce job demands (e.g., regular detachment from work, reducing role ambiguity by identifying more concrete short-term goals, reducing social isolation, and increasing physical exercise), improve the identification and building of salient job resources, and legitimate the practice of investing time and energy in personal spiritual resources (see Brain, 2004; Buys & Rothmann, 2010; Kaldor & Bullpitt, 2001; Sonnentag et al., 2009).

Organisational reviews that inform such managerial interventions to optimise motivation and health among workers are best conducted on a regular basis (e.g., annually). Further, initiatives to increase well-being in response to such reviews

require organisational commitment to ensure both effective implementation and subsequent assessment to evaluate intervention efficacy (Leiter & Maslach, 2010).

A further recommendation concerning secondary interventions involves the assessment of religious workers prior to their appointment to work roles.

Psychological assessments are commonly requested by Christian denominations and other religious organisations as part of the application process for religious workers (Hay, Lim, Blöcher, Ketelaar, & Hay, 2007). An extension to this practice based on the findings of this research, is the further screening for levels of spiritual resources in addition to theological tertiary qualifications. For those who lack minimal levels of salient spiritual resources, spiritually integrated psychotherapy or other opportunities for remediation could be provided (see Pargament, 2007).

### **Tertiary interventions.**

Tertiary level interventions are concerned with addressing serious stress consequences experienced by workers in the workplace, and rehabilitation after sickness or absenteeism. This research suggests that an important practical application for the design of tertiary interventions for religious workers is the restoration and enhancing of spiritual resources in addition to reducing and/or managing job demands. Spiritual resources were identified as the sole predictor of work engagement over time, and thus are essential for the re-establishment of meaningfulness and motivation at work for the religious worker.

A number of suggestions have been made for developing spiritual resources. For example, Chandler (2009) identifies the practice of relating and communing with God in the form of personal spiritual disciplines as fundamental for clergy resilience. Such spiritual disciplines include Bible intake or study, prayer, meditation, worship,

reflective solitude, and fasting. Appendix I reports on a pilot intervention suggesting that clergy who attend regular appointments with a spiritual director over a period of six months report subsequent increased levels of both dimensions indicative of a secure attachment to God, and work engagement. Further, case studies point to the efficacy of schema therapy for increasing attachment to God security (e.g., Hall, 2007a, 2007b; Miner, 2009b).

Pargament (2007) reports that it is not uncommon for people to lose touch with spiritual resources when experiencing times of emotional distress. Thus, for the distressed religious worker, it is important to engage in simple practices that serve as reminders to collaborate with God in coping with work stress. Tan (1996) suggests three basic steps that facilitate this process: (1) create a relaxing context; (2) identify the problem or aspect of life causing the distress; and (3) recall or imagine the presence of a spiritually supportive image or experience. This can be accomplished through structured prayer or meditation practices guided by relevant scriptures, sacred texts, or spiritual images (Sartor & Leonard, 2013).

Calling has been identified as a relatively stable yet malleable construct (Dik et al., 2009; Hagmaier & Abele, 2012). In their national study of Australian church leaders, Kaldor and Bullpitt (2001) found that while a strong sense of call when commencing ministry was unrelated to current burnout levels, *present* call strength was negatively related to burnout scores. In a review of research concerning how one discovers a calling, Elangovan et al. (2010) suggest a confluence of four antecedent conditions that may be helpful for religious workers to rediscover or revise their sense of calling. First, the worker must uncover an urge or desire to find meaning in their work. Second, a state of attentiveness fostered by introspection, cognitive elaboration, and social discussion, allows an individual to identify cues

commonly interpreted as constituting a call. Third, the worker must be willing to experiment and ‘test’ new paths that enable one to confirm or reject a revised calling. Fourth, a growing understanding of the self is necessary in order for the ideal, ought, and actual selves to converge in actions commonly experienced as callings. Though these four conditions do not guarantee success in enabling a person to develop or regain a sense of calling (Elangovan et al., 2010), they are helpful points of application for religious workers who are de-motivated and distressed by concerns that their work is *not* what God has called them to do (Knox et al., 2005).

### **Practical applications conclusion.**

The findings of this research have implications for a range of practical applications. Given the focus of this thesis is the relationship between spiritual resources and work engagement, this section has firstly emphasised educational initiatives to inform religious workers about the antecedent processes of well-being at work, including the role of spiritual resources in occupational well-being. Second, the ongoing assessment of salient variables represented in the JD-R model extended to include spiritual resources was suggested as a means for informing managerial interventions that address areas of vulnerability. Finally, recommendations were made to redress deficits in spiritual resources through such practices as personal spiritual disciplines, spiritual direction, counselling, and steps for rediscovering/revising a vocational calling.

### **Limitations and Future Directions**

The findings of the present research make several salient contributions to the existing literature concerning antecedents of work engagement among religious



workers. Further, results attest to the usefulness of the JD-R model as a flexible theoretical framework that can accommodate a variety of job and personal characteristics that explain well-being at work. Nonetheless, there are a number of limitations of this research that have relevance for future directions. These relate to the generalisability of findings, the inconsistency of significance and small magnitude of some effect sizes across time, the inability to conclude true causation from the results, the measurement and conceptualisation of spiritual resources from an integrated resource perspective, and the sole use of self-report measures. Each is discussed in turn below.

#### **Generalisability of findings.**

Groups that find religion more helpful are those for whom religion has become a larger part of their worldview or meaning/orienting system (Pargament, 1997; Park, 2007). As such, it may be that the efficacy of spiritual resources is less for other occupational cohorts than religious workers for whom spirituality is integral to one's identity and work roles (Doolittle, 2007; Gemignani, 2002; Oswald, 1991). An important future direction is to explore the generalisability of these findings among employees for whom religion is important, but whose vocation is not explicitly religious. Pargament et al. (2001) found decreasing benefits attributed to religion experienced by clergy, lay church leaders, and rank and file church participants respectively. Therefore, though the general direction of the findings from this research may be applicable to religious persons working in non-religious work settings, the strength of observed relationships may be reduced.

The generalisability of these findings to religious workers from a variety of faith traditions may also be limited by the sole use of a Christian sample. However,

the theorised mechanisms of meaningfulness and increased perceived control associated with spiritual resources are neither necessarily restricted to the Christian faith, nor to the specific spiritual resources selected. Searching for meaning in experience and gaining or restoring a sense of mastery over one's circumstances are processes that have been theorised as both explaining how personal resources promote work engagement (see van den Heuvel et al., 2010), as well as themes that are central to religion/spirituality in general (Paloutzian & Park, 2005; Hood et al., 2009). Indeed, the growing recognition of the positive influence of spirituality in the workplace is based on a largely nonreligious definition of the term (Giacalone & Jurkiewicz, 2010; Paloutzian et al., 2010). The import of the present findings concerns the significance of spiritual resources as a category of personal resources for occupational well-being, rather than the specific dimensions of personal belief, practice, and experience identified for this particular Christian sample. Thus, an important future direction is to identify and test additional spiritual resources relevant for other spiritual and religious traditions.

#### **Small cross-lagged effect sizes.**

A number of the cross-lagged effects observed in the longitudinal analyses were not of the same magnitude across the two 9-month time intervals, and both direct and indirect cross-lagged effects of significance were relatively small. Though this requires discussion as a study limitation, such findings are consistent with previous longitudinal studies testing relationships between job and personal resources and work engagement (e.g., Simbula et al., 2011; Weigl et al., 2010). One explanation for the relatively small cross-lagged effects is that between-construct effects are significantly attenuated when longitudinal models control for strong

autoregressive or construct stability effects. Taris and Kompier (2006) suggest that a possible solution is to adopt an extreme-groups approach that involves a post hoc selection of part of the sample to maximise the contrast between the groups to be compared. However, the extreme-groups approach has also been associated with grossly biased findings (Preacher, Rucker, MacCallum, & Nicewander, 2005).

