

**Work stress and well-being:
A longitudinal study of the Job
Demands-Resources model in
Australian clergy**

by

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A thesis in fulfilment of the requirements for the degree of

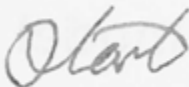
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July, 2014

Statement of Authorship

I declare that this thesis presents work carried out by myself and does not incorporate without acknowledgment any material previously submitted for a degree or diploma in any university; to the best of my knowledge it does not contain any materials previously published or written by another person except where due reference is made in the text

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Date: 1/7/14



Acknowledgements

I would like to thank Professor Don Byrne for giving me the opportunity to undertake the D(Psych)Clinical degree and for his support and flexibility to continue the degree despite many obstacles.

Dr Glenys Bishop has been an invaluable supervisor. Her assistance has made this thesis possible through persistent contribution to the design and interpretation of the statistical analysis for this thesis. I would like to express my sincerest gratitude for her contribution to this work, and thereby my mental and emotional health.

There are many personal acknowledgements that I wish to make for something such as this cannot happen without the support and care of others. I look forward to acknowledging these people in person for their contribution that has made it possible to complete this degree.

Lastly I wish to acknowledge the contribution of our animals and the place where I live. To Checkers, Penny, Buddy, Bronte, Bella and Dream. Thank you for keeping me company and teaching me to appreciate the simple things in life, a gentle touch, kind words and a walk and swim at the beach occasionally. I look forward to more of this.

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Abstract

Background: Work stress and well-being continue to be a major concern warranting research and intervention. The Job Demands-Resources (JDR) model has been supported as a model of clergy well-being in Australian Salvation Army clergy by Cotton (2006). This research aims to examine the JDR model among clergy in other denominations, with general and occupation-specific demands and job (and personal) resources. In addition to other health and work outcomes, work-related depression was investigated. This research also sought to contribute to job redesign through an evaluation of a pilot work stress intervention focussed on individual job redesign.

Method: A longitudinal web-based survey of 283 respondents at Time 1 and 64 of these respondents at Time 2 was conducted with NSW/ACT clergy in four denominations. The first survey measured job demands, burnout, health, depression, and resources, work engagement, self-rated performance and resignation intention. The second survey focussed on the *health impairment pathway* of the JDR model retaining job demands, burnout, health, and depression as well as resources from the first survey.

Results: Time 1

The results at Time 1 provided cross-sectional support for the JDR model for clergy. The *health impairment pathway*, and the *motivational enhancement pathway* were supported. Job resources, particularly co-worker support buffered the effect of job demands on burnout, depression and health.

Work home interference had a broader role than as a job demand, as it mediated the relationship between job demands and health, as well as the relationship between burnout and health. The relationship between depression and burnout was explored with cynicism particularly prominent in its relationship with the depression scale and mediation of the effect of job demands for this occupational sample.

Results: Time 2

The longitudinal results showed correlational evidence for the hypotheses of the *health impairment pathway* for depression, and some support for the buffering of the effect of job demands on depression by job resources from Time 1 to

Time 2. However, despite these findings analysis of the JDR model through structural equation modelling and ordinal logistic regression did not find evidence to support the *health impairment pathway* and associated hypotheses of the JDR model longitudinally.

Conclusion

The JDR model provides a valuable way of understanding clergy well-being, as this research found support across several denominations for both pathways as well as some support for the buffering by resources of the effect of demands on burnout, depression and health. The inclusion of clergy-specific demands and resources improved the applicability of the model. There was cross-sectional support for the application of the JDR model in work-related depression.

Research recommendations include longitudinal research of the role of work home interference, use of all burnout scales in research on depression, further consideration of the match hypotheses, and use of collaborative research approaches with denominations.

Limitations

A major limitation of this research is the small number of respondents at Time 2 that reduced the capacity to undertake effective longitudinal analysis. The response rate was also low which impacts on the capacity to make research and practical recommendations.

Chapter One: Introduction

1.1 Introduction

Work stress is a problem in Australia and internationally not only for workers but also their employers, and the wider community. The impact of work stress on workers, otherwise known as job stress or work stress, has been demonstrated in three broad domains: physiological, behavioural and psychological. The physiological effects have included changes in blood pressure, blood cholesterol and peptic ulcers, with long term effects such as cardio-vascular disease (Fox, Dwyer, & Ganster, 1993; Ganster & Rosen, 2013; Theorell & Karasek, 1996; Van Holland, Frings-Dresen, & Sluiter, 2012). The behavioural effects include smoking, alcohol use, sleep disorders, absenteeism, and job turnover (eg. D. G. Byrne & Espnes, 2008; Tsutsumi & Kawakami, 2004). The psychological effects include depression, anxiety, and burnout (eg. Van der Doef & Maes, 1999).

Organisations are impacted by the effects of work stress as it reduces the quality and quantity of work produced by those affected. Other impacts on the employer include low morale, increased risks to customers, increased risks to equipment, increased workers compensation and legal costs, and risks to reputation. The community are affected directly as the individual is less likely to engage actively in community activities (Karasek & Theorell, 1990), as well as indirectly through the psychological, physiological, behavioural and organizational effects of work stress. For example, the relationships between workers and their family may be affected by reduced emotional resources expressed as irritability or disengagement.

International estimates of the impact of work stress have shown an increasing problem. The European Working Conditions Survey of the European Union member states indicates that working conditions associated with work stress such as working at high speeds and to tight deadlines have increased over the period 1991 – 2005 (Parent-Thirion, Macias, Hurley, & Vermeylen, 2005). This report observes that although trends in the focus of economies has been

towards service and knowledge-based occupations, the physical and psychological strain factors of work have not reduced substantially over the past 15 years. Instead changes to work organisation that includes more flexible employment relationships and intensification of work have been attributed with having a negative impact on the health of European workers (Parent-Thirion et al., 2005). United States (U.S.) research indicates that in a survey conducted between 1989-2002, 30 -40% of workers found work to be 'often' or 'frequently stressful' (National Institute for Occupational Safety and Health, 2009). The prevalence of psychological disorders related to work in the U.S. is low (.6/10000 in 2001) but the number of days off work related to these disorders is more than 4 times that of other non-fatal injuries (National Institute for Occupational Safety and Health, 2009).

The measurement in Australia of the extent of work stress and its costs has been developing in recent years. Increased data from the Worker's Compensation Statistics on mental distress, as well as the introduction of the Australian Worklife Index provides more detailed data about the prevalence, antecedents and sequelae of Work Stress in Australia (Safe Work Australia, 2013; Skinner, Hutchinson, & Pocock, 2012). The Australian Work Life index 2012 survey found that working intensively is a common experience with 30-40% of workers reporting that they work at very high speed for most of their time at work, work to tight deadlines most of the time, and have too much work for one person to do. This has not changed substantially since the last survey in 2008, except women working full-time were more likely to report work overload in the 2012 survey. When the Australian data on work intensity are compared with the data from the European Working Conditions survey intensive work appears to more common in Australia than with other comparable countries in the European Union (Skinner et al., 2012).

The Australian Bureau of Statistics (ABS) survey in 2009-10 on Work-Related Injuries (Australian Bureau of Statistics, 2010a) found that of those that sustained a work-related injury, 4.8% were reported as due to mental stress. This had remained stable from the previous survey in 2005-06 (Australian Bureau of Statistics, 2006). The 2009-10 ABS survey (Australian Bureau of

Statistics, 2010a) also showed that there is substantial under-reporting of workplace injuries related to work stress. This survey found that only half of all injuries that involved some time lost from work were claimed and injuries that involved stress were only claimed 40% of the time. Furthermore, casual employees were less likely to apply for worker's compensation and they represent 20% of the workforce.

Other data from Safe Work Australia's *Compendium of Worker's Compensation Statistics 2009-10* (Safe Work Australia, 2013) reports that the number of accepted claims for workplace injury with the mechanism "mental stress" was 3.4%, and almost 98% of these claims were for mental disorders. Mental stress was the fifth most common mechanism of injury. This report noted that there has been a decrease in mental disorder claims (7%) from 2003-04 to 2009-10 but this is at a much lower rate than the decrease in most other claims (13%) over the same period. However, as the ABS data does not show a decrease in work-related injuries for mental stress, this may be due to changes in legislative arrangements in several Australian states for workers compensation. These states now require the employee to show that work was the major contributing factor to their condition (Safe Work Australia, 2011).

The economic cost of work-related stress has been a growing concern, of employers, insurers, and government. Dollard et al. (2012) used information on absenteeism and presenteeism due to psychological distress from the Australia Workplace Barometer survey to estimate the national cost to productivity. They found the cost of productivity loss for the most psychologically unhealthy 25 per cent of the Australian workforce was AUD\$17.84 billion. In an earlier estimate in a study commissioned by Medibank Private (Medibank Private, 2008) the total cost to the Australian economy of work-related stress was estimated at AUD\$14.81 billion with the direct cost to employers of stress-related presenteeism and absenteeism estimated at AUD\$10.11 billion. These figures did not include the cost of staff turnover related to stress. Work-related stress claims are the most expensive form of worker's compensation claim largely because they often involve long periods of absence (Dollard et al., 2012; Guthrie, Ciccarelli, & Babic, 2010). Data from Comcare (Australian Public

Service Commission, 2013), the insurer for the Australian Public Service showed that in the four years to 30 June 2010, 10% of all accepted Australian Government claims were attributed to mental distress, and 35% of total claims cost related to these claims. In addition, costs related to recruitment, training and lost productivity from job turnover were not included in these calculations.

1.2 Work stress in clergy and description of the occupation

One of the occupations that are experiencing high levels of work stress with serious consequences for their family, congregations and the community is that of Clergy. Clergy in Australia are experiencing high symptoms of burnout as reported in recent research (Cotton, 2006; Francis, Kaldor, Robbins, & Castle, 2005; Kaldor & Bullpitt, 2001). This has been demonstrated internationally (Evers & Tomic, 2003; Francis, Loudon, & Rutledge, 2004; Golden, Piedmont, Ciarocchi, & Rodgeron, 2004). There is also evidence of high turnover (Croucher & Allgate, 1994) as well as increasing awareness of behavioural problems such as sexual abuse and abuse of alcohol (Whetham & Whetham, 2000).

The definition of clergy varies, for the purposes of this research the following definition of clergy developed by the National Council of Churches is used. Clergy are defined as those engaged in leadership of a congregation, in a paid position, that have "the most complete and unrestricted set of functions relating to the ministry of the Gospel, administering the Word and Sacrament or carrying out the office of pastor or priest in the church" (see also Cotton, Dollard, De Jonge, & Whetham, 2003; Hartford Institute for Religion Research, 1994). Although the majority of those referred to as clergy work full-time, some may work part-time due to personal or organisational requirements.

The nature of clergy work involves the leadership and coordination of a voluntary, non-profit, religious organisation. They may be located in one location, but many work across a region, generally described as a parish. The role of clergy is extremely varied as indicated by the Australian National Church Life Survey (Kaldor & Bullpitt, 2001). Blaikie (1979) sought to categorise the aspects of the role of clergy:

Educator – training, instructing and leading study groups
Evangelist – converting others to faith
Organiser – organising and supervising the work of the parish and the congregation
Pastor – visiting and counselling
Preacher – delivering sermons, expounding the work of God
Priest – conducting worship and administering the sacraments
Scholar – reading, studying and writing
Social reformer - involved in attacking social injustices

The extent to which individual clergy carry out each of these aspects will vary. This will be influenced by factors such as whether there is one clergy for the congregation or a team of clergy, the denomination, the skills and values of the individual clergy, and the congregation's needs and expectations.

The level of supervision and control from the denomination varies between denominations. Some churches run relatively independently, with a loose affiliation to a parent body (Baptist, and less so the Uniting Church). Whereas, other denominations such as Anglican and Catholic, have a very clear structure of authority, control, and accountability. The management structures for churches and clergy vary and the majority of those directly involved in the management of clergy and their work at a church or parish level are voluntary unpaid committee members.

A review undertaken by Cotton, Dollard, De Jonge, and Whetham (2003) outlined the major stressors identified in research on work stress for clergy. These stressors include frequent relocation, conflicting expectations and ambiguity about job role, the requirement to be on-call and the interference of ministry with personal and family life, conflict amongst the congregation and at times with clergy and non-reciprocal social relationships.

The purpose of this thesis is to thoroughly investigate work stress in clergy in order to develop a theoretical understanding that will inform intervention to

address work stress in this occupation. The first aim will be to conduct an assessment of the extent of work stress in clergy. This will be done through comparing the scores on the measures of work characteristics, and outcome variables with other research that has used the same measures. There will be a focus on the Australian context in these comparisons, where possible. The second aim will be to examine the results of the surveys of clergy at Time one and Time two to evaluate a work stress theory that has recently been applied to clergy. This theory provides a structure for understanding the unique aspects of this profession that contribute to work stress and well-being, as well as providing information to inform effective action to address work stress in this occupation.