The selection of a less than optimal time lag separating measurement waves may also result in small effect sizes. The magnitude of effect sizes will be reduced if the time intervals selected are either too short for the effect to occur, or too long such that the effect is diminished and/or confounded by other influences (Cole & Maxwell, 2003; Zapf et al., 1996). Longitudinal studies are relatively uncommon in psychology of religion and spirituality research (Hood, 2013). Currently there is little information available concerning the time lag needed for spiritual resources to register their effect on occupational outcomes and *vica versa*. It is important to note that all four direct cross-lagged relationships that emerged with various levels of magnitude and significance (i.e., spiritual resources → work engagement, work engagement → turnover intention; work engagement → job resources; job resources → spiritual resources) were significant when modelled with an 18-month time lag. This suggests that the optimal time lag required for stable effects between resources and work engagement among religious workers may be closer to eighteen months rather than nine months. Future research should clarify the optimal length of time required for processes associated with spiritual resources and work engagement by employing a research design that includes both shorter and longer time lags between four or more measurement points (Dormann & Zapf, 2002; Oud, 2002).

### **Inability to conclude causation.**

The SEM techniques used in cross-sectional analyses allow for the direction of effects to be modelled. However, cross-sectional studies do not permit the direct estimation of causal effects (Martin, 2011). Though claims of causation were able to be strengthened on the basis of the longitudinal analyses (Ruspini, 2002), Taris (2000) argues that causal processes cannot be demonstrated directly from observational research as the data can only present empirical evidence in support of a priori theoretical associations. Further research utilising an experimental design is required to make a true causal inference. For example, Appendix I reports on an intervention among a small pilot sample of clergy where spiritual resources were manipulated and corresponding changes in work engagement were measured and compared with a matched control group.

### **Conceptualising spiritual resources from an integrated resources perspective.**

This thesis conceptualised spiritual resources from an integrated resource approach consistent with the JD-R model and COR theory. An integrated resource approach considers resources from a broad perspective rather than focusing on a specific individual resource (Hobfoll, 2002). This integrated resource approach has proven successful in generating a consistent body of evidence mapping relationships between job and personal resources and work engagement considered as higher-order constructs (e.g., Xanthopoulou et al., 2007; 2009a). Following this integrative resources approach, the present research has identified spiritual resources as being a significant predictor of work engagement and subsequent occupational outcomes among Australian religious workers.

However, the approach of combining somewhat heterogeneous constructs under an aggregate higher-order factor has been criticised for obscuring theoretically significant individual effects of the lower-order factors (de Jonge & Dormann, 2006; Weigl et al., 2010). Indeed it was noted that the modelling of all four first-order spiritual resource factors under one higher-order factor was not strongly supported empirically (see low factor loadings discussed in Chapter 4). Specifically, the dimension of attachment security referred to as security from abandonment by God, loaded positively and significantly on the higher-order spiritual resources factor yet was weak in magnitude. Thus, though the modelling of specific spiritual resources under a higher-order factor was based on the theoretical ground of their common functioning as spiritual resources, the empirical findings suggest this may have been overly parsimonious.

Therefore, having demonstrated the significance of spiritual resources in general, an important direction for future research is to explore relationships between well-being at work among Christian religious workers and the individual spiritual resources as first-order factors (i.e., dimensions of attachment to God security, collaborative religious coping, and calling). The separating out of individual resources would allow for a more nuanced analysis of particular dimensions of personal belief, practice and experience on work outcomes, as well as the testing of moderation effect of specific spiritual resources on the relationship between job demands and exhaustion. This future direction by no means disregards the finding of work engagement being influenced by spiritual resources as a higher-order factor, but represents the next step in the exploration of specific spiritual resources relevant for Christian religious workers (Saks, 2011).

A related future direction concerns the testing of one or more ‘key resources’ within the set of spiritual resources. Key or managerial resources are those that influence the presence and functioning of other resources (Hobfoll, 2002). Those who possess such key resources are more able or likely to generate, select, and implement other related resources to meet demands. For example, it may be argued that possessing a positive model of God and a positive model of self, as indicated by both attachment to God dimensions, may influence the likelihood to engage in collaborative religious coping behaviours (see Belavich & Pargament, 2002; Cooper, Bruce, Harman, & Boccaccini, 2009). Here, dimensions of a secure attachment to God function as key resources that influence the selection and use of particular religious coping strategies. Further, the belief that one has been called by God to a role may also be expected to influence coping styles (Treadgold, 1999). Thus, it is possible to suggest a number of theoretical relationships between individual spiritual resources to be tested in future research.

### **Measurement limitations.**

The Attachment to God Inventory (AGI: Beck & McDonald, 2004) was selected as it is one of the most used dimensional measures of God attachment that has demonstrated acceptable psychometric properties among a variety of research populations (Hill & Edwards, 2013). However, as noted above, the first-order factor referred to as *security from abandonment by God* was found to be a significant but weak indicator of spiritual resources. One possible explanation for this is that the particular subscale items selected from the AGI Anxiety subscale are unidirectionally phrased to assess a person’s level of anxiety about abandonment by God. That is, these items are reflective of the presence of a negative model of self and associated

anxiety, but do not assess a *positive* model of self and security that, conceptually, comprise the positive end of the anxiety dimension. The complete AGI Anxiety subscale (14 items) has only one item that is positively worded to reflect a positive sense of self. This is in contrast to the Avoidance subscale that has 6 of its 14 items positively worded (indicative of a positive model of God). In other words, although security is theoretically conceptualised in terms of low scores on both the avoidance and anxiety dimensions, only the avoidance dimension of Beck and McDonald's (2004) measure seems to more fully capture an avoidance-security continuum, whereas the anxiety dimension of this measure seems to more closely represent a presence-absence of anxiety continuum. Thus, this particular subscale may only be capable of measuring a lack of vulnerability (i.e., anxiety about abandonment by God), rather than the presence of a true spiritual resource (i.e., a positive model of self in relation to God). Additional work is needed to develop a measure of the anxiety dimension of attachment to God that is capable of measuring two poles of a bipolar construct, or the continuum from the presence of anxiety about abandonment by God through to the presence of felt security from abandonment by God.

A second measurement-related limitation relates to the sole use of self-report measures. Self-report measures may be susceptible to response biases such as social desirability and common method effects, or the influence of some other unmeasured variable pertinent when the data were collected (e.g., season or time of year). Steps were taken to address these possible limitations through statistically controlling for a common method effect in the cross-sectional analyses reported in Chapter 4, and the adoption of a full panel design together with the temporal separation of data collection points in the analyses of Chapter 6 (Podsakoff et al., 2003; Podsakoff et al., 2012). Further, the effects of social desirability were sought to be attenuated by

the anonymous nature of the study. Although the research designs adopted in this thesis have been useful in providing an initial picture of relationships between intrapersonal constructs across a large population (Spector, 1994), findings may be strengthened in future studies that incorporate additional sources of information such as implicit measures of religion, supervisor or spousal ratings, and clinical reports.

## **Chapter 7 Conclusion**

This final chapter commenced with a quote from an ancient Christian text exhorting workers to ...“*Never be lacking in zeal, but keep your spiritual fervour, serving the Lord*” (Romans 12:11). Previous research has found that ‘*serving the Lord*’ as a religious worker in Australia can involve significant work stress, high levels of job satisfaction, and even both at the same time. Results of the three related studies presented in this thesis suggest that it is a combination of work environment factors (the mix of job demands and job resources) and individual factors (such as spiritual resources and personality traits) that contribute to the well-being of Australian religious workers.

Managing job demands and creating more resourceful work environments requires organisational and individual interventions (Leiter & Maslach, 2010). However, this study has identified a specific category of personal resources – spiritual resources – as vital for the ongoing experience of positive motivation, energy, and significance among religious workers. Though spiritual resources may be starved of energy investments when the motivated religious worker is focused on increasing job resources to meet high and eclectic job demands, it is these spiritual resources that emerge as the most significant antecedents of work engagement over



time. The mediating injunction between '*Never be lacking in zeal...*' and '*serving the Lord*' does indeed seem to be '*keeping your spiritual fervour*'.

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## Appendix A. Email Invitation and Consent Forms



### Well-Being in Ministry

**Principal researcher:** Mr Grant Bickerton

**Supervisors:** Dr Maureen Miner, Professor Martin Dowson, Dr Barbara Griffin

**Those involved in full and part-time Christian ministry** are invited to participate in a study sponsored by the University of Western Sydney that has the following objectives:

1. To identify what Christian organisations can do to help their workers serve in an energised state longer term; and
2. To identify what individual ministry workers can do to promote this state themselves.

Participation involves responding to a set of questions that will take approximately 30 minutes to complete. The survey will relate to your ministry situation, faith, and responses to work stress. Results of the study will be made available from participating organisations in an online newsletter distributed at the completion of data analysis, or directly to you if you so indicate. You are welcome to participate in this one off survey, but it would be very helpful if you would volunteer to take part in two repeat surveys after two time intervals of nine months.

To commence the survey, simply click on the following hyperlink that will take you directly to a secured site:

[Click here to take the Well-Being in Ministry survey.](#)

If you would like to know more at any stage, please contact Grant Bickerton at the University of Western Sydney at G.Bickerton@uws.edu.au.

Kind regards,

Grant Bickerton  
BA Psych (Hons), MCouns Psych, MAPS  
PhD candidate

This study has been approved by the University of Western Sydney Human Research Ethics Committee. The Approval number is H8412. If you have any concerns or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Office of Research Services on Tel 02-4736 0883 Fax 02-4736 0013 or email [humanethics@uws.edu.au](mailto:humanethics@uws.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.

## Participant Information and Consent Sheet

### Personal religious resources as antecedents of work engagement

**Principal researcher: Mr Grant Bickerton**

**Supervisors: Dr Maureen Miner, Professor Martin Dowson, Dr Barbara Griffin**

You are invited to participate in a study investigating the personal and work related factors that promote resilience, well being and longevity in the face of the demands of ministry. The aim of the research is to provide knowledge to guide the development of interventions that may help enhance both management practices and personal resilience among religious workers.

The research is conducted by Mr Grant Bickerton (PhD candidate in the School of Psychology at the University of Western Sydney), under the supervision of Dr Maureen Miner (School of Psychology, University of Western Sydney), Professor Martin Dowson (Australian College of Ministries), and Dr Barbara Griffin (Department of Psychology, Macquarie University). The study is being sponsored by the University of Western Sydney.

Participation involves responding to a set of questions that will take approximately thirty minutes to complete. Participants are further invited to repeat surveys after two time intervals of nine months. You are welcome to participate as a one off survey, but it would be **very helpful** if you would volunteer to take part in the follow up surveys as well. Questions will relate to your ministry situation, aspects of your faith, and your responses to work stress. **All data collected is kept in strict confidence.** Your questionnaire will be identified by a unique code and **your responses will only be known to the researchers by that anonymous code.** Thus we would like you to feel that you can answer the questions openly and frankly. If you would like to know more at any stage, please contact Grant Bickerton at the University of Western Sydney at G.Bickerton@uws.edu.au

If you believe you will be distressed by answering any of the above types of questions please feel free to withhold your consent. Participation is entirely voluntary: you are not obliged to be involved and - if you do participate - you can withdraw at any time without giving any reason, without consequences either now or in the future. If, after completing the questionnaire you feel distressed, you may find the following services helpful: Lifeline (13 11 14); Salvo Care Line; and Hope 103.2 CARE 4 U line (02 8736 3232).

#### **Completion of the questionnaire indicates your informed consent to participate in the study.**

The questionnaire will be coded and entered into an electronic file to be kept in secure storage in the Psychology Department, University of Western Sydney. No personally identifiable information will be used in any written reports or future publications. The files will be erased five years after publication of reports arising from the study. Results of the study will be made available from participating organisations in an online newsletter distributed at the completion of data analysis.

*Thank you for your willingness to participate in this study. The time that you are giving to complete the questions is greatly appreciated.*

This study has been approved by the University of Western Sydney Human Research Ethics Committee. The Approval number is H8412. If you have any complaints or reservations about the ethical conduct of this research, you may contact the Ethics Committee through the Office of Research Services on Tel 02-4736 0883 Fax 02-4736 0013 or email humanethics@uws.edu.au. Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.



### Consent to participate in follow-up surveys

An important part of this research is to identify the causes of changes in the well being of people involved in Christian ministry. In order to establish this, two follow up surveys have been designed in order to detect causal processes. **You are invited to indicate your willingness to participate in this follow up phase by providing contact email addresses below**, allowing the principal researcher to send an invitation to complete a follow up questionnaire in approximately 9 months time, and then again 9 months after that. The follow up questionnaires will be similar to this current questionnaire. **Further, providing your email will allow us to notify you directly of our findings as they emerge.**

This email address will be kept in strict confidence, will not be linked to your questionnaire responses, and will only be used for the purpose of inviting your participation in the above mentioned follow up phase of the study. **If you wish to complete this survey only, please leave the spaces blank and click next** (redirecting you to the survey).

Grant Bickerton  
Principal researcher

**Yes, I consent to receiving an invitation to take part in a follow up survey in nine months time by providing my email address as follows:**

Primary email:

Secondary Email:

## **Appendix B. Interview Questions Identifying Salient Demands and Resources**

- What are some of the **job demands** you consider significant for ministers/missionaries (unique and common to other occupations)? That is, the things about this work that cause feelings of stress and exhaustion.
- What are some of the **job resources** that you have observed as particularly helping ministers/missionaries achieve work goals, develop personally, or reduce the demands of their work?
- What are some of the **personal resources** you have observed that differentiate ministers/missionaries who are energetic, passionate, and enjoying their work, and those who do not do as well in the longer term?

## Appendix C. Survey Instrument Common Across Measurement

### Periods

#### 1. Demographic information

To generate a code that is unique to your response, but that is unable to identify you, please complete the following.

First three letters of your mother's first name (for example: *AUD* for *Audrey*):

The day and month of your own birthday (for example: *01-05* for the first of May):   -

*The following questions concern your personal background.*

2. What is your gender? ☐ Male ☐ Female

3. What is your year of birth?

4. What country were you born in? ☐ Australia

☐ Other

If other, please specify: \_\_\_\_\_

5. In which country do you currently minister? ☐ Australia

☐ Other

If Australia, please specify which state or diocese: \_\_\_\_\_

6. Are you currently married? ☐ Yes

☐ No

7. Do you have children of any age children living at home? ☐ Yes ☐ No

8. What is the highest level of education you have completed?

☐ High school education

☐ Technical college

☐ Undergraduate degree or diploma from a university or theological institution

☐ Postgraduate degree or diploma from a university or theological institution

9. Are you an enrolled theological student? ☐ Yes ☐ No

*Please answer the following questions in relation to the work you would consider your ministry.*

10. Name of the organisation you minister with: \_\_\_\_\_

11. Which best describes your ministry position?

Chaplain

Cross cultural worker

Minister

Youth Worker

Other

12. On average, approximately how many hours a week do you work in this position? \_\_\_\_

13. How long have you held your current position (in years)? \_\_\_\_\_

## 2. Demanding ministry work experiences.

Please indicate how each statement corresponds to *the experience of your ministry situation*.