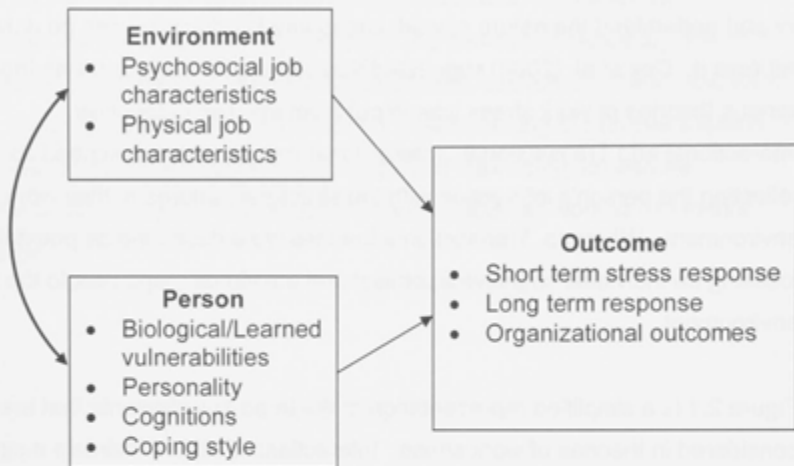
Chapter 2: Theoretical perspectives on work stress

2.1 Evaluation of work stress theory

There are a wide number of theories and models that have been developed to try and understand the nature of work stress and identify what can be done to address it. Cox et al. (2000) suggested that one way to conceptualise the various theories of work stress was to put them into two categories, Interactional and Transactional. Interactional theories were described as reflecting the person's interaction with the structural features of their work environment. Whereas, Transactional theories were described as primarily focusing on individual cognitive appraisal and emotional responses to the work environment.

Figure 2.1 is a simplified representation of the three key elements that are considered in theories of work stress. Interactional theories maintain a strong focus on the work environment, seeking to identify those aspects that have the strongest relationship with negative outcomes (poor psychological, behavioural or physiological outcomes) as well as positive outcomes (increased engagement, satisfaction, productivity) that are experienced by individuals and the organizations they work in. Transactional theories maintain a strong focus on the individual, their appraisal of the environment and response to their environment (coping) and how this leads to the positive and negative outcomes for the individual. These theories may also consider the role of personality as it impacts on the appraisal and response to the environment by the individual.

Figure 2.1 Elements of work stress



The following discussion outlines key Interactional and Transactional theories that have been considered in the development of this research project.

A well supported Interactional theory is the Demand Control Support Theory developed by Karasek and Theorell (1990). This theory was originally developed as the Demand Control theory (Karasek, 1979). Demand refers to psychosocial workplace demands, with a primary focus on the pace of work and amount of work, often described as task overload. Control is made of two components Decision Authority and Skill Discretion. Social Support was identified as a critical component by Johnson & Hall (1988) as this mediated the effect of demand and control on health measures. This model proposes that those in high demand-low control-low social support jobs will experience job strain that over time leads to poor health. It also proposes that job control and social support can buffer the effects of high demand jobs. Support for the first hypothesis has been robust, while there has been more limited support for the second hypothesis where the results have been mixed (Hausser, Andreas,

Niesel, & Schulz-Hardt, 2010; Pelfrene et al., 2002; Sanne, Mykletun, Dahl, Moen, & Tell, 2005; Van der Doef & Maes, 1999). In addition to considering health, Karasek and Theorell (1990, p173) propose that productivity is a function of the interaction between the level of demands with the level of control (decision authority, skill discretion). According to their model productivity is reduced by strain (high demands), when there is insufficient decision making control to manage these demands actively.

The Effort Reward Imbalance (ERI) theory developed by Siegrist (1996) is described by Cox et al. (2000) as a Transactional Theory, as it incorporates job characteristics with a personal characteristic. This theory proposes that an individual experiences stress when there is an imbalance between the effort spent compared to the rewards from their work. Effort is conceptualised in two ways, Extrinsic – the demands of the job, and Intrinsic – level of commitment to work characterised by excessive striving and need for approval and esteem. Rewards are defined as being in three main areas: financial, socio-emotional, and status control (eg. promotion prospects and job security, Siegrist, 1996). As this description indicates this theory is concerned with the structural work environment in both Extrinsic Effort and Rewards while incorporating a personal characteristic of commitment (Intrinsic Effort). Evidence for this model has been demonstrated for cardio-vascular disease (Van Vegchel et al., 2005; Siegrist et al., 1990), depression (Pikhart et al., 2004; Yu, Gu, Zhou, & Wang, 2008) self-reported health (Niedhammer et al., 2004), burnout (Basinska & Wilczek-Ruzyczka, 2013) as well as other aspects of health and well-being (Tsutsumi & Kawakami, 2004). There is also evidence of the distinct contribution measured by the ERI as compared with the DCS model (Phipps, Malley, & Ashcroft, 2012; Tsutsumi, Kayaba, Theorell, & Siegrist, 2001; Yu et al., 2008). The concept of Extrinsic Effort is similar to that of Demand in the DCS model, however the concepts of Intrinsic Effort and Reward differentiate this theory. Therefore, theoretically and empirically the ERI provides a different understanding to the DCS model for the contributors to work stress and opportunities for prevention and intervention.

Another major Transactional Theory is the Cognitive Phenomenological Model developed by Lazarus (1966). This model proposes that stress occurs when the individual perceives an imbalance between their environmental demands and their capability to respond to these demands (Sulsky & Smith, 2004). This theory emphasises the role of cognitive appraisals and the actions the individual takes in response to those appraisals. In this way this theory takes a more process approach, seeking to explain how the environmental factors lead to the observed health outcomes. This theory considers the relationship between the appraisals, coping and then the impact of their actions on the demands. It also includes the role of further appraisals over time that lead to a change in the psychological state of the individual. One of the benefits of this model is that it has prompted research into stress and coping, providing greater understanding of the coping resources used by individuals (Scheck et al, 1997). Also, this theory has expanded our knowledge of the relationship between cognitive appraisal and psychological symptoms (eg. Lazarus et al., 1985). This fits well with interventions guided by Cognitive Behaviour Therapy (Beck, 1995; De Jong & Emmelkamp, 2000).

Evaluation of Theories

Demand-Control-Support Theory

The DCS has demonstrated strong main effects for high demand and low control, and/or low social support that are related to negative health outcomes. These outcomes include psychological well-being (Van der Doef & Maes, 1999), as well as physiological (Theorell and Karasek, 1996; Fox et al., 1993) and behavioural outcomes. There has been mixed support for the buffering effect of control on demands, or for social support on demands (Van der Doef, 1999).

The main problems with the DCS model are related to the general nature of this model. The DCS model is intended to be a general theory, with broad definitions of the key constructs of Demand, Control and Support. This is a strength in that it enables broad applicability internationally, occupationally, and

organisationally. Karasek and Theorell (1990) argued that by maintaining simplicity with only 3-4 key variables this allows for better communication with all those involved in job redesign. Yet researchers and organisations have found it necessary to include additional variables for understanding homogenous groups or to inform intervention. For example, Theorell (1998) recommended that "practically oriented 'local' pieces of information" should be used to supplement the theory.

The general nature of the theory is reflected in the variety of ways that these constructs have been measured. For example, there has been great variation in the measurement of control. This has included the use of educational level, repetitiveness of work, skills training and job monotony, as well as variety and craftsmanship (Karasek, 1979; Alfredsson et al., 1982; Astrand et al., 1989). The Job Content Questionnaire (JCQ) designed by Karasek (1984) to measure Demand, Control and Support provides greater clarity regarding these concepts. Yet it is still measuring these concepts on a broad basis.

Another issue is the JCQ measures some aspects of Demands, Control and Support and does not consider other aspects. For example, it ignores key psychosocial demands such as career prospects, role ambiguity, role conflict, and work-home interference (Cox et al., 2000). Within the concepts of Control and Support, the model doesn't distinguish between affective or instrumental support nor does it define which level of control is needed, at the job level or department level (Baker et al., 1996).

Furthermore, the relationship between job characteristics, health and productivity may not be found if there is not sufficient specificity of measurement. This is especially true in more homogenous groups. In the review by Van der Doef and Maes (1999) those studies that measured demands, control and social support more specifically so that there was a closer match between the demands measured, and the control or support measured, were more likely to find moderating effects of control and support on demands. For example, studies that measured time pressure, with a corresponding measure of control over pace and method, were more likely to find a moderating

effect. The importance of this type of matching was reinforced in a review of the DCS model ten years later (Hausser et al., 2010). The need for greater specificity was raised by Theorell (1998) recommended the use of 'group specific' questionnaires for more homogenous groups to identify more specific working conditions. He argued that the use of the general questions may miss the smaller variation in working conditions compared to that across the working population as a whole.

Another weakness of the DCS theory is that it considers a limited number of job resources: control and support. There are other potential job characteristics that when absent may contribute to negative outcomes and/or may buffer the effect of demands (Bakker, Demerouti, & Euwema, 2005). These include resources like performance feedback, procedural fairness, and rewards such as job security, financial remuneration, and status control. By limiting resources to these two the DCS theory does not enable other resources to be explored and their contribution evaluated in the work environment.

The limitations of a general theory become particularly relevant when considering intervention. The DCS model does not provide sufficient clarity to provide an evidence base about what aspects of job redesign are critical, except at the broadest level. There is a need for a model that incorporates the general guidelines provided by the DCS model that is also able to incorporate specific measures of demands, control and support, as well as other resources. Investigation of occupations or even organisations using this expanded model will provide a much stronger evidence base for intervention.

A final criticism of the DCS model is related to its emphasis on the work environment. Several studies have shown that the effects of demands and control are moderated by factors such as locus of control (Parkes, 1991), Type A Behaviour (Kivimaki and Lindstrom, 1995; Kushnir and Melamed, 1991), self-efficacy (Schaubroeck et al., 2001), and negative affectivity (Dollard, Forgan & Winefield, 1998; O'Brien et al., 2008). However, rather than negate the relevance of the DCS model for understanding work stress these studies

demonstrate the importance of considering individual factors in addition to job characteristics to more fully understand work stress.

Effort-Reward Imbalance Theory

The ERI theory provides a conceptually distinct contribution to understanding work stress due to its focus on the employment contract and reciprocity between the effort of the worker and the rewards provided by the employer. This approach provides guidance for job design at a general level to consider ways of redressing imbalance through increased financial remuneration, job security, and improving esteem or recognition for workers. The motivational element of the ERI model, overcommitment provides a measure of individual responses to the demands of work, which some researchers have seen as an improvement on the DCS model that does not include individual differences in responses to demands (Ostry, Kelly, Demers, Mustard, & Hertzman, 2003). Yet, evidence and research for the contribution of overcommitment to strain, or its interaction with the Effort-Reward imbalance is limited (Van Vegchel, De Jonge, Bosma, & Schaufeli, 2005). Overcommitment is often referred to as a personality factor, but Dollard, Forgan and Winefield (1998) found that the level of negative affectivity (related to overcommitment) was related to the duration of exposure to stressful job characteristics. This suggests that in some situations overcommitment may be a consequence of job strain rather than a moderator.

Effort and Rewards in the ERI model are operationalised in the Effort-Reward Imbalance Questionnaire (ERI-Q, Siegrist et al., 2004). The questions for effort are primarily focussed on workload such as time pressure, so they do not consider a range of work aspects that require effort of workers. Additional job characteristics requiring effort include role ambiguity, emotional dissonance, or interpersonal conflict. Equally, the focus on rewards does not consider the aspects of work that can support workers to meet demands or even reduce demands such as control or support that also provide opportunities for learning and skill development. These and other job resources have been shown to contribute to motivation intrinsically and extrinsically (Schaufeli & Bakker, 2004).

A further limitation of the ERI approach is the method of measurement of effort-reward imbalance. Researchers commonly combine measures of effort and rewards to calculate a single effort-reward imbalance ratio (Siegrist et al., 2004). This leads to a considerable loss of information about the contribution of specific aspects of effort to job strain and the relative importance of rewards to balance this effort. Research has shown that specific rewards are valued differently by different occupational groups (Tsutsumi & Kawakami, 2004). Van Vegchel, de Jonge, Bakker, and Schaufeli (2002) in a study of health workers found that the strongest effect on health of Effort-Reward Imbalance was when esteem was included as a reward. Job security was also an important reward, whereas salary was less important as a reward. They suggested for health workers this may indicate that esteem and efforts to enhance this in the workplace may compensate for lower levels in other rewards such as salary. In the thesis research rewards were included in the work stress model. In light of this research the relationship of rewards with strain and work engagement were considered separately.