(1= Strongly Disagree; 2= Disagree; 3= Somewhat Disagree; 4= Neutral/mixed; 5= Somewhat Agree, 6= Agree; 7= Strongly Agree)

	1	2	3	4	5	6	7
The amount of work I have to do interferes with the quality of my work.							
My ministry leaves little time for other activities.							
There are tensions at work when making group decisions.							
I have to take action without knowing exactly what is expected of me.							
My work duties and objectives are unclear to me.							
There is not enough time for me to finish my work.							
Others are critical of me and the things I do at work.							
I am responsible for an unmanageable number of tasks at the same time.							
My work schedule stops me fulfilling my domestic obligations.							
I experience personal friction with others at work.							
I do not know what the people I work with expect of me.							
The demands of my work interfere with my home/family life.							

## 3. Emotional Health

We want to know how your health has been in general over the last few weeks. Please read the questions below and each of the four possible answers. Click on the response that best applies to you.

*Have you recently:*

	Not at all	No more than usual	Rather more than usual	Much more than usual
Lost much sleep over worry				
Felt constantly under strain				
Felt you could not overcome difficulties				
Been feeling unhappy and depressed				

#### 4. Characteristics related to ministry

How much do you agree with the following statements in your ministry situation?

(1= Strongly disagree; 2= Disagree; 3= Somewhat disagree; 4= Neutral/mixed; 5= Somewhat agree, 6= Agree; 7= Strongly agree)

	1	2	3	4	5	6	7
I have a supervisor/mentor who gives me helpful advice about improving my work performance.							
I have discretion over what I am responsible for.							
I have personal control over the quality of my work.							
I intend to look for a new job in the near future.							
My ministry role(s) provide(s) me with opportunities to develop and strengthen my skills.							
My supervisor/mentor helps me solve work-related problems.							
I am not thinking about quitting my job at the present time.							
I believe that I have been called to my current line of work.							
I have the freedom to decide how to organise my work.							
It is unlikely that I will actively look for a different organisation to work for in the next year.							
I believe that a force beyond myself has helped guide me to my career.							
My job allows me to make my own decisions.							
My ministry allows opportunities for increasing my competence.							
I was drawn by something beyond myself to pursue my current line of work.							
I have a supervisor/mentor who supports me whenever difficulties arise in my work.							
At the present time, I am actively searching for another job.							
In my work, I have the opportunity to develop my strengths.							
I am pursuing my current line of work because I believe I have been called to do so.							

## 5. Your relationship with God

We are interested in **how you generally experience your relationship with God, *not* what you think it should be like.** Try to be as accurate and objective as possible in evaluating yourself. Respond to each statement by clicking the appropriate button.

**(1= Strongly Disagree; 2= Disagree; 3= Somewhat Disagree; 4= Neutral/mixed; 5= Somewhat Agree, 6= Agree; 7= Strongly Agree)**

	1	2	3	4	5	6	7
<i>* I worry a lot about my relationship with God.</i>							
<i>* I just don't feel a deep need to be close to God.</i>							
If I can't see God working in my life, I get upset or angry.							
When I feel nervous or anxious about a problem, I work together with God to find a way to relieve my worries.							
I am totally dependent upon God for everything in my life.							
<i>* I am jealous at how God seems to care more for others than for me.</i>							
<i>* It is uncommon for me to cry when sharing with God.</i>							
<i>* Sometimes I feel that God loves others more than me.</i>							
My experiences with God are very intimate and emotional.							
<i>* I am jealous at how close some people are to God</i>							
I prefer not to depend too much on God.							
When I have a problem, I talk to God about it and together we decide what it means.							
I often worry about whether God is pleased with me.							
When considering a difficult situation, God and I work together to think of possible solutions.							
<i>* I am uncomfortable being emotional in my communication with God.</i>							
<i>* Even if I fail, I never question that God is pleased with me.</i>							
<i>* My prayers to God are often matter-of-fact and not very personal.</i>							
<i>* Almost daily I feel that my relationship with God goes back and forth from "hot" to "cold."</i>							
<i>* I am uncomfortable with emotional displays of affection to God.</i>							

After solving a problem, I work with God to make sense of it.							
I fear God does not accept me when I do wrong.							
<i>* Without God I couldn't function at all.</i>							
<i>* I often feel angry with God for not responding to me when I want.</i>							
<i>* I believe people should not depend on God for things they should do for themselves.</i>							
When it comes to deciding how to solve a problem, God and I work together as partners.							
I crave reassurance from God that God loves me.							
Daily I discuss all of my problems and concerns with God.							
<i>* I am jealous when others feel God's presence when I cannot.</i>							
<i>* I am uncomfortable allowing God to control every aspect of my life.</i>							
<i>* I worry a lot about damaging my relationship with God.</i>							
<i>* My prayers to God are very emotional.</i>							
<i>* I get upset when I feel God helps others, but forgets about me.</i>							
I let God make most of the decisions in my life.							
Together, God and I put my plans into action.							

*Note:* Items marked with an asterisk (\*) and in italics were removed from the survey instrument following survey 1.

## 6. Work Related Feelings

**How frequently you feel this way about your work?** If you have never had this feeling, select “Never” in the space after the statement. If you have had this feeling, indicate how frequently you feel that way according to the following scale:

Never	Almost never	Rarely	Sometimes	Often	Very often	
Always						
1	2	3	4	5	6	7
	A few times a year or less	Once a month or less	A few times a month	Once a week	A few times a week	Every day

	1	2	3	4	5	6	7
At my work, I feel bursting with energy							
I feel used up at the end of the workday							
At my job, I feel strong and vigorous							
I am enthusiastic about my job							
I feel tired when I get up in the morning and have to face another day on the job							
My job inspires me							
When I get up in the morning, I feel like going to work							
I feel happy when I am working intensely							
I am proud of the work that I do							
I feel emotionally drained from my work							
I am immersed in my work							
Working all day is really a strain for me							
I get carried away when I'm working							
I feel burned out from my work							



## Appendix D. Personality Measure Included in Time 3 Survey

### 7. General personality preferences

Please read each statement carefully and indicate **how much do you agree with the following statements concerning yourself.**

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**(1= Strongly disagree; 2= Disagree; 3= Somewhat disagree; 4= Neutral/mixed; 5= Somewhat agree, 6= Agree; 7= Strongly agree)**

	1	2	3	4	5	6	7
I am not a worrier							
I like to have a lot of people around me							
I don't like to waste my time daydreaming							
I try to be courteous to everyone I meet							
I keep my belongings neat and clean							
I often feel inferior to others							
I laugh easily							
Once I find the right way to do something I stick to it							
I often get into arguments with my family and co-workers							
I'm pretty good at pacing myself so as to get things done on time							
When I'm under a great deal of stress, sometimes I feel like I'm going to pieces							
I don't consider myself especially 'light hearted'							
I am intrigued by the patterns I find in art and nature							
Some people think I'm selfish and egotistical							
I am not a very methodical person							
I rarely feel lonely or blue							
I really enjoy talking to people							
I believe letting students hear controversial speakers can only confuse and mislead them							
I would rather cooperate with others than compete with them							
I try to perform all the tasks assigned to me conscientiously							
I often feel tense and jittery							
I like to be where the action is							
Poetry has little or no effect on me							
I tend to be cynical and skeptical of others' intentions							
I have a clear set of goals and work toward them in an orderly fashion							