Cognitive Phenomenological Theory

As discussed above Cognitive Phenomenological theory has provided useful information about the cognitive processes that occur and coping responses to Job Demands. Yet the focus of this theory in responding to Job Demands is on the individual and their ability to adapt (cope) with job demands (Karasek & Theorell, 1990b, p. 95). Clearly situations occur where adaptation is not possible, and long-lasting strain occurs. Thus, a consideration of the work environment that the individual is responding to is necessary. Unfortunately, Cognitive Phenomenological Theory does not provide information on common work stressors that are more likely to lead to stress responses (Dollard, 2003a). Rather, its focus is on individual perception and appraisal. An individual only experiences stress, according to this theory, when there is a perceived imbalance between demands and their ability to meet demands (Sulsky & Smith, 2004, p. 16). This theory relies on other theories of work stress to provide an understanding of the work environment that affects individuals. It is

these theories of work stress about the work environment that will be the focus of the thesis research.

Conclusion

Investigation of job characteristics related to work stress should be guided by the general factors identified in the DCS and ERI Models. However, measurement of specific demands and resources is necessary, especially when considering single occupations, if the effect of these job characteristics is to be properly evaluated. This measurement should include occupationally relevant variables for both demands and resources.

Consideration of individual factors is important and has been shown to contribute to work stress (Cox et al., 2000). However, an exclusive focus on these factors ignores the evidence regarding the substantial contribution of the work environment to work stress. Clarification of job characteristics and their relationship to work stress provides a critical framework for investigating the role of individual factors in moderating these job characteristics (Karasek & Theorell, 1990a). Providing this framework for the occupation of Clergy is one of the contributions that this research project seeks to make.

2.2 Job Demands Resources Model

The model that will be explored in this research project is the Job Demands Resources (JDR) Model. This model incorporates the job characteristics of the DCS and ERI models but has several advantages when considering specific occupations and intervention for work stress. The JDR model was originally proposed by Demerouti, Bakker, Nachreiner and Schaufeli in 2001. It has been extended to its current form by Schaufeli and Bakker (2004) who suggested that the model be modified to include a focus on well-being as well as burnout. Job demands in this model refer to physical, psychological, social and organizational aspects of the job that require sustained physical and/or psychological effort and are therefore associated with physiological and/or psychological costs. On the other hand, job resources, refers to those physical, psychological, social and organizational aspects of the job that function in one or more of the following ways: to reduce job demands and the associated physiological and psychological costs; or are functional in achieving work goals; or stimulate personal growth, learning and development (Schaufeli & Bakker, 2004). More recently personal resources have also been incorporated in the JDR model. These have been defined as "the psychological characteristics or aspects of the self that are generally associated with resiliency and that refer to the ability to control and impact one's environment successfully." (Schaufeli & Taris, 2014)

Figure 2: Job Demands Resources Model

Health Impairment Process



Motivational Enhancement Process

This model proposes that there are two main processes that occur in response to the work environment. These are labelled the *health impairment process* and the *motivational enhancement process*. The health impairment process occurs when the work demands are at a level that the personal and workplace resources are not sufficient, leading to a drain in the energy resources of the individual leading to burnout and then to health problems. The motivational enhancement process occurs when the workplace resources are at a high enough level to enhance the motivation of the individual leading to *work engagement* and increased *positive work outcomes*. Both these processes occur over time, with each component causally related to the other, so that *burnout* and *engagement* act as mediators in their respective processes.

The distinction between demands and resources and the two processes they produce, contrasts with the way these are treated in the DCS model (Karasek & Theorell, 1990b). In the JDR model the psychological demands of the DCS model (Karasek, 1979) and effort of the ERI model (Siegrist, 1996) are defined as demands, along with other job demands. Job characteristics such as control and support (DCS) and rewards (ERI) are defined as resources. In the DCS model control and support are conceptualised as having a direct and additive effect on job strain leading to poor health. In the JDR model demands (or effort) are the primary job characteristics that contribute to burnout and consequently

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poor health outcomes. Whereas, resources in the JDR model contribute to health outcomes primarily through reducing job demands and/or reducing their effect on burnout.

Evidence for the JDR model

The processes of the JDR model have been examined in a broad range of contexts including nurses, call centre operators, white collar and blue collar workers, and teachers. It has also been applied across a variety of countries including the Netherlands, Spain, Finland and Australia (see Llorens, Bakker, Schaufeli, & Salanova, 2006 for a review). For example, research by Schaufeli and Bakker (2004) tested the JDR model in four independent samples of service occupations. Their findings show strong evidence for the health impairment process and for the motivational process. Burnout was shown to mediate the relationship between job demands and ill health, while work engagement was found to mediate the relationship between job resources and turnover intention.

Longitudinal studies have confirmed the relationship between job demands predicting burnout over time, and job resources predicting work engagement (Hakanen, Schaufeli, & Ahola, 2008; Mauno, Kinnunen, & Ruokolainen, 2007; Schaufeli, Bakker, & van Rhenen, 2009). Hakanen et al. (2008) found that burnout predicted job demands and also burnout predicted depression over time. This mediatory effect of burnout has been demonstrated in other studies where burnout mediated between job strain (based on the JCQ, Karasek, 1997) and psychosocial measures, as well as measures of health (Ahola & Hakanen, 2007).

Health Impairment Process

The health impairment process of the JDR model is theoretically related to the cognitive-energetical framework of compensatory control proposed by Hockey (1997; Schaufeli & Bakker, 2004). This is an equilibrium model that describes the process that takes place to maintain performance under demanding conditions. When an individual is confronted with high demands requiring sustained effort, employees may initially respond in an active coping mode that

involves a physiological and cognitive-emotional cost to available resources to maintain performance. The impact on personal resources in the active coping mode may exceed the capacity of the employee if this is sustained over a prolonged period. This leads to psychological and physiological problems because of the increased effort required. As a consequence workers may reduce their performance so they do not incur these costs, essentially withdrawing from these requirements of their work (passive coping). This relates to the development of burnout in the health impairment process by describing the depletion of energy due to high job demands (exhaustion), as strain develops withdrawal from work (cynicism) becomes necessary to manage the costs, and reduced performance (efficacy) occurs as a result. It also describes the process that leads to negative health effects due to prolonged active coping in response to high demands.

Hockey's (1997) model provides a description of the process of decline described by the health impairment process with a focus on internal resources, cognitive, emotional and physical, that are available to meet demands. The Conservation of Resources (COR) model (Hobfoll, 2001) provides a complementary way of understanding the decline in functioning and health that occurs in response to high demands. Hobfoll (2001) described in his model that people strive to obtain things they value, personal, social and material "resources". They seek to protect these resources against loss, therefore, resource loss is more salient than resource gain. As resources are lost, the capacity of the individual to respond to further demands that threaten resource loss is reduced. For example, high job demands can lead to exhaustion, which if there is not sufficient recovery time, will lead to less capacity to respond to job demands leading to further exhaustion. This "loss spiral" has been supported in research by Demerouti, Bakker, Bulters (2004), and Hall, Dollard, Tuckey, Winefield and Thompson (2010) where reciprocal relationships have been found between demands, exhaustion, and work home conflict.

The following hypotheses for the health impairment process in this study are based on this theoretical rationale, in addition to general health outcomes, specific hypotheses with regard to depression are included.

Hypothesis 1a: Job demands are positively related to burnout.

Hypothesis 1bi: There is a positive relationship between burnout and health problems.

Hypothesis 1bii: There is a positive relationship between burnout and depression symptoms.

Hypothesis 1ci: There is a positive relationship between job demands and health problems.

Hypothesis 1cii: There is a positive relationship between job demands and depression symptoms

As burnout is a measure of the energy depletion in this model, mediation of the relationship between job demands and health is predicted. Therefore, the following hypotheses related to the measures of health in this research are proposed.

Hypothesis 1di: Burnout will mediate the relationship between job demands and experienced health problems.

Hypothesis 1dii: Burnout will mediate the relationship between job demands and depression symptoms.

Motivational Enhancement Process

As shown in Figure 2 the job demands resources model not only considers worker ill health it also considers work engagement and positive work outcomes, particularly organisational outcomes such as performance and retention. Omission of organisational outcomes is a weakness of some work stress theories, such as the Michigan model (Baker, Israel, & Schurman, 1996; Hart & Cooper, 2001; Karasek & Theorell, 1990b, p. 57). Considering organisational outcomes provides a relevance to organisational job design both for the benefit of workers and organisations. The JDR model emphasises the primary effect of resources on work engagement which in turn leads to increased productivity and increased employee retention. Schaufeli and Bakker (2004) describe this pathway as occurring through an intrinsic motivational process as resources meet basic human needs such as autonomy,

competence, and relatedness. Some aspects of this process are similar to the active learning process of the DCS model where decision latitude enables learning of new behaviour patterns and solving new problems (Karasek & Theorell, 1990b, p. 170). Yet, the resources involved in the motivational process are broader and can be applied as they are relevant to specific organisations or occupational settings. In addition to intrinsic motivation, Schaufeli and Bakker (2004) suggest that extrinsic motivation occurs as resources assist with meeting the job demands. These intrinsic and extrinsic processes intersect to create positive work engagement that in turn leads to worker retention and productivity. Research by Hobfoll, Johnson, Ennis and Jackson (2003; Schaufeli et al., 2009) contributes to the understanding of the role of resources as in addition to the "loss spiral" of the conservation of resources model they demonstrated that the gain of resources, contributes to a "gain spiral", when the individual is able to obtain resources, they are more likely to gain further resources and protect against resource loss.

To examine this motivational process the following hypotheses have been developed for this research:

Hypothesis 2a: Resources are positively related to work engagement.

Hypothesis 2b: There is a positive relationship between engagement and positive work outcomes.

Hypothesis 2c: There is a positive relationship between resources and positive work outcomes.

As the motivation of the employee is measured by work engagement in this model, mediation of the relationship between resources and positive work outcomes is predicted. Therefore, the following hypothesis will be examined:

Hypothesis 2d: Engagement will mediate the relationship between resources and positive work outcomes.

Relationships between the pathways

When the job demands resources model was originally proposed by Demerouti et al. (2001) the emphasis was on the two separate processes. The limited

support for the interaction between job demands and job resources such as that proposed in Karasek's (1979) original Job Demands-Control model contributed to this emphasis (Van der Doef & Maes, 1999). Although research has shown support for the dual processes of health impairment and motivational enhancement, relationships between the elements of these processes have been identified (Schaufeli & Bakker, 2004). Theoretically, conservation of resources theory (Hobfoll et al., 2003) suggests that external resources become important (valued) when internal resources are being exceeded by high demands (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007). In keeping with this approach, negative relationships between job resources and job demands, as well as between job resources and burnout have been found by several researchers (Cotton, 2006; Hakanen et al., 2008; Schaufeli & Bakker, 2004).

Research has also found that job resources have reduced the effect of job demands on burnout (Bakker et al., 2005; Willemse, de Jonge, Smit, Depla, & Pot, 2012). This research has found that a range of job resources have buffered various job demands, expanding on the broad demands, control and social support concepts of the DCS model. The DCS model predicted a double or triple interaction of demands with control and support, those with high control and support experience less strain for high demands, than those with low control and support. Yet there is limited support for this interaction (Hausser et al., 2010). In their ten year review of the DCS model, Hausser et al. (2010) suggested that this may be due to inadequate matching of demands and resources as recommended in the Demand-Induced Strain Compensation (DISC) model and Triple-Match Principle (De Jonge & Dormann, 2003).

The matching hypothesis (De Jonge & Dormann, 2006) proposes that if there is congruence between the workplace demands and the available resources, then those resources are more able to reduce the impact of the demands, and less strain will result. De Jonge & Dormann (2006) demonstrated that when demands, resources and strains were all qualitatively congruent ("triple-match"), there was an increased likelihood of moderating effects compared to when only demands and resources were matched ("double-match"). They considered

cognitive, emotional, and physical domains. In their study no moderating effects for non-matched demands and resources were found. In other research on the interactions proposed by the JDR model between demands and resources there is evidence of match particularly with regard to emotional and social demands, resources and outcomes (eg. emotional/social domain - patient harassment, social support, and cynicism in Xanthopoulou, Bakker, Dollard, Demerouti, & Schaufeli, 2007). However, this research reveals other mechanisms which may explain moderation by resources such as the extent that stressors are able to be controlled (autonomy) or their onset is predictable and understandable (eg. performance feedback, Bakker et al., 2007). Certainly, a range of interactions have been found that are not readily explained by the match hypothesis. In this study of the JDR model the triple match principle will be used to inform analysis of interactions while also considering other possible mechanisms for the buffering of demands by resources.

In addition to the role of resources in the health impairment pathway, research has also demonstrated links between demands and burnout with the work engagement and work outcomes. There is support for a negative relationship between exhaustion and work engagement (Bakker, Demerouti, & Verbeke, 2004). There is also strong support for the relationship between burnout and turnover intention (Lee & Ashforth, 1996; Schaufeli & Bakker, 2004; Schaufeli & Enzmann, 1998, p. 89). It is hypothesized that these relationships will also be found in this sample of clergy, these will be examined in the cross-sectional study (Study One). Further research has found that the effect of job demands on work engagement and performance has been buffered by job resources (Bakker et al., 2007; De Jonge, Mulder, & Nijhuis, 1999; Dwyer & Fox, 2006). To explore this interaction, the buffering effect of job resources on the relationship between job demands and work engagement is examined in this thesis.

To examine these research findings in this study regarding the relationships between the health impairment and motivational pathways the following hypotheses were developed:

Hypothesis 3a: Job demands are negatively related to resources

Hypothesis 3b: Burnout has a negative relationship with engagement

Hypothesis 3c: Health problems are negatively related to positive work outcomes.

Hypothesis 3d: Resources are negatively related to burnout.

Hypothesis 3e: Burnout is negatively related to positive work outcomes.

The triple match principle will be used to inform the analysis of the buffering of resources of the relationship between burnout, health and work engagement for the following hypotheses:

Hypothesis 3f: Resources will buffer the relationship between job demands and burnout.

Hypothesis 3gi: Resources will buffer the relationship between job demands and health

Hypothesis 3gii: Resources will buffer the relationship between job demands and depression symptoms

Hypothesis 3h: Resources will buffer the relationship between job demands and work engagement.

Benefits for job design of the JDR model

The flexibility of the JDR model to incorporate a range of job demands and resources is an important advantage for studying work stress and considering job design. As acknowledged by Karasek and Theorell (1990b, p. 56) one of the limitations of the DCS model is that it omits important job characteristics. The JDR model provides a mechanism to examine these important job characteristics which vary in their importance between cultures, organisations and occupations. The model includes both demands and resources such as those proposed by the DCS and ERI models as well as demands and resources specific to the occupation being studied that are known to influence well-being (Hakanen, Bakker, & Schaufeli, 2006; Pousette & Hanse, 2002; Van Veldhoven, Taris, De Jonge, & Broerson, 2005). For example, the model could include a general demand such as psychological demands (as defined by the Job Content Questionnaire, Karasek, 1997) as well as a specific demand such as work home interference that may be particularly relevant for some occupations such as police officers or clergy (G.B. Hall et al., 2010; Hill, Darling, &

Raimondi, 2003). Considering local organisational knowledge and information is seen as essential when researching job redesign by a number of researchers including Theorell (1998).

Relevance of the JDR model to Clergy

The research by Cotton (2006) provided a strong argument for the relevance of the job demands resources model to clergy in the Salvation Army. By incorporating particular demands and resources in the model Cotton sought to take into account the distinctive aspects of this profession. These include the faith based nature of the profession, this profession as providing human services, as well as the extremely varied role that clergy are expected to perform. The capacity to incorporate additional demands and resources into a comprehensive model provides a clearer pathway to intervention. This is illustrated in Cotton's (2006) research where the findings of the research were transferred into recommendations for intervention, with an intervention for relocation incorporated into the research (Cotton, Dollard, De Jonge, & Dormann, 2003).

Conclusion

The JDR model extends existing work stress models by specifying a dual process of how the work environment contributes to burnout and poor health, as well as engagement and positive work outcomes. These processes have been supported through cross-sectional and longitudinal research. The model also provides an excellent framework for investigating interactions between demands and resources, as it facilitates qualitative match. The capacity to incorporate general and occupation specific demands and resources within this model enables more effective development of occupational well-being models and interventions to improve well-being. The hypotheses of this model, described in Chapter 3, are based on the findings of previous research of the JDR model and research on clergy.

2.3 Elements of the Health Impairment Pathway of the JDR model

2.3.1 Job Demands

With the development of the DCS model, measurement of demands has often included the Psychological Demands scale of the Job Content Questionnaire (JCQ, Karasek, 1997). This scale is primarily focussed on task overload. The questions of this scale are similar to the Effort scale of the ERI model. Although task overload is an important demand there are many other job characteristics that are consistent with the definition of a job demand, requiring sustained cognitive and emotional (psychological) effort (Cox et al., 2000). These job demands have strong relationships with strain, which in turn is related to poor health (Honkonen et al., 2006).

One of the benefits of incorporating a broader range of job demands is a more comprehensive and holistic understanding of the job characteristics that impact on work stress and well-being in an occupation. A review undertaken by Cotton, Dollard, de Jonge, and Whetham (2003) outlined the major stressors identified in research on work stress for Clergy. These are summarised in Table 2.1 with brief descriptions of the stressors identified in the research.

Table 2.1 Summary of Clergy Stressors

Stressor	Description of the stressor that has been identified
Time	unpredictable, on-call 7 days/wk, 24 hrs/day, long hours
Financial	among the lowest paid profession, lack of retirement income and home equity, lack of established bargaining mechanism and guilt related to seeking additional income
High Expectations (Emotional Demands)	Self – unrealistic and perfectionistic expectations Family – high expectations of model family and marriage Congregation – high unrealistic expectations of the personal and professional capacity of clergy Denominations – church organisations foster a competitive system God - must meet high expectations of God
Work/Family Interference	Poor separation between work and family life, expected to be in role even in free time.
Role Conflict and Ambiguity	Created by high expectations as well as conflicting personal and professional demands
First few years of ministry	Research demonstrates these are the years when clergy are most at risk of burnout.
Relocation	High level of relocation, second only to the defence force – impact on social connection, spouse careers, children schooling.
Lack of social support	Relationships are typically not reciprocal, relocation disconnects from social contact and distance may prevent contact with other clergy.
Gender	Women clergy face a wide range of challenges due to the mixed level of acceptance of their position.
Congregational Tensions	Conflict between church members and at times with church members, in the context that these are the people that provide their income.
Changes in society	Change in status, lack of acceptance of the authority of clergy, reduced church attendance.
Church Structure	Voluntary participation, paradoxical servant-leader model, denominational leaders out of touch.

These stressors include demands that are found in other work such as role conflict and ambiguity (lack of role clarity) or work home interference but as the review by Cotton et al. (2003) shows there are unique aspects of the role clergy perform that influences the manifestation of these demands (Cox et al., 2000; Nohe & Sonntag, 2014). This research provides information on the relevance of demands assessed in other occupations, to the occupation of clergy as well as the unique stressors clergy experience. Therefore, in addition to the measure of task overload of the JCQ Psychological Demands scale, measures of those demands most relevant for clergy were included in my research of Australian clergy. This is a holistic approach to the consideration of the demands of the clergy role similar to that of Cotton (2006) in her research of Salvation Army clergy.

Clergy face similar demands to those in human service occupations. One key demand that has been emphasised for human service workers is the emotional demands placed on them (Dollard, Dormann, Boyd, Winefield, & Winefield, 2003b). Clergy are particularly likely to experience this aspect of demands in their work due to the high degree of people contact in their work. For example, clergy provide support and counselling to those that are ill, experience trauma, or grieving the loss of a loved one which would expose them to particularly intense emotional interactions. The findings from research reveal that emotional demands have a differential effect on the dimensions of burnout. The frequency, duration and intensity of interaction with clients have in several studies not predicted emotional exhaustion, yet they have been positively related to depersonalisation and with personal accomplishment (Brotheridge & Grandey, 2002). Therefore, workers experience strain from these interactions as indicated by the positive relationship with depersonalisation but in parallel experience higher levels of positive affect associated with feelings of personal accomplishment.

The theory of *emotional labour* has considered the effort required for workers to regulate their emotions in order to hide negative emotions and display emotions in keeping with their work role (Zapf, Vogt, Seifert, Mertini, & Isic, 1999). For example, clergy may feel the emotion they are displaying such as concern or

compassion, but at other times they may have to respond in a calm and friendly manner when they are feeling hurt or angry. Zapf (2002) found that on these latter occasions where there is dissonance between felt emotion and expressed emotion that individuals are most likely to experience burnout. Brotheridge and Grandey's (2002) research suggests that job-related emotional demands such as frequency, duration and intensity can lead to emotional dissonance which in turn leads to depersonalisation. Job-related emotional demands and emotional labour will be included as demands in my research.

Work home interference is also a demand that is characteristic of those in human services (Schaufeli et al., 2009) as well as being a particularly relevant demand for clergy (Hill et al., 2003). Schaufeli et al. (2009) incorporated work home interference as a job demand in their longitudinal analysis of the full JDR model with a one year time lag. They found that along with work overload, and emotional demands, work home interference predicted burnout, and burnout in turn predicted sickness absence duration and frequency. Yet, there are mixed results with regard to the conceptualisation of work home interference as a stressor, strain or the effect of strains (Bakker & Geurts, 2004; Demerouti et al., 2004; G.B. Hall et al., 2010). As well, as predicting burnout (Schaufeli et al., 2009) work home interference is associated with psychosomatic health complaints and depressive symptoms (Allen, Herst, Bruck, & Sutton, 2000; Schaufeli et al., 2009). Job demands have been found to predict work home interference (Janssen, Peeters, de Jonge, Houkes, & Tummers, 2004), and work home interference has mediated the relationship between job demands and burnout (Byron, 2005; Janssen et al., 2004). In contrast, Bakker and Geurts (2004) found support for the partial mediation of the relationship between job demands and work home interference by emotional exhaustion. The mediating roles of work home interference and exhaustion, with job demands have been supported by longitudinal research that has found reciprocal relationships (Demerouti et al., 2004; G.B. Hall et al., 2010; Leiter & Durup, 1996). In this clergy study work home interference has been included as a job demand due to its relevance to the unique aspects of the occupation of clergy. The hypothesis that will be examined is the relationship of work home interference and other job demands with health problems will be mediated by

burnout. However, the potential for mediation by work home interference of the relationship between job demands and health problems will be considered in the analysis. Reciprocal relationships are investigated more effectively with multiple wave studies, as this study only considers two waves, reciprocal relationships will not be examined.

Cotton et al. (2003) reviewed the research regarding conflict with members and conflict between members of the congregation and identified this as a major demand for clergy. This conflict occurs regularly, in a survey of United States (U.S.) clergy 40% reported serious conflict with a congregational member at least once a month (London & Wiseman, 1993). Conflict with members is related to burnout and turnover for clergy (Croucher & Allgate, 1994; Jinkins, 2002). Therefore, consideration of the frequency and severity of conflicts, as well as clergy perception of their capacity to successfully resolve conflicts is important in a model of clergy job demands.

2.3.2 Burnout

Burnout is an integral part of the health impairment process of the JDR model. It is conceptualised as mediating the relationship between job demands and negative health outcomes in the model. Therefore, it is important to consider the concept of burnout, how it is defined, how it develops, measurement of burnout and why it is useful to measure.

Burnout is a concept originally developed to describe an aspect of the strain observed among those in human services professions through their work with people. First described by Freudenberg (1975), this concept has been developed extensively by Christina Maslach and others, and operationalised in the Maslach Burnout Inventory (MBI, Maslach & Jackson, 1981). Burnout consists of three dimensions: exhaustion, cynicism, and reduced professional efficacy (Maslach, 1982). These dimensions were originally described in terms of the people work that is undertaken in human services work, as this was identified as a distinctive element that led to the development of burnout. Although the role of interpersonal stressors in the concept of burnout remains,

further research has shown that the experience of burnout extends beyond human services professions to many other types of work (Cordes, Dougherty, & Blum, 1997; Leiter & Schaufeli, 1996; Maslach, Schaufeli, & Leiter, 2001). In a review by Schaufeli and Enzmann (p84, 1998) they found that common-job related stressors were more highly correlated with burnout than client-related stressors. This yields support for a broader understanding of burnout as a reflection of particular type of problem with person-environment fit (Maslach et al., 2001).

The development of burnout and relationship between the scales has been explored in several theories and empirical studies (Schaufeli & Enzmann, 1998). Results from empirical studies find a strong relationship of job demands with exhaustion (Schaufeli & Enzmann, 1998). High levels of exhaustion have been found to lead to cynicism (Leiter, 1993; Leiter & Maslach, 1988). Maslach (1982) argued that this is a coping response to manage the effects of high job demands. There is some support for the development of efficacy, as a result of either or both exhaustion and cynicism (B. M. Byrne, 1994; Lee & Ashforth, 1993), as well as developing simultaneously (Lee & Ashforth, 1996). Some studies have found that a lack of resources is more strongly related to efficacy than high job demands (eg. Bakker, Demerouti, Taris, Schaufeli, & Schreurs, 2003).

In addition to the primary causal relationship of burnout by job demands, the impairment of off-job recovery in response to high job demands also contributes to worsening burnout. According to the Effort-Recovery theory proposed by Meijman and Mulder (1998) the quantity and quality of recovery is crucial to enable the psychobiological systems that have been depleted by work to stabilize. If there is insufficient recovery, this can lead to an accumulation of effects further depleting the energy levels of the worker, with resultant impacts on burnout and health (Demerouti et al., 2004).