Sometimes I feel completely worthless							
I usually prefer to do things alone							
I often try new and foreign foods							
I believe that most people will take advantage of you if you let them							
I waste a lot of time before settling down to work							
I rarely feel fearful or anxious							
I often feel as if I'm bursting with energy							
I seldom notice the moods or feelings that different environments produce							
Most people I know like me							
I work hard to accomplish my goals							
I often get angry at the way people treat me							
I am a cheerful, high-spirited person							
I believe we should look to our religious authorities for decisions on moral issues							
Some people think of me as cold and calculating							
When I make a commitment, I can always be counted on to follow through							
Too often when things go wrong I get discouraged and feel like giving up							
I am not a cheerful optimist							
Sometimes when I am reading poetry or looking at a work of art, I feel a chill or wave of excitement							
I'm hard-headed and tough-minded in my attitudes							
Sometimes I'm not as dependable or reliable as I should be							
I am seldom sad or depressed							
My life is fast-paced							
I have little interest in speculating on the nature of the universe or the human condition							
I generally try to be thoughtful and considerate							
I am a productive person who always gets the job done							
I often feel helpless and want someone else to solve my problems							
I am a very active person							
I have a lot of intellectual curiosity							
If I don't like people I let them know it							
I never seem to be able to get organized							
At times I have been so ashamed I just wanted to hide							
I would rather go my own way than be a leader of others							
I often enjoy playing with theories or abstract ideas							
If necessary, I am willing to manipulate people to get what I want							
I strive for excellence in everything I do							

### Appendix E. Descriptive Statistics, Intercorrelations, and Cronbach's Alphas for Group B.

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. Gender (0= male; 1= female)	-	-	-	.10	-.11	.00	.02	.01	-.07	.05	.08	.01	.02	.13	-.03	.08	-.05	.07	.01	.01	-.13	.01
2. Age	47.07	15.79		-	.09	-.19	-.07	-.14	-.07	.11	-.09	.04	.07	.25	.13	.17	-.27	.14	.14	.23	-.13	-.14
3. Tenure	5.71	5.79			-	-.07	-.03	.02	.03	.01	.01	.08	-.05	.03	.08	.04	-.06	.03	.06	-.02	-.10	-.10
4. Role Ambiguity	3.31	1.33				.81	.51	.36	.46	-.48	-.08	-.36	-.09	-.27	-.11	-.06	.39	-.38	-.39	-.15	.36	.24
5. Interpersonal Conflict	3.40	1.32					.78	.44	.46	-.39	-.24	-.42	-.19	-.23	-.23	-.10	.44	-.32	-.41	-.01	.41	.31
6. Work-Home Interference	3.80	1.41						.81	.75	-.34	-.09	-.27	-.11	-.32	-.03	-.02	.60	-.35	-.20	.10	.46	.21
7. Work Overload	4.11	1.44							.82	-.28	-.10	-.20	-.21	-.19	-.17	-.05	.50	-.29	-.18	.13	.54	.12
8. Autonomy	5.49	0.78								.67	.18	.59	.05	.23	.08	.24	-.38	.53	.44	.35	-.34	-.21
9. Supervisory Support	4.65	1.64									.92	.42	.06	.03	.05	.11	-.04	.19	.27	-.01	-.14	-.14
10. Development Opportunities	5.63	0.95										.87	.19	.24	.27	.20	-.20	.42	.57	.27	-.27	-.29
11. Secure Intimacy with God	4.77	0.98											.70	.10	.75	.25	-.14	.21	.25	.08	-.07	-.13
12. Security from abandonment by God	5.26	1.19												.81	.20	.03	-.48	.36	.32	.07	-.51	-.26
13. Collaborative Religious Coping	4.78	0.85													.86	.31	-.21	.30	.34	.20	-.16	-.13
14. Calling	6.23	0.73														.82	-.15	.35	.36	.33	-.14	-.15
15. Exhaustion	3.85	1.02															.84	-.66	-.45	-.18	.68	.34
16. Vigour	4.73	0.97																.86	.83	.65	-.41	-.31
17. Dedication	5.34	0.86																	.83	.69	-.35	-.42
18. Absorption	4.90	0.81																		.69	.01	-.16
19. Emotional Ill-Health	2.03	0.62																			.83	.29
20. Turnover Intention	2.24	1.43																				.89

*Notes.* *N*= 417. Cronbach's alpha reliability coefficients are in italics on the diagonal. Correlations with absolute values between 0.10 and 0.12 are statistically significant,  $p < .05$ ; between 0.13 and 0.18 are statistically significant,  $p < .01$ ; and  $\geq 0.19$  are statistically significant,  $p < .001$ .

Ten of the twelve correlations between spiritual resources and work engagement first-order factors were positive and significant. The correlations between both Secure Intimacy with God and Security from Abandonment by God and Absorption just failed to reach significance ( $r = .08$  and  $.07$  respectively). All correlations between spiritual resource factors and Exhaustion were also significant and negative, as found with Group A. Further, all correlations between spiritual resources and outcome variables (Emotional Ill-Health and Turnover Intention) were negative and significant with the exception of Secure Intimacy with God and Emotional Ill-Health ( $r = -.07$ ; *ns*). Exhaustion positively correlated with Emotional Ill-Health and Turnover Intention, whereas work engagement first-order factors negatively correlated with the outcome variables with the exception of Absorption and Emotional Ill-Health. Cronbach's alpha coefficients for the scales calculated from Group B demonstrated good reliabilities, with only two of the seventeen Cronbach's alpha coefficients falling just below the nominal criterion of  $.70$  (Autonomy:  $\alpha = .67$ ; Absorption:  $\alpha = .69$ ).

## Appendix F. Measurement Model Standardised Factor Loadings

Table F1

*Standardised Item Loadings on Assigned First-Order Factors*

First-order Factor	Item	Factor loading (Group A; N= 418)	Factor loading (Group B; N= 418)
Role Ambiguity	RA1	.73	.76
	RA2	.75	.74
	RA3	.80	.82
Interpersonal Conflict	IC1	.66	.69
	IC2	.75	.77
	IC3	.69	.75
Work-Home Interference	WH1	.69	.71
	WH2	.74	.78
	WH3	.75	.80
Work Overload	W1	.81	.77
	W2	.82	.79
	W3	.81	.78
Autonomy	Au1	.65	.62
	Au2	.77	.67
	Au3	.61	.55
	Au4	.45	.53
Supervisory Support	SS1	.92	.94
	SS2	.95	.90
	SS3	.87	.84
Development Opportunities	DO1	.78	.84
	DO2	.82	.83
	DO3	.88	.84
Secure intimacy with God	SIG1	.58	.57
	SIG2	.47	.50
	SIG3	.47	.46
	SIG4	.70	.74
	SIG5	.55	.52
Security from Abandonment by God	SAG1	.56	.60
	SAG2	.77	.69
	SAG3	.77	.73
	SAG4	.74	.76
Collaborative Religious Coping	CRC1	.92	.82
	CRC2	.93	.89
	CRC3	.45	.57
	CRC4	.84	.83
	CRC5	.39	.38
	CRC6	.71	.78

(continued)

Table F1 (continued)

*Standardised Item Loadings on Assigned First-Order Factors*

First-order Factor	Item	Factor loading (Group A; N= 418)	Factor loading (Group B; N= 418)
Calling	C1	.85	.89
	C2	.53	.52
	C3	.59	.56
	C4	.96	.92
Exhaustion	E1	.66	.61
	E2	.69	.77
	E3	.71	.77
	E4	.60	.55
	E5	.80	.83
Vigour	V1	.76	.85
	V2	.79	.87
	V3	.74	.75
Dedication	D1	.84	.89
	D2	.84	.85
	D3	.65	.63
Absorption	A1	.75	.67
	A2	.53	.60
	A3	.55	.70
Emotional Ill-Health	EIH1	.61	.59
	EIH2	.71	.76
	EIH3	.78	.77
	EIH4	.75	.74
Turnover Intention	TI1	.83	.83
	TI2	.84	.88
	TI3	.76	.85
	TI4	.81	.73

Table F2

*Standardised First-Order Factor Loadings on Assigned Higher-Order Factors*

Second Order Factor	First-order factor	Factor loading (Group A; N= 418)	Factor loading (Group B; N= 418)
<i>Job Demands</i>			
	Role Ambiguity	.60	.56
	Interpersonal Conflict	.62	.62
	Work-Home Interference	.87	.84
	Work Overload	.80	.82
<i>Job Resources</i>			
	Autonomy	.72	.70
	Supervisory Support	.53	.42
	Development Opportunities	.91	.85
<i>Spiritual Resources</i>			
	Secure Intimacy with God	.82	.80
	Security from Abandonment by God	.29	.23
	Collaborative Religious Coping	.81	.93
	Calling	.48	.36
<i>Work Engagement</i>			
	Vigour	.87	.91
	Dedication	.95	.92
	Absorption	.77	.70