In terms of stress theory, in many respects burnout corresponds to the medium term "stress-effects" or strain that occur in response to the depletion of personal resources by excessive demands which are widely accepted to be precursors

for longer term serious health problems (c.f. Cox et al., 2000, p. 62; Dollard, 2003a, p. 5). There is support for the relationship of all three components of burnout, exhaustion, cynicism and efficacy, with physical complaints including cardiovascular, musculo-skeletal and somatic complaints (Ahola & Hakanen, 2007; Honkonen et al., 2006; Khamisa, Peltzer, & Oldenburg, 2013). This research also showed strong relationships of burnout with anxiety and depression. The state of current research about the relationship between burnout and depression is described in Section 2.3.3.

The inclusion of burnout in the JDR model provides theoretical and empirical benefits to the study of work stress. However, confining the description of "strain" to burnout has its consequences for the JDR model. Burnout as defined by Maslach, Jackson and Leiter (1996) does not encapsulate all the physical and psychological effects of job stress (Danhof-Ponta, van Veenb, & Zitmanb, 2011; Schaufeli & Enzmann, 1998, p. 38). Also, at this stage there have not been any physiological markers for burnout identified, this limits measurement to psychological characteristics through self-report inventory or more rarely by interview (Danhof-Ponta et al., 2011; Schaufeli & Enzmann, 1998, p. 43). Therefore, the harmful physiological aspects of job stress are at risk of being ignored, and there is limited opportunity to use objective measures to verify subjective evaluation of job stress. Danhof-Ponta et al. (2011) recommend more well-defined patient groups, as well as longitudinal research of biomarkers of burnout. They also recognised that there is substantial variety in the physiological response to burnout within and between individuals which will continue to impact on this research.

The concept of Burnout has been well operationalized by Maslach and Jackson (1981) in the Maslach Burnout Inventory (MBI). The broadening of the definition of the three dimensions of burnout beyond human services work has led to the development of a new version of the MBI, the Maslach Burnout Inventory – General Survey (MBI-GS). In this version references to people work are removed with the focus on the individual's relationship to their work. These three dimensions have been described as follows (Maslach et al., 1996)

- Exhaustion – this refers to a depletion of emotional resources, and loss of energy that leads to the individual feeling they do not have the personal resources to do their work.
- Cynicism – refers to the process of detachment from the job, whereby they develop callous and negative attitudes towards their job, performance and those associated with their job (clients, co-workers). The effect of detachment from people has led to the description of this dimension as depersonalisation by some authors.
- Professional Efficacy – refers to feelings of competence and successful achievement at work as well as expectations of their continued effectiveness at work.

On the MBI-GS if an individual scores high on exhaustion, high on cynicism and low on professional efficacy they are said to be experiencing burnout.

Researchers have investigated burnout in clergy through the use of the MBI, with some studies modifying items to apply them to the clergy context (Hills, Francis, & Rutledge, 2004). An alternative measure of burnout for clergy which focuses on exhaustion (Francis, Kaldor, Shevlin, & Lewis, 2004) has been recently developed and used in research amongst Australian and New Zealand clergy. However, only measuring exhaustion is problematic, it does not consider the response of the person to this exhaustion as it is reflected in their attitude to their work and others (cynicism), and their reduced effectiveness and efficacy (professional efficacy), (Maslach et al., 2001). When a core part of the role of clergy is relating to people and remaining self-motivated in a leadership role, these components of burnout should not be excluded. For this reason this alternative measure was not used in this research.

Measuring burnout enables workers, organizations and researchers to consider the strain of the work environment produced by job demands, and low job resources. This has provided the opportunity to examine the antecedents and consequences of this strain to provide better understanding to inform intervention. Intervention for burnout has used this information to reduce demands, and improve resources both at an individual and organisational level.

Interventions have also sought to improve individual management strategies of the psychological and physical effects of demands. As described by Schaufeli & Enzmann (1998) a broad range of interventions at different levels (individual and organizational) is needed to address the complexity of burnout as it exists in a wide range of work environments.

2.3.3 Major Depressive Disorder

The work environment has been shown to have a major impact on mental health in general, and depressive symptoms in particular (Dragano et al., 2008). The three approaches to psycho-therapeutic intervention for depression with the strongest research evidence base are cognitive behavioural therapy (CBT), interpersonal therapy and behavioural therapy (Barlow, 2008). The effectiveness of these interventions provides support for the theoretical understanding of the basis of depression proposed by these approaches. The development of Major Depressive Disorder (Diagnostic and Statistical Manual of Mental Disorders, 5th ed., DSM-5, American Psychiatric Association, 2013) is seen as a consequence of biological (genetic), environmental and cognitive factors. In CBT temperament, genetically determined, is theorised to interact with the early developmental environment to construct schemas. If these early schemas are maladaptive then this can lead to a vulnerability to depression (Young, Rygh, Weignberger, & Beck, 2008). These schemas are activated in particular settings which can include the work setting, leading to the development of depressive symptoms. In interpersonal therapy depression is seen as related to a current or recent life event impacting on relationships that has led to depression in those that are vulnerable. This can include interpersonal conflict, a role transition, grief or Interpersonal Sensitivity, with the first three most closely related to work. Lastly, behavioural therapy for depression assumes that depression is related to changes in the context of the individual's life in such a way that it provides low levels of positive reinforcement and high levels of aversive control (Dimidjian, Martell, Addis, & Herman-Dunn, 2008). Although, this is often broader, the work context may make a significant contribution to the overall context of an individual's life. In this way, from a variety of theoretical perspectives the contribution of work can be considered as

an important contributor to the development and maintenance of Major Depressive Disorder (American Psychiatric Association, 2013).

The work stress theories provide a basis for understanding the relationship between work and Depression. The DCS, ERI and even JDR theory provide frameworks for understanding the contribution of the work environment to job strain. The JDR model provides further contribution incorporating burnout and engagement as concepts that describe strain and thriving at work that have effects on health and work outcomes.

The relationship between burnout and depression continues to promote research interest. Maslach (1982) proposed that burnout is a pre-cursor to depression occurring as a consequence of reduced self-esteem and efficacy as the individual perceives their reduced personal accomplishment. The conceptual overlap between these two constructs has been noted particularly as the symptoms of burnout increase (Bianchi, Boffy, Hingray, Truchot, & Laurent, 2013; Glass & McKnight, 1996; T. Taris, 2006). There is a correlation between the symptoms of depression and the dimensions of burnout (Schaufeli & Enzmann, 1998), with the highest shared variance for exhaustion, and with less for cynicism and efficacy. Factor analysis with the Maslach Burnout Inventory (MBI) and the CES-D, a self-report inventory for depression, showed the best fit was a three factor MBI and two factor CES-D model (Bakker et al., 2000). This demonstrates a differentiation with regard to self-report measures of these two concepts. Diagnostic studies show the relationship between burnout and Major Depressive Disorder (American Psychiatric Association, 2013), with the likelihood of experiencing Major Depressive Disorder increasing with the severity of Burnout (Ahola et al., 2005). This is consistent with the evidence that suggests that Burnout is a phase in the development of work-related depression (Leiter & Durup, 1994). This is also likely to be a reflection of the diagnostic requirement for depressive disorders that necessitates symptoms to reach a certain threshold of severity for diagnosis (DSM-5, American Psychiatric Association, 2013). In Ahola et al.'s (2005) study approximately half of those with severe burnout were diagnosed with a

depressive disorder. This indicates a potential distinction between these two conditions even when burnout is severe.

An area of difference between burnout and depression that has been made by researchers is the antecedents to the development of these conditions. Warr (1987) suggested that the distinction is that depression is "context free" whereas burnout is work-related. Perhaps an alternative way of describing this is that the aetiology for depression, by definition is not specific to the work context but is broader incorporating biological, psychological, social and political (power relationships) as well as developmental factors. Whereas, the measurement and definition of burnout is focused on the relationship of people with their work. For example, Bakker et al. (2000) found that lack of reciprocity in the personal domain was related to depression (CES-D) whereas lack of reciprocity in the work domain was related to burnout. Although, they concluded that lack of reciprocity at work was not related to depression, their model for testing this included burnout, which they suggest may have mediated the relationship between work and depression. This is consistent with other cross-sectional studies that have found that burnout precedes the development of depression, and mediates the relationship between the work environment and depression (Leiter & Durup, 1994).

As longitudinal studies have been conducted further complexity in the relationship between burnout and depression has been found. These longitudinal results support the theory that burnout precedes depression, as part of the process of developing depression as a consequence of demand resource imbalance. However, reciprocal relationships between depression and burnout have also been found in longitudinal research, for example Ahola and Hakanen (2007). Yet they indicated the path from burnout to depression was stronger than that from depression to burnout. Two recent three wave studies show both the primacy of burnout, and also the reciprocal relationship. Hakanen and Schaufeli (2012) in their 7 year study found that burnout predicted depression over periods of 3-4 years, yet depression did not predict burnout. However, Toker and Biron (2012) found that increases in burnout from one wave to the next predicted increases in depression, the same result occurred for depression

where increases predicted burnout. There was no difference in the effect size for prediction between burnout or depression. How can these apparently conflicting results be understood? Although methodological and analytical differences may explain some of these results, a reciprocal relationship has been found previously (Ahola & Hakanen, 2007). Toker and Biron (2012) suggested that their results could be explained by a loss spiral as burnout and depression impact on each other as described in the Conservation of Resources theory (Hobfoll, 2001). Alternatively, it is possible that a central construct reflected by the common symptoms of burnout and depression is being measured, that increases in response to high demands in the work environment (Bianchi et al., 2013; Schaufeli & Enzmann, 1998, p. 87). The lack of consideration of the work environment as a potential common external cause (third variable, D. A. Cole & Maxwell, 2003, p. 561) is a limitation of both these recent studies as this may have influenced the relationship between depression and burnout.

What is distinctive about burnout is the specific articulation of its construct such as that described in the three dimensions of the Maslach Burnout Inventory (Maslach, Jackson, & Leiter, 1996) which operationalise the proposed impact of work on the individual and their relationship to work. In contrast the diagnostic criteria for depressive disorders focus on the individual, the antecedents for these criteria are not essential for diagnosis, and the reference to work is only in the assessment of impact on functioning (Criterion B, DSM-5; American Psychiatric Association, 2013). One direction of research about burnout and depression has been to focus on the common symptoms of these two conditions (Renzo, Boffy, Hingray, Truchot, & Laurent, 2013). In my opinion, a more productive direction for research is to consider what burnout offers in understanding the development of the severe and serious condition that is required for a diagnosis of a depressive disorder. The unipolar definition of depression has been criticised (Manicavasagar, 2012; Parker & Brothchie, 2009), the multi-dimensional, work-related nature of burnout can provide a rich source of information to inform our understanding about the development of work-related depression.

My research investigates the JDR model as a way of understanding the contribution of the work environment to the development of depression. This model explicitly hypothesises that burnout will mediate the relationship between job demands and depression. The model also proposes that job resources will reduce job demands, and buffer their effects on burnout thereby reducing depression. The fit of this model and contrast with reversed or reciprocal models from wave one to wave two will be investigated, with the inclusion of the effect of job demands and resources. It is anticipated that these findings will contribute to theory and also have practical implications for intervention for both burnout and work-related depression.

2.3.4 Health Problems and Negative Work Outcomes

Job strain and effort-reward imbalance have been demonstrated in previous research to be an independent risk factor for cardiovascular disease (Bosma, Peter, Siegrist, & Marmot, 1998; Dragano et al., 2008; Karasek, Baker, Marxer, Ahlbom, & Theorell, 1981; Van Vegchel et al., 2005). The JDR model proposes that additional demands to psychological demands (DCS) and effort (ERI) will contribute to poor health outcomes. It also proposes that burnout will mediate the effect of these demands on health.

Research on the job characteristics related to job strain shows extensive variability. The usefulness of the JDR model is that it provides a heuristic to organise these job characteristics with the potential to adapt to an organisation or occupation of interest (Schaufeli & Taris, 2014). As this research is considering the occupation of clergy, the mix of job demands and resources relevant for poor health is of interest for both theoretical and practical implications.

As burnout is conceptually related to sustained job strain (Schaufeli & Enzmann, 1998) researchers have hypothesized that the autonomous nervous system (ANS) and the hypothalamus–pituitary–adrenal axis (HPA axis) are involved (Danhof-Ponta et al., 2011). Karasek and Theorell (1990b) connected job strain with physiological consequences that they predicted leads to heart

disease with a particular focus on chronic catecholamine levels. Yet in their meta-analysis Danhof-Pont et al.(2011) (2011) examined 31 studies of biomarkers without finding convincing evidence of biomarkers for burnout, a measure of job strain. They attributed this to several problems of interpreting findings, and stated that it was "too early to say that no relationship of burnout with the stress system and associated factors exist".