## Appendix G. Relationships Between Personality and the JD-R

### Model among Australian Religious Workers

Table G1

*Standardised Direct and Indirect Relationships between Study Variables in Model 1*

*Not Reported in Chapter 5*

Relationships between variables	Standardised parameter estimate	Standard error	p-value
<i>Traditional JD-R variables</i>			
Job Resources → Work Engagement	.40	.03	$p < .001$
Job Resources → Turnover Intention	-.27	.06	$p < .001$
Work Engagement → Turnover Intention	-.32	.07	$p < .001$
Job Demands → Exhaustion	.52	.03	$p < .001$
Exhaustion → Emotional Ill-Health	.51	.04	$p < .001$
Exhaustion → Turnover Intention	.07	.05	<i>ns</i>
<i>Personality and Spiritual Resources</i>			
Neuroticism → Spiritual Resources	-.11	.04	$p < .01$
Extraversion → Spiritual Resources	.17	.04	$p < .001$
Openness → Spiritual Resources	-.05	.04	<i>ns</i>
Agreeableness → Spiritual Resources	.27	.04	$p < .001$
Conscientiousness → Spiritual Resources	.13	.04	$p < .01$
<i>Personality and Job Resources</i>			
Neuroticism → Job Resources	-.12	.04	$p < .01$
Extraversion → Job Resources	.19	.04	$p < .001$
Openness → Job Resources	-.01	.04	<i>ns</i>
Agreeableness → Job Resources	.08	.04	$p < .05$
Conscientiousness → Job Resources	.09	.04	$p < .05$

(continued)



Table G1 (continued)

*Standardised Direct and Indirect Relationships between Study Variables in Model 1**Not Reported in Chapter 5*

Relationships between variables	Standardised parameter estimate	Standard error	p-value
<i>Personality and Job Demands</i>			
Neuroticism → Job Demands	.32	.04	$p < .001$
Extraversion → Job Demands	.12	.04	$p < .01$
Openness → Job Demands	.00	.04	<i>ns</i>
Agreeableness → Job Demands	-.19	.04	$p < .001$
Conscientiousness → Job Demands	-.17	.04	$p < .001$
<i>Personality and Work Engagement</i>			
Neuroticism → Work Engagement	-.10	.03	$p < .001$
Extraversion → Work Engagement	.33	.03	$p < .001$
Openness → Work Engagement	.05	.03	<i>ns</i>
Agreeableness → Work Engagement	-.06	.03	<i>ns</i>
Conscientiousness → Work Engagement	.13	.03	$p < .001$
<i>Personality and Exhaustion</i>			
Neuroticism → Exhaustion	.31	.03	$p < .001$
Extraversion → Exhaustion	-.09	.03	$p < .01$
Openness → Exhaustion	-.01	.03	<i>ns</i>
Agreeableness → Exhaustion	.10	.04	$p < .01$
Conscientiousness → Exhaustion	.00	.04	<i>ns</i>
<i>Personality and Turnover Intentions</i>			
Neuroticism → Turnover Intentions	.04	.05	<i>ns</i>
Extraversion → Turnover Intentions	.15	.05	$p < .01$
Openness → Turnover Intentions	.06	.04	<i>ns</i>
Agreeableness → Turnover Intentions	-.07	.04	<i>ns</i>
Conscientiousness → Turnover Intentions	.12	.04	$p < .01$

(continued)

Table G1 (continued)

*Standardised Direct and Indirect Relationships between Study Variables in Model 1  
Not Reported in Chapter 5*

Relationships between variables	Standardised parameter estimate	Standard error	<i>p</i> -value
<i>Personality and Emotional Ill-Health</i>			
Neuroticism → Emotional Ill-Health	.32	.04	<i>p</i> < .001
Extraversion → Emotional Ill-Health	.03	.04	<i>ns</i>
Openness → Emotional Ill-Health	.02	.03	<i>ns</i>
Agreeableness → Emotional Ill-Health	-.03	.03	<i>ns</i>
Conscientiousness → Emotional Ill-Health	.05	.03	<i>ns</i>

### Discussion of Table G1

Given the limited number of studies assessing the relationships between all five dimensions of the FFM of personality and work engagement (Wildermuth, 2010), it seems pertinent to briefly discuss the relationships observed between personality variables and both work engagement and exhaustion. Consistent with a large body of literature, neuroticism was positively related to exhaustion (e.g., Kim et al., 2009; Miner, 2007a; Rodgeron & Piedmont, 1998), and negatively related to work engagement (Joseph et al., 2011; Kim et al., 2009; Langelaan et al., 2006). The proneness towards negative affect and low tolerance for stress may not only magnify the effects of experiencing of job demands, but also influence individuals to appraise their work environment as more threatening (Bakker et al., 2010; Langelaan et al., 2006). The positive relationship between neuroticism and increased reports of job demands indicated by analysis indicating supports the previous literature.

Conversely, those who are low in neuroticism tend to be more composed, resilient and able to face situations without being upset (Costa & McCrae, 1992).

Consistent with other studies among religious workers, extraversion was found to be negatively associated with exhaustion (Francis et al., 2004; Rodgerson & Piedmont, 1998) and positively related to work engagement (Joseph et al., 2010). This is explained by the extravert's characteristic traits of being energetic, optimistic, and action oriented (Costa & McCrae, 1992). These characteristics are logically tied to physical energy (i.e., increased vigour and reduced exhaustion) as well as preferences towards interpersonal relationships that may provide social support that reduce demands and improve performance (Wildermuth, 2010).

This study failed to find any significant relationships between openness to experience and either exhaustion or work engagement among religious workers. Though consistent with some previous research (e.g., Joseph et al., 2010; Kim et al., 2009; Rodgers & Piedmont, 1998), a null result concerning openness and exhaustion has not been consistently found among clergy (e.g., Miner, 2007a). The lack of a significant relationship between openness and work engagement is surprising as preferences for innovation, characteristic of openness to experience, may be expected to correlate with engagement (Kahn, 1990; Macey & Schneider, 2008).

The significant relationship observed between agreeableness and exhaustion is consistent with previous research with clergy (Miner, 2007a; Rodgerson & Piedmont, 1998), yet is inconsistent with other occupational cohorts (e.g., Kim et al., 2009; Zellars et al., 2000). High levels of agreeableness may motivate religious workers to push themselves beyond their energy limits in order to respond or defer to others' needs, opinions, and desires (Costa & McCrae, 1992). The lack of

significance in the relationship found between agreeableness and work engagement is consistent with previous research (e.g., Kim et al., 2009; Wildermuth, 2010).

Finally, that conscientiousness was positively related with work engagement and unrelated to exhaustion, is consistent with previous findings involving both clergy and other occupations (Kim et al., 2009; Joseph et al., 2011; Wefald et al., 2011). Individuals with high conscientiousness tend to have a high achievement-striving motivation, and are active in processes of planning, organising, and carrying out tasks (Costa & McCrae, 1992). Thus conscientiousness may affect work engagement both through an internal motivation for task goal accomplishment, and as a consequence of actual increased task accomplishment.