Burnout has shown positive correlations with psychosomatic complaints (Schaufeli & Van Dierendonck, 1993) as well as with the frequency of illness (Corrigan, Holmes, & Luchins, 1995). With regard to diagnosis of illness burnout has been identified as a risk factor for cardiovascular disease (Honkonen et al., 2006; Melamed, Shirom, Toker, Berliner, & Shapira, 2006), and musculoskeletal conditions in women (Honkonen et al., 2006). Honkonen et al. (2006) found that the prevalence of CVD for men, and musculoskeletal conditions for women increased with the severity of all three dimensions of burnout.

Schaufeli and Enzmann (1998) described a lack of studies that had investigated objectively diagnosed health indicators and burnout. Although the JDR model is assessed by a survey in my research, more objective health indicators were included in this survey. Respondents were asked how many times they had visited a doctor, required a hospital stay, number of medications and sick leave days in the past 12 months. These measures were combined with a widely used global self-rated health (GSRH) question that has been shown to predict mortality and service utilisation such as hospitalisation and outpatient visits (DeSalvo, Fan, McDonell, & Fihn, 2005; McCallum, Shadbolt, & Wang, 1994) This GSRH question is also used by the Australian Bureau of Statistics in the Australian Health Survey, allowing comparison to prevalence data in the general population. A similar global self-rated health question was asked by Kaldor and Bullpitt (2001) in a survey of 4400 Australian church leaders found a significant relationship between burnout and health.

2.4 Elements of the Motivational Enhancement Pathway

2.4.1 Job Resources (and Personal Resources)

The job demands resources (JDR) model can incorporate a broad range of job resources. Yet, it usually includes resources from the DCS model, job control and social support (Johnson & Hall, 1988; Karasek, 1979), as well as job rewards that are included in the effort-reward imbalance model (ERI, Siegrist, 1996) such as job security, job prospects and esteem.

Job Control according to Karasek and Theorell (1990a) consists of decision authority and skill discretion. Decision authority is defined as the ability to make decisions about when and how tasks will be done in the job. Skill discretion refers to the worker being able to use their skills, and learn new skills in the job (Karasek, 1979). Lack of decision authority was described by Karasek and Theorell (1990b) as contributing to psychological strain as workers experience increased arousal in response to high demands but are unable to respond to increased demands, and cannot take the breaks needed to reduce arousal. They proposed that skill discretion reflects the control over the flow of rewards and challenges related to motivation and learning. Therefore, although closely related they contribute to psychological strain in conceptually distinct ways.

Research of job control was initially focussed on its relevance to job strain and health and has been shown to have direct effects on job strain such as emotional exhaustion, as well as depression, and poor health (Hausser et al., 2010). However, Karasek and Theorell (1990b) also proposed that increased job control would contribute to increased skill utilisation, motivation and productivity. This has been demonstrated in research with the JDR model which has found direct relationships between job control with work engagement, and mediated relationships with positive work outcomes (Bakker & Demerouti, 2007; E. R. Crawford, LePine, & Rich, 2010; Schaufeli et al., 2009).

Social support has been identified as an important work resource that has a direct effect on burnout, psychological well-being and health in both cross-sectional and longitudinal studies (Hausser et al., 2010). Work-related social support is largely measured with regard to supervisor support and co-worker support, and some researchers differentiate between affective and instrumental support from supervisors and co-workers (Baker et al., 1996; Karasek et al., 1998). The direct effects on health due to social support could be related to emotionally induced effects on neuroendocrine functioning or through positive influence on health-related behaviours (Cohen & Wills, 1985).

Reviews of the DCS model have found only weak support for buffering effects of job demands by social support on psychological distress and health outcomes (Hausser et al., 2010). Recently more promising results have been found, through the qualitative matching of demands, resources and outcomes in accordance with the demand-induced strain compensation (DISC) model (De Jonge & Dormann, 2006). In this approach social support is recognised as providing resources across several qualitative domains, cognitive (information and appraisal), behavioural (direct assistance from co-workers) and emotional. Researchers of the DISC model have particularly focussed on the emotional domain when incorporating social support, as a buffer for emotional demands, demonstrating cross-sectional and longitudinal buffering of emotional demands by social support (Feuerhahn, Bellingrath, & Kudielka, 2013).

Research on the JDR model has demonstrated the contribution of work-related social support to work engagement and positive work outcomes (Brough et al., 2013), often in combination with other job resources (Bakker, Van Emmerik, & Van Riet, 2008; Hakonen et al., 2008). Theoretically, self-determination theory (Deci & Ryan, 1985) describes the importance of autonomy, competence and relatedness for well-being and intrinsic motivation. Social support contributes to relatedness providing a sense of belonging, positive affect, and self-worth (Cohen & Wills, 1985). Social support can also contribute to perceived or actual competence, for example, when there is positive supervisor support (Bakker & Demerouti, 2007, p315).

Job rewards have largely been investigated as part of the effort-reward imbalance (ERI) model as a measure of an equitable exchange for the effort expended by workers. There is strong evidence that imbalance between effort and rewards has negative effects on health (Niedhammer, Tek, Starke, & Siegrist, 2004; Van Vegchel et al., 2005). Higher levels of burnout were related to lower levels of work rewards, especially esteem by Basinska and Wilczek-Ruzyczka (2013). Rewards have also been demonstrated as related to elements of the motivational enhancement pathway. Low rewards compared to demands, as represented in the ERI model were found to be negatively related to measures of performance (Feuerhahn et al., 2013). Low rewards have also shown a negative relationship with work engagement (Inoue et al., 2014).

Occupation specific resources identified as relevant for clergy include assisting with relocation (Cotton, 2006), spiritual resources, such as, relationship with God and communication with God (Fiala, Bjorck, & Gorsuch, 2002; Kaldor & Bullpitt, 2001), and intimate social support (Whetham & Whetham, 2000). Preparation for ministry is another area that has been suggested as a potential job resource (Kaldor & Bullpitt, 2001). This includes the level of education, as well as previous voluntary or paid positions in ministry roles (pre-ordained leadership) prior to their position as a congregational leader.

Cotton (2006) identified the negative effects that frequent relocation has on Salvation Army Officers. Cotton implemented a range of organisation resources to seek to address this demand, demonstrating beneficial short term and long term effects of these resources in reducing the psychological distress of relocation. In my study the resource of job control is extended to relocation, asking participants the level of control over the timing and location of relocation. Increased control over relocation is expected to be related to increased work engagement.

Spiritual resources for clergy are best defined as personal resources as described in Conservation of Resources theory (Hobfoll et al., 2003). Hobfoll et al. (2003) described personal resources as "aspects of the self that are generally linked to resiliency". To extend this description to spiritual resources

instead of the primary referent as the self (eg. self-efficacy), the primary referent in spiritual resources is to the sacred (Bickerton, Miner, Dowson, & Griffin, 2014). Therefore, spiritual resources through reference to the sacred are proposed to improve resilience. For example, spiritual resources provide clergy with a sense of control and confidence in their capacity to successfully respond to stressors through the esteem, care and support of God.

A measure of care, esteem and support from God is the God Support Scale (Fiala et al., 2002). In the cross-sectional research of Fiala et al. (2002) this scale was related to lower rates of depression and higher rates of life satisfaction, even when the contribution of social support and church attendance were statistically controlled.

In addition to support from God, another spiritual resource identified as a crucial resource for clergy is communication with God through prayer and bible reading (Chandler, 2009). Prayer and bible reading have been related to lower burnout, better mental health and general health (Kaldor & Bullpitt, 2001; Meisenhelder & Chandler, 2001; Turton & Francis, 2007). Spiritual resources, particularly measures similar to the God support scale that include attachment, have been found to have a positive relationship with work engagement over time (Bickerton, Miner, et al., 2014). Bickerton et al. (2014) suggested that spiritual resources contribute to work engagement by increasing the meaningfulness of tasks such as contributing to the spiritual development of congregants, as well as the perceived ability to accomplish this (Rothmann & Buys, 2011). This suggests that spiritual resources may also be related to positive work outcomes, such as self-rated performance. Personal resources have been included in the JDR model with research demonstrating a longitudinal relationship between these resources and work engagement, as well as the moderation of the effect of job demands on burnout, and job resources on work engagement (Van den Broeck, Van Ruysseveldt, Smulders, & De Witte, 2011; Xanthopoulou, Baker, Heuven, Demerouti, & Schaufeli, 2008).

Intimate social support, characterised by openness about personal, work or spiritual struggles with another person, has also been found to have a negative relationship with burnout (Chandler, 2009; Hobfoll et al., 2003; Kaldor & Bullpitt,

2001). This resource is particularly relevant for Clergy as many report feeling isolated and need to remain in-role in most social relationships (Cotton, Dollard, De Jonge, & Whetham, 2003). Therefore, this resource meets the need for relatedness, if the source of intimate social support is in the workplace this may lead to increased intrinsic motivation as argued by Schaufeli & Bakker (2004). Intimate social support has the potential as with other forms of social support to contribute directly to well-being through improved self-worth, positive affect, and the potential for an emotionally induced effect on the neuroendocrine system (Cohen & Wills, 1985). This effect may also be related to the buffering of job demands through emotional support that assists with negative emotional states and contributes to increased self-worth. This can lead to a change in the worker's appraisal of the work problem and their capacity to respond successfully (Cohen & Wills, 1985; De Jonge & Dormann, 2003, p. 56).

Preparation for ministry including formal education has been found to have a negative relationship with burnout (Kaldor & Bullpitt, 2001). This suggests that this resource may reduce job demands and the associated physiological and psychological costs, which is one of the elements of a job resource as defined by Schaufeli and Bakker (2004). Higher levels of preparation for ministry are also likely to support achievement of ministry goals because of the skills and knowledge gained through experience and training. Professional development is usually identified as a job resource. For these reasons although this resource is not a current job characteristic it appears to best fit as a job resource.

2.4.2 Work Engagement

There is no doubt there is a significant work stress problem in many occupations that also exists amongst clergy. However, to focus exclusively on the problem of work stress ignores the many benefits of work. Those who are engaged in paid work, can experience many benefits including financial remuneration, status, social connection, intellectual stimulation, and self-efficacy and positive mood (Jahoda, 1981). This in turn can have a positive impact on their family, relationships, and community.

In considering the aims of work stress research we need to go beyond negatively framed goals such as prevention or amelioration of such things as burnout or poor health. Rather we need to include goals that have their focus on assisting workers to be engaged in their work, and perform healthy and productive work. This can be achieved to some degree by researching factors that detract from these positive goals. However, an area of research that has been developing is investigating those factors that directly contribute to work engagement and positive work outcomes.

The conceptualisation and investigation of work engagement has been developing since the 1990s. There are two main conceptualisations of work engagement that have developed. The first is centred around the conceptualisation of burnout as the erosion of engagement. Based on this understanding work engagement was defined as an energetic state of involvement with personally fulfilling activities that enhance one's sense of professional efficacy (Maslach et al., 2001). Maslach and Leiter (2008) proposed that work engagement and burnout are on a continuum with three dimensions: exhaustion – energy, cynicism – involvement, inefficacy- efficacy. Therefore, measurement of work engagement can be conducted with the Maslach Burnout Inventory (Maslach et al., 2001) with those low on exhaustion, cynicism, and high on efficacy defined as experiencing work engagement. Maslach et al. (2001) discriminated work engagement from concepts such as job satisfaction which reflect the degree to which the job meets the individual's needs. Instead, work engagement is focused on the relationship of the worker to the job.

Schaufeli and Bakker (2004) suggested an alternative conceptualisation of work engagement. They described work engagement as the opposite of burnout, but see it as a negatively correlated, yet independent construct to that of Burnout. This conceptualisation is consistent with research emphasising the distinct yet related aspects of negative and positive affect (Russell & Carroll, 1999; Huppert and Wittington, 2003). Schaufeli and Bakker believed that separating the measurement of the concept of engagement from burnout provided the opportunity to investigate the relationship between these two concepts. They

disputed that the absence of burnout, necessarily indicated that the worker was experiencing engagement.

The three components of work engagement proposed by Schaufeli and Salanova (2007, p9) are:

- Vigour – characterised by high levels of energy and mental resilience while working, the willingness to invest effort in one's work and persistence even in the face of difficulties.
- Dedication – represented by being strongly involved in one's work and experiencing a sense of significance, enthusiasm, inspiration, pride and challenge.
- Absorption – reflected in an individual being fully concentrated, and happily engrossed in one's work, whereby time passes quickly and one has difficulties with detaching oneself from work.

The first two components, vigour and dedication, are conceptualised as the direct opposites of exhaustion and cynicism respectively. The original scales for vigour and dedication were positively worded questions from the respective scales of exhaustion and cynicism on the Maslach Burnout Inventory (MBI, Maslach et al., 1996). The last dimension "absorption" replaces that of efficacy as Schaufeli and Bakker (2003) identified that the construct of absorption better characterised engagement following interviews and discussions with engaged employees and supervisors. These components have been operationalised in the Utrecht Work Engagement Scale (UWES, Schaufeli & Bakker, 2003).

There is considerable debate regarding these two conceptualisations of Work Engagement. Cole, Walter, Bedeian and O'Boyle (2012) in their meta-analysis claimed that engagement as measured by the UWES is not distinct from Burnout as measured by the MBI. Whereas, Schaufeli (2013) argues that psychometric studies do not support a single factor, rather that the UWES and MBI assess separate constructs.

Cynicism has been used in some research of the JDR model as a measure of disengagement (Bakker et al., 2008; Demerouti et al., 2001). These researchers

have found support for the measurement of disengagement by cynicism as they found it had a primary relationship with resources (lack of), compared to the relationship of exhaustion with job demands. They also found that cynicism mediated the relationship between job resources and objective team performance. Despite these findings, the majority of research with the JDR has shown that the antecedents for burnout and work engagement are distinct (Schaufeli & Taris, 2014). This supports the theoretical basis of the two pathways, the energetic process (Hockey, 1997) and the motivational process (self-determination theory, Deci & Ryan, 1985). The JDR research and theories suggest that the development of cynicism although primarily a coping strategy in response to energy depletion, is also influenced by the presence of resources which impacts on the choice of coping strategy (active or passive) of the worker.

In this research the UWES was used to investigate work engagement as this is theoretically consistent, provides the opportunity to examine the relationship between the two pathways, and is supported by research of the JDR as a robust approach to measuring work engagement.

2.4.3 Positive Work Outcomes

Since the conceptualisation of the JDR model, the relationship between job resources, work engagement and work outcomes have been examined. Schaufeli and Bakker (2004) proposed that through a process of intrinsic and extrinsic motivation job resources would lead to work engagement, that would in turn yield increased employee retention and productivity. Their study found that work engagement indeed mediated the relationship between job resources and turnover intention. The elucidation of a mechanism whereby job characteristics contribute to work outcomes is a valuable contribution to work stress theory and job design. In particular it increases the relevance of considering the work environment for business as it includes consideration of worker health as well as the impact on productivity and profit.

There has now been a wide range of studies that have demonstrated the relationship between work engagement and work outcomes. These outcomes include extra-role performance, organisational commitment, positive work-home

interference, sales performance and innovativeness (Bakker et al., 2004; Bakker & Geurts, 2004; Bakker et al., 2008; Boyd, Bakker, Pignata, & Winefield, 2011; Hakanen et al., 2008).

There are only a few studies that have examined job characteristics and their relationship to work outcomes for clergy. Cotton (2006) found strong support for the relationship of all three work engagement scales of the UWES (Schaufeli, Bakker, & Salanova, 2006) with resignation intention and self-rated performance. Similarly, Wildhagen, Mueller and Wang (2005) found that the job resource, job security, was related to job search by clergy. This relationship was partially mediated by job satisfaction.

Positive work outcomes are relevant for clergy, for example, retention and working productively is crucial for clergy and the congregations they lead. The effect of work engagement on work outcomes in other occupations reveals a range of outcomes that are important for clergy as well, innovativeness, organisational commitment, positive work-home interference and performance. Therefore, examination of the motivational enhancement pathway in Australian clergy will make a valuable contribution to understanding the development of work outcomes among clergy as well as inform intervention to improve these outcomes.

Chapter 3

Aims and Hypotheses

This research has the following aims:

1. To provide a recent assessment of the demands, resources, burnout, engagement, health problems and work outcomes experienced by clergy and where possible compare this assessment with other clergy and occupations.
2. To examine the job demands resources (JDR) model with general and occupationally specific demands and resources in a clergy sample, and evaluate how well it explains the results obtained from the sample.
3. To investigate the relationship between job characteristics, burnout and depression over time.
4. Provide recommendations regarding interventions to improve clergy well-being based on the findings of the research project.

Study 1 will examine Aim 1 and 2. Study 2 will examine the Health Impairment Process in Time 1 and 2 (Aim 2), as well as Aim 3. Both studies will provide information relevant to Aim 4.

As described in the discussion of the JDR theory, this theory generates a number of hypotheses about the relationships between the different components of the model. In order to explore Aim 3, specific hypotheses related to depression, consistent with the Job Demands Resources theory have been included. These hypotheses are outlined in Table 3.1

Table 3:1 Job Demands Resources Theory - Hypotheses

<i>Health Impairment Process</i>
Hypothesis 1a: Job demands are positively related to burnout.
Hypothesis 1bi: There is a positive relationship between burnout and health problems.
Hypothesis 1bii: There is a positive relationship between burnout and depression symptoms.
Hypothesis 1ci: There is a positive relationship between job demands and health problems.
Hypothesis 1cii: There is a positive relationship between job demands and depression symptoms
Hypothesis 1di: Burnout will mediate the relationship between job demands and experienced health problems.
Hypothesis 1dii: Burnout will mediate the relationship between job demands and depression symptoms.
<i>Motivational Enhancement Process</i>
Hypothesis 2a: Job resources are positively related to work engagement.
Hypothesis 2b: There is a positive relationship between engagement and positive work outcomes.
Hypothesis 2c: There is a positive relationship between resources and positive work outcomes.
Hypothesis 2d: Engagement will mediate the relationship between resources and positive work outcomes.
<i>Cross-links between the processes</i>
Hypothesis 3a: Job demands are negatively related to resources
Hypothesis 3b: Burnout has a negative relationship with engagement
Hypothesis 3c: Health problems are negatively related to positive work outcomes.
Hypothesis 3d: Resources are negatively related to burnout.
Hypothesis 3e: Burnout is negatively related to positive work outcomes.
Hypothesis 3f: Resources will buffer the relationship between job demands and burnout.
Hypothesis 3gi: Resources will buffer the relationship between job demands

and health

Hypothesis 3gii: Resources will buffer the relationship between job demands and depression symptoms

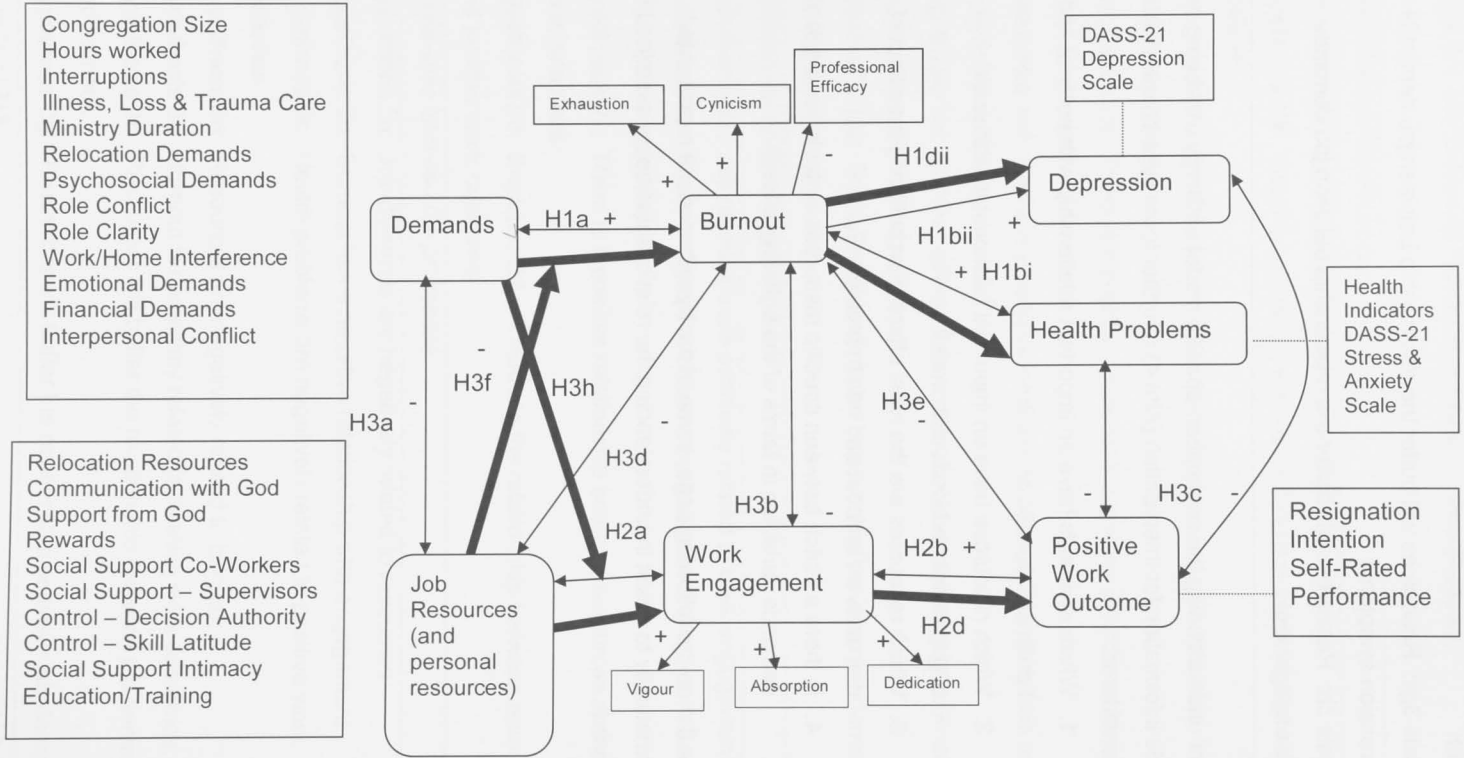
Hypothesis 3h: Resources will buffer the relationship between job demands and work engagement.

As part of understanding the occupation-specific model of Clergy well-being and to provide information for intervention (Aim 4) a further four research questions will be considered.

1. Which demands have an important relationship with burnout and health problems?
2. Which resources have an important relationship with work engagement and work outcomes?
3. Which resources are the most effective at buffering the effect of demands on burnout and health problems?
4. Is there a match between specific resources variables and specific demands variables in terms of the buffering effect?

In Figure 3.1 on the following page, some of the hypotheses are represented diagrammatically to assist in understanding the relationships being examined in this research.

Figure 3.1 Hypotheses



Note: Larger arrows indicate a mediation or interaction hypothesis. Double arrows show hypotheses that predict a two-way relationship (correlation).

Chapter Four - Study One

4.1 Introduction

This first study of work stress and well-being in clergy provides a cross-sectional investigation of the job demands – resources model. A survey was designed incorporating demands and resources from the DCS and ERI theories (Karasek, 1979; Siegrist & Peter, 1997) as well as those specific to this occupation. This study will also provide the opportunity to compare with previous research of clergy and other occupations to consider the state of work stress and well-being in clergy.

4.2 Method

Design

A survey was designed to include questions for the job demands, job resources and health and work outcomes variables. The majority of variables were assessed using established survey questions and inventories. Where established questions were not identified suitable questions were developed. The questions in the survey were primarily quantitative, the benefit of this type of questions is the opportunity to establish the validity and reliability of the questions and therefore make conclusions about the results with reasonable confidence. However, these questions at times do not provide the opportunity for the participants to adequately describe their experiences, or provide new information that was not identified in previous research. Therefore, qualitative questions were also included for key areas of interest in the survey.

The survey was delivered primarily in a web-based format. It was conducted during the period of April – June, 2010. The research comparing web-based to pencil and paper surveys indicates that online data is valid and reliable (Meyerson & Tryon, 2003). It also indicates that the findings from web-based research are consistent with those utilising pencil and paper methods (Gosling, Vazire, Srivastava, & John, 2004). The web-based format of the survey

provided for the efficient use of available resources, to obtain a large number of participants. One of the aims of this study is to investigate the job demands resources model as it applies to clergy across denominations. Through conducting a web-based survey this was more achievable. Participants were provided with an opportunity to receive a paper version of the survey. In the first study three paper surveys were sent out when requested, two were returned.

Participants

The participants in the survey were primarily drawn from four major denominations in NSW and the ACT. These were the Association of Baptist Churches NSW/ACT, Uniting Church, Anglican Church and Catholic Church. There were also a small number of participants from other churches. The majority of participants were invited to participate through an email from their denomination. Some were invited through a monthly newsletter distributed in paper form by their denomination. The Catholic Archdiocese of Sydney was an exception, as they agreed to a direct email to priests in the Archdiocese but were not willing to send it through their office. Also, an invitation was sent through the Ministry Training Strategy to 267 of those that had completed the apprenticeship. The response rate from these graduates is expected to be lower as some of those that completed the apprenticeship may not have gone on to take up theological studies and work as clergy.

All of the participants were Christian leaders involved in congregational ministry. Participants were asked "Are you an ordained Minister or Priest, working in a congregation?". Those that answered yes to this question were included in the analysis. Those that answered no to this question but were identified from their description of their role as the leader of a congregation or Christian university group were also included.