## Appendix H. CFAs Results for One-Factor Congeneric Models

Latent Factor	SBS- $\chi^2$	df	<i>p</i> -value	SCF	CFI	TLI	RSMEA	SRMR
T1 Secure Intimacy with God	6.84	5	.23	1.29	.99	.99	.03	.02
T2 Secure Intimacy with God	15.99	5	.01	1.26	.98	.93	.07	.03
T3 Secure Intimacy with God	13.91	5	.02	1.06	.98	.96	.06	.03
T1 Security from Abandonment by God	1.77	2	.41	1.08	1.00	1.00	.00	.01
T1 Security from Abandonment by God	4.38	2	.11	1.27	.99	.98	.05	.02
T3 Security from Abandonment by God	1.62	2	.44	1.65	1.00	1.00	.00	.01
T1 Collaborative Religious Coping	31.79	9	< .01	2.04	.97	.95	.07	.04
T2 Collaborative Religious Coping	26.30	9	< .01	2.64	.98	.96	.06	.04
T3 Collaborative Religious Coping	32.39	9	< .01	2.26	.97	.96	.07	.04
T1 Call	58.70	2	< .01	2.17	.57	.59	.24	.09
T2 Call	15.99	2	< .01	2.05	.94	.83	.12	.04
T3 Call	15.33	2	< .01	2.83	.96	.86	.12	.04
T1 Autonomy	1.06	2	.59	1.73	1.00	1.01	.00	.01
T2 Autonomy	4.36	2	.11	1.29	.99	.98	.05	.01
T3 Autonomy	2.59	2	.27	1.66	1.00	1.00	.03	.01
T1 Supervisory Support	1.13	1	.29	1.25	1.00	1.00	.02	.01
T2 Supervisory Support	6.61	1	.01	1.25	1.00	.99	.11	.03
T3 Supervisory Support	0.64	1	.43	0.92	1.00	1.00	.00	.01
T1 Development Opportunities	1.71	1	.19	2.36	1.00	.99	.04	.03
T2 Development Opportunities	0.49	1	.48	4.48	1.00	1.01	.00	.02
T3 Development Opportunities	3.55	1	.06	2.17	.99	.98	.07	.04
T1 Vigour	0.00	1	.96	1.11	1.00	1.01	.00	.00
T2 Vigour	0.02	1	.63	1.25	1.00	1.00	.00	.01
T3 Vigour	0.09	1	.77	1.38	1.00	1.01	.00	.00
T1 Dedication	0.00	1	.97	0.94	1.00	1.01	.00	.00
T2 Dedication	2.86	1	.09	1.17	1.00	.99	.06	.02
T3 Dedication	0.89	1	.35	0.87	1.00	1.00	.00	.01
T1 Absorption	1.03	1	.31	1.01	1.00	1.00	.01	.02
T2 Absorption	1.75	1	.19	1.31	1.00	.99	.04	.02
T3 Absorption	2.57	1	.11	1.02	.99	.98	.06	.02
T1 Turnover Intention	1.36	2	.51	2.19	1.00	1.00	.00	.01
T2 Turnover Intention	5.83	2	.05	2.01	.99	.98	.06	.02
T3 Turnover Intention	10.79	2	.01	2.11	.98	.95	.09	.02
Modified T1 Call	4.10	1	.04	1.51	.99	.96	.08	.01
Modified T2 Call	0.03	1	.87	1.61	1.00	1.02	.00	.00
Modified T3 Call	0.00	1	.93	2.34	1.00	1.02	.00	.01

## **Appendix I. Increasing Clergy Work Engagement: Does Spiritual Direction have an Impact?**

This appendix contains a description of a pilot intervention to evaluate changes in work engagement over a nine-month period due to a manipulation of spiritual resources. Spiritual resources are defined as a category of personal resources derived from an interaction with the sacred. Spiritual resources include an individual's religious beliefs, goals, and practices that enhance resilience and the perceived ability to control and impact the environment successfully. It was hypothesised that increasing spiritual resources would lead to a corresponding increase in work engagement. The intervention consisted of clergy meeting with an accredited spiritual director once a month for six months. Spiritual directors are employed to assist a person in attending to God's personal communication to him or her, and to grow in intimacy with this God (Barry & Connolly, 1982). Spiritual directors receive accreditation upon completion of a tertiary theological qualification combined with a Masters level program offered at the Australian National University.

### **Hypotheses**

The spiritual direction intervention was designed to increase the specific spiritual resources of secure intimacy with God and security from abandonment by God. Specifically, it was hypothesised that the intervention group would:

- 1. Report increased secure intimacy with God (spiritual resource 1) post intervention.*

2. *Report increased security from abandonment by God (spiritual resource 2) post intervention.*
3. *Report greater secure intimacy with God (spiritual resource 1) post intervention in comparison with a matched control group.*
4. *Report greater security from abandonment by God (spiritual resource 2) post intervention in comparison with a matched control group.*
5. *Report increased work engagement post intervention.*
6. *Report higher work engagement post intervention in comparison with a matched control group.*

## **Method**

### **Participants and procedure.**

Thirty-two clergy employed by the South Australian Synod of the Uniting Church of Australia were invited by email to participate in an initiative to develop continued growth in experiencing God in daily life and ministry, as facilitated by accredited spiritual directors. From the 32 invitations sent, 14 clergy indicated that they were willing to participate. Of these, 12 (response rate of 37.5%) completed the post intervention survey measuring spiritual resources and work engagement. The sample had an average age of 58.0 years, was 91.7% male, worked an average of 50.0 hours per week with an average tenure of 4.1 years, and included 11 ministers and one chaplain.

### **The intervention.**

The time period between the pre-intervention testing and post-intervention testing was nine months, with the duration of active intervention being approximately six months. Participation in the intervention group involved meeting with an accredited spiritual director (external to, but supplied by the employer) once a month for six months. The focus of these meetings was described as “identifying, paying attention and responding to God’s personal communication with you (however that is experienced), seeking to grow in intimacy with God, and living out the consequences of that relationship.” Consultation costs associated with these appointments were met by the South Australian Synod of the Uniting Church of Australia.

### **Control groups.**

A control group comprised clergy participating in a longitudinal study exploring antecedents of well-being among Australian religious workers. The control group was matched with the intervention group across dimensions of age, gender, denomination (i.e., employees of other Synods of the Uniting Church of Australia), and ministry roles (i.e., ministers and chaplains), but did not receive the spiritual direction intervention.

### **Measures.**

All participants received identical surveys which measured the key constructs of interest. *Spiritual Resources* were measured by five items taken from the Avoidance subscale, and four items taken from the Anxiety subscale of the Attachment to God Inventory (AGI; Beck & McDonald 2004). Example items



include “I prefer not to depend too much on God” and “I crave reassurance from God that God loves me”. Avoidance of intimacy with God represents a continuum on which positive through negative abstracted models of God can be mapped (God as trustworthy and available through unreliable and rejecting). In contrast, anxiety about abandonment by God is a continuum on which positive through negative models of the self can be mapped (the self as worthy of God’s love and support or not). Low scores on each dimension contribute to security in attachment to God. However, item scoring for these scales was reversed to provide a measure of Secure Intimacy with God and Security from Abandonment by God. All items were rated using a seven-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

**Work Engagement** was measured by the 9-item version of the Utrecht Work Engagement Scale (UWES; Schaufeli et al., 2006). The UWES reflects three underlying dimensions: Vigour as measured by three items (e.g., “At my job, I feel strong and vigorous”); Dedication as measured by three items (e.g., “My job inspires me”); and Absorption as measured by three items (e.g., “I feel happy when I am working intensely”). A total work engagement score was calculated from the average of all nine items from the three subscales. All work engagement items were scored on a seven-point, Likert-type scale from 1 (never) to 7 (always/every day).

Following the post-intervention survey, each participant from the intervention group was asked to complete an additional 6-item questionnaire to evaluate their level of involvement in and perceived effectiveness of the intervention. Items relating to effectiveness concerned the intervention’s influence on the participants’ experience of God in ministry and personal life.

## **Results**

The results of the post-intervention evaluation surveys indicated modest participation in, and perceived effectiveness of, the spiritual direction intervention. Four of the 12 participants indicated that they consistently met with a spiritual director, and two participants reported that they completed homework or application assignments outside of the sessions. In terms of overall efficacy, five participants (42%) indicated that the sessions with a spiritual director enhanced their experience of God in their personal and ministry lives.

Cronbach's alpha coefficients for the measures at both time points are displayed in Table II below. Scales approached acceptable reliability according to the nominal criterion of .70.

Table I1

*Cronbach's Alpha Coefficients at Time 1 and Time 2 (N= 12 for each group).*

Measure	Number of items	Spiritual Direction Group		Control Group	
		Time 1 $\alpha$	Time 2 $\alpha$	Time 1 $\alpha$	Time 2 $\alpha$
Secure Intimacy with God	5	.84	.65	.69	.80
Security from Abandonment by God	4	.78	.66	.70	.66
Vigour	3	.86	.82	.62	.78
Dedication	3	.95	.84	.88	.70
Absorption	3	.69	.65	.60	.63
Work engagement (total)	9	.88	.86	.83	.83

Paired sample *t*-tests were used to assess the statistical significance of differences within and between groups across the measurement points. The significance level was set at  $p < .05$ , with  $p$  values ranging from .05 to .10 referred to as approaching significance. Means, standard deviations, and results from paired sample *t*-tests are shown in Table I2.

### **Changes in attachment to God security.**

In support of Hypothesis 1, the intervention group had a significant increase in their Secure Intimacy with God scores over the study period. In contrast, the control group's score on Secure Intimacy with God did not increase significantly over time. However, contrary to Hypothesis 3, the levels of Secure Intimacy with God were not statistically different between the intervention and control group at Time 2.

The magnitude of increase in Security from Abandonment by God scores from pre-intervention to post intervention gathered from the intervention group approached statistical significance. This suggests tentative support for Hypothesis 2. However, the control group's level of Security from Abandonment by God also increased in magnitude that approached statistical significance. Contrary to Hypothesis 4, no significant difference was observed between levels of Security from Abandonment by God obtained from the intervention and control groups post intervention.

Table I2

*Intervention and Control Group Comparisons of Interest (N= 12 per group).*

	Mean (Range: 1-7)	SD	<i>t</i>	<i>df</i>	<i>p</i> (2-tailed)
Intervention Group pre-test SIG	4.17	1.29	-2.92	11	.014
Intervention Group post-test SIG	4.78	0.92			
Intervention Group pre-test SIG	4.17	1.29	-0.43	11	.675
Control Group pre-test SIG	4.38	0.97			
Control Group pre-test SIG	4.38	0.97	-0.47	11	.649
Control Group post-test SIG	4.48	1.01			
Intervention Group post-test SIG	4.78	0.92	0.62	11	.551
Control Group post-test SIG	4.48	1.01			
Intervention Group pre-test SAG	5.40	1.32	-1.93	11	.079
Intervention Group post-test SAG	5.94	0.72			
Intervention Group pre-test SAG	5.40	1.32	0.17	11	.870
Control Group pre-test SAG	5.31	0.87			
Control Group pre-test SAG	5.31	0.87	-2.19	11	.051
Control Group post-test SAG	5.71	1.02			
Intervention Group post-test SAG	5.94	0.72	0.63	11	.534
Control Group post-test SIG	5.71	1.06			
Intervention Group pre-test Vigour	5.15	0.72	-1.95	11	.077
Intervention Group post-test Vigour	5.50	0.73			
Intervention Group pre-test Vigour	4.99	0.37	-0.92	11	.377
Control Group pre-test Vigour	5.15	0.72			
Control Group pre-test Vigour	4.99	0.37	1.22	11	.250
Control Group post-test Vigour	4.81	0.50			
Intervention Group post-test Vigour	5.50	0.73	2.78	11	.018
Control Group post-test Vigour	4.81	0.50			
Intervention Group pre-test Dedication	5.22	1.00	-1.08	11	.303
Intervention Group post-test Dedication	5.47	0.99			
Intervention Group pre-test Dedication	5.22	1.00	-0.30	11	.770
Control Group pre-test Dedication	5.33	0.66			
Control Group pre-test Dedication	5.33	0.66	1.33	11	.211
Control Group post-test Dedication	5.15	0.63			
Intervention Group post-test Dedication	5.47	0.99	0.86	11	.409
Control Group post-test Dedication	5.15	0.63			
Intervention Group pre-test Absorption	5.08	0.68	-0.32	11	.698
Intervention Group post-test Absorption	5.15	0.68			
Intervention Group pre-test Absorption	5.08	0.68	1.59	11	.139
Control Group pre-test Absorption	4.75	0.43			
Control Group pre-test Absorption	4.75	0.43	0.52	11	.615
Control Group post-test Absorption	4.69	0.48			
Intervention Group post-test Absorption	5.15	0.68	2.60	11	.025
Control Group post-test Absorption	4.69	0.48			
Intervention Group pre-test WE	5.15	0.69	-1.25	11	.238
Intervention Group post-test WE	5.37	0.74			
Intervention Group pre-test WE	5.15	0.69	0.67	11	.518
Control Group pre-test WE	5.00	0.37			
Control Group pre-test WE	5.00	0.37	1.38	11	.195
Control Group post-test WE	4.87	0.40			
Intervention Group post-test WE	5.37	0.74	2.28	11	.044
Control Group post-test WE	4.87	0.40			

*Notes:* SIG= Secure Intimacy with God average score; SAG= Security from Abandonment by God average score; WE= Total Work Engagement average score.

### **Changes in work engagement.**

Time 1 total Work Engagement scores for the intervention and control groups were not significantly different. In support of Hypothesis 6, the intervention group had a significantly higher total Work Engagement score post intervention in comparison with the control group's Time 2 score. Contrary to Hypothesis 5, the difference between pre- and post-intervention total Work Engagement scores for the intervention group was not significant. However, inspection of the raw scores did indicate a slight increase in work engagement scores for the intervention group across time, and a slight decrease in work engagement scores for the control group.

When subscale score differences for work engagement were analysed, heterogeneous patterns emerged. The intervention group reported an increase in Vigour from Time 1 to Time 2 that approached significance. Further, the intervention group's final Vigour score was significantly higher in comparison with that of the control group. Similarly, the intervention group reported a significantly increased post-intervention Absorption score at Time 2 in comparison with the control group's final score. However, the intervention group's Absorption score did not significantly differ across time. No significant differences were found concerning Dedication scores.

In summary, the results provide support for Hypotheses 1 (increases in security of attachment to God post intervention) and Hypothesis 5 (increased work engagement post intervention when compared with the matched control group). Tentative support was also found for Hypothesis 2 (increased security from abandonment by God post intervention).

## **Discussion and Conclusions**

Results indicate that participation in sessions with a spiritual director does increase a sense of security in a religious worker's positive experience of God and perception of self in relation to God over time. Further, participation in such sessions was found to be associated with increased levels of work engagement among clergy in comparison to a matched control group. These differences in work engagement were particularly manifest in clergy levels of energy and resilience (i.e., vigour), as well as focus and perseverance in ministry tasks (i.e., absorption). Thus, it may be concluded that the practice of engaging an accredited spiritual director does increase levels of work engagement among clergy, particularly the dimensions of vigour and absorption.

Given the small sample size and below average compliance to carry out the interventions, the lack of further significant findings is not surprising. Interestingly, support for some of the hypotheses was found despite only a third of the group reporting that they consistently met with a spiritual director and completed any application tasks arising from the sessions. An important future direction is to replicate this study making modifications to the methodology seeking to increase numbers of participants, improve processes for communicating intervention procedures and expectations, and enlist greater participation from clergy representatives in order to construct more targeted interventions and improve participation rates. It is expected that the pattern of findings observed in this small study would be broadened in terms of increased results of statistical significance that provide evidence to support the hypotheses outlined above.