Demographic items

Items included for demographics of the participants were age, gender, marital status, and number of dependent children.

Job Demands Variables

Hours worked

The number of hours worked was measured through several questions. The first asked whether the participant was full-time or part-time. If the participant worked part-time a second question was asked about the number of hours they were contracted to work, and the third question asked the number of hours worked each week for both part-time and full-time clergy. In this way the hours worked were able to be measured, with regard to the part-time and full-time roles of the participant and their contracted hours. The fourth question asked the frequency of interruptions to "day(s) off". This question sought to clarify the extent that the on-call nature of the position was impacting on the participant.

Congregational characteristics

The characteristics of the current congregation were assessed. Participants were asked to provide a number for the size of the "congregations of your church or parish?".

The location of the congregation was assessed by four choices modified from the Australian Bureau of Statistics definition (Australian Bureau of Statistics, 2001):

1. Rural (population of largest township is less than 1000)
2. Small regional (population of largest township is 1,001 to 20,000)
3. Large regional (population of largest township is 20,001 to 99,999)
4. Urban (population of largest township is 100,000 plus)

The denomination of the clergy was assessed by participants selecting from the four main denominations that participated, Baptist, Anglican, Catholic, Uniting or specifying their denomination if these did not apply.

Frequency of care for those experiencing loss and trauma

The frequency that clergy assist those that are experiencing loss and trauma was assessed with two questions. The first question asked for the frequency that clergy assist those that are experiencing life-threatening injury, illness or loss of a loved one. The second question asked "How frequently do you assist those that have experienced trauma?". There were 7 options for response which were: never, a few times a year or less often, once a month or less often, a few times a month, once a week, a few times a week, and every day. These two questions sought to investigate the emotional demands related to the frequency of contact with those experiencing loss and trauma. These two questions were summed to form the care frequency variable.

Ministry duration

This was assessed through a single question which asked the number of years that the participant had been "an ordained minister or priest (or pastor of a church)?"

Relocation demands

The participants were asked how many times they have changed church or parish since they were ordained as a minister or priest. This information was combined with their duration in ministry to calculate the average parish duration for each participant.

Psychological demands

Psychological demands were assessed through the use of the Job Capacity Questionnaire (Karasek, 1997). The subscale of the questionnaire that was included in this study to assess psychological demands was the Psychological Job Demands subscale. This included questions related to "work fast", "work hard", "conflicting demands", "tasks interrupted" and "wait on others". The response options were (1) strongly disagree, (2) disagree, (3) agree, (4)

strongly agree. Therefore, this scale is particularly a measure of workload or task overload.

Role Conflict and Role Clarity

This was assessed using the Role Conflict and Role Clarity subscales of the Copenhagen Psycho-Social Questionnaire II (T. S. Kristensen, Hannerz, Høgh, & Borg, 2007). The Copenhagen Psychosocial Questionnaire (COPSOQ) is a tool developed at the National Research Centre for the Working Environment in Denmark with the aim of assessing and improving the psychosocial work environment.

The scales from the medium size questionnaire were used in this study. The questions in the role clarity scale include "do you know exactly how much you have at work" and "does your work have clear objectives". The questions in the role conflict scale include "are contradictory demands placed on you at work" and "do you do things at work, which are accepted by some people and not by others?". The response options were (100) to a very large extent, (75) to a large extent, (50) somewhat, (25) to a small extent, (0) to a very small extent. The questions from each scale were summed to form the role clarity scale, and the role conflict scale.

Work/Home Interference

In order to assess the effect of work home interference on the clergy that participated in this study the Negative Work Home Interference subscale of the SWING questionnaire (Geurts et al., 2005) was used. This scale was significantly correlated with higher levels of job pressure, and lower levels of job control and job support in the research by Geurts et al. (2005). In their study this scale had a Cronbach's alpha of 0.84 and contains 8 items. These items assess the impact of work on areas such as irritability at home, leisure activities, time and energy for social interaction. For example, "you have to work so hard that you do not have time for any of your hobbies?", and "your work obligations make it difficult for you to feel relaxed at home?". The response options were (1) practically never, (2) sometimes, (3) often, (4) practically always. The

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average of the sum of the 8 items formed the negative work home interference scale.

Emotional Demands

To measure the emotional demands of clergy the Frankfurt Emotion Work Scale (FEWS-15e, Zapf et al., 2006) was used in this study with the two subscales: display of positive emotions, and emotional dissonance. These scales were found to have the strongest relationship with burnout, particularly the emotional exhaustion scale of the Maslach Burnout Inventory (Zapf et al., 1999). For example from the first scale, "how often in your job do you have to display pleasant emotions towards people (i.e. friendliness or kindness)?", and from the second scale "how often in your job do you have to suppress emotions in order to appear "neutral" on the outside?". The response options were (1) very rarely/never, (2) rarely (once a week), (3) sometimes (once a day), (4) often (several times a day), (5) very often (several times an hour). The average of the sum of the items for each scale formed the display of positive emotions scale, and the emotional dissonance scale.

Financial Demands

In order to assess the impact of financial demands two questions were asked, one focussed on personal finances and the other on church finances. The first question used was "Thinking back over the past 12 months, how often have you had serious financial concerns in regards to your church finances". The second question "church" was replaced with "personal". The participants were asked to respond: (1) always, (2) frequently, (3) occasionally, (4) rarely, (5) never.

Participants were also asked to provide their individual weekly income before tax.

Congregational tensions were identified by Cotton and her colleagues (2003) as one of the major stressors for clergy. In order to assess this demand four questions were designed. Firstly, the concept of interpersonal disputes was defined as disputes between the clergy member "and others within your congregation, staff, or denomination where there is a serious difference of opinion". The first question, "How often have you experienced interpersonal disputes in your work" assessed the frequency of conflict. The response option was (4) frequently (at least monthly), (2.66) regularly (at least every 3 months), (1.33) infrequently (at last every 6 months), (0) rarely (at least every 12 months).

The second and third questions assessed the severity of the conflicts. The second question was "What proportion of these disputes have been satisfactorily resolved?" with the response options (4) very few (0-30%), (2.66) some (31-50%), (1.33) majority (51-70%) and (0) most/all (71-100%). The third question was "How long on average have the disputes lasted", with the response options (0) 1 day, (1) 1-7 days, (2) up to a month, (3) up to a year, (4) more than a year.

The fourth question, "How confident are you in your ability to resolve interpersonal disputes satisfactorily?" assessed the subjective evaluation by the clergy member about their capacity to resolve disputes. The response options had an anchor at each end with numbers from 1-5, (1) very confident to (5) not at all confident. The response to all four items were added and then divided by four to calculate the scale score for a respondent on the interpersonal disputes scale.

Qualitative questions

Clergy had the opportunity to provide written responses to the open question "What aspects of your ministry do you find the most demanding?". A sample of these responses will be provided to complement the quantitative data. Formal

qualitative analysis of these responses will not be undertaken as part of this research.

Job Resources (and Personal Resources) Variables

Relocation control

As indicated by the DCS theory of work stress (Karasek & Theorell, 1990b), job control is an important resource for managing job demands. Therefore, the two questions used to assess relocation resources focussed on the level of control over the timing and location of the last move the clergy had made. These were "How much control did you have over the timing of your move to your current position?" and "How much control did you have over the location that you moved to for your current position?". The response option for these two questions was a scale from 0-5, (0) no control to (5) complete control. These scales were summed to form the relocation control variable.

Rewards

The rewards subscales of the Effort Rewards Imbalance questionnaire (Siegrist, 2007) were used to assess the level of rewards Clergy were experiencing. There were three subscales in this questionnaire, job security, job promotion and esteem. There were two questions about job security, four questions about job promotion such as job promotion prospects, the adequacy of salary, and work prospects. The esteem scale had five questions about the respect received from others at work. The questions were scored so that a higher score indicated higher rewards on each scale. Some questions were stated positively with the response option (5) agree, (4) disagree, but I am not at all distressed, (3) disagree, and I am somewhat distressed, (2) disagree, and I am distressed, (1) disagree, and I am very distressed. Other questions were stated negatively with the response option (5) disagree, (4) agree, but I am not at all distressed, (3) agree, and I am somewhat distressed, (2) agree, and I am distressed, (1) agree, and I am very distressed.

Social Support

Support from supervisors and work colleagues has been identified as a critical factor in the health outcomes for workers (Johnson & Hall, 1988). The supervisor support and co-worker support subscales of the Job Content Questionnaire (Karasek, 1997) were included in the survey to assess the level of support clergy were experiencing. Feedback from clergy indicated that some clergy found responding to the supervisor support questions difficult because they did not have an active supervisor of their work. Clergy were given the option of not responding or responding not applicable to the supervisor support questions. These two scales have four questions each, an example of a question from the co-worker support scale is "people I work with are competent in doing their jobs". One of the questions from the supervisor support scale is "my supervisor is concerned about the welfare of those under him/her?". The response options were (1) strongly disagree, (2) disagree, (3) agree, (4) strongly agree. The items for each scale were summed to form the co-worker support scale and the supervisor support scale.

Social Support Intimacy

An important resource for clergy that has been identified is that they have people with whom they are able to be emotionally open with (Whetham & Whetham, 2000). Participants were asked "Do you have one or more people with whom you can be completely open with about your personal, work or spiritual struggles?". The response option for this question was (1) yes, and (0) no. For those that answered yes they were asked to indicate from a list those that they were able to be open with including: friend within the congregation and outside the congregation, spouse, other clergy, and family member. Whetham and Whetham (2000) found that close relationships within the congregation were a good indicator of the health of the clergy.

Control

Job control is defined as being made up of two aspects, decision authority and skill discretion (Karasek & Theorell, 1990b). Decision authority is the ability to make decisions about when and how tasks will be done in the job. For example, "my job allows me to make a lot of decisions on my own". Skill discretion refers to the ability to use your skills, and learn new skills in the job. For example, "My job requires that I learn new things". These two subscales of the Job Content Questionnaire (Karasek, 1997) were included in the survey in order to establish the level of job control clergy perceived they had in their role. The response options for the questions on these scales were (1) strongly disagree, (2) disagree, (3) agree, (4) strongly agree. The scales were constructed according to the guidelines in the JCQ User's Guide (Karasek, 1997).

Education and Prior Work Experience

The level of education and prior work experience for the position of clergy was assessed to determine whether this is a resource for clergy. Participants were asked "What is your highest level of academic preparation for the ministry" with options (1) Certificate/Diploma, (2) Bachelor/Honours degree, (3) Masters degree, (4) Doctorate and (5) Other. The second question was "Have you been involved in a Christian leadership or ministry position prior to being ordained as a minister". The response option was (1) yes, and (0) no. Those that answered yes were asked to describe what this role(s) was.

Qualitative questions

Clergy had the opportunity to provide written responses to three open questions about the resources they draw on in their work. The first two questions were about job resources. The first question was "What support from others is most helpful in your role?" The second question was "What aspects of ministry do you find most rewarding?" A sample of these responses will be provided to

complement the quantitative data. Formal qualitative analysis of these responses will not be undertaken as part of this research.

Personal Resources

Communication with God

Devotional practices and religious experiences were found by Kaldor and Bullpitt (2001) to explain 18% of variation in burnout risk scores in their survey of Australian Christian leaders. Their conclusion was that active involvement in these practices and professed experiences of God is a resource that leads to lower risk of burnout. In Study One this area was assessed through two questions from the National Church Life Survey, which is the basis for Kaldor and Bullpitt's (2001) findings. The first question was, "What is your general pattern of prayer" with the response choices (1) In times of stress, need or gratitude, (2) at a set time daily, or (3) both at a set time and spontaneous. The second question was, "How frequently do you engage in private bible reading?" with the response choices (4) daily, (3) few times weekly, (2) weekly, and (1) occasionally.

Support from God

In addition to devotional practices the other area considered as a resource which is specific to this occupation is the subjective experience of support from God. Fiala, Bjorck and Gorsuch (2002) found that "support from God" was related to lower depression levels and greater life satisfaction. Three questions related to support from God were used from the God Support subscale of the Religious Support scale they developed (Fiala et al., 2002). For example, "God cares about my life and situation". The response options were (1) strongly disagree, (2) disagree, (3) unsure, (4) agree, and (5) strongly agree.

Qualitative questions

The final open question that clergy had the opportunity to provide written responses to was about personal resources "In what ways does your relationship with God help you with the demands of ministry?" A sample of these responses will be provided to complement the quantitative data. Formal qualitative analysis of these responses will not be undertaken as part of this research.

Outcome Variables

Burnout

Burnout symptoms were assessed using the Maslach Burnout Inventory – General Scale (Maslach et al., 1996). All three scales, exhaustion, cynicism and professional efficacy were included in the survey.

Work Engagement

The Utrecht Work Engagement Scale (Schaufeli & Bakker, 2003) was used to assess Work Engagement. This includes the three scales vigour, absorption and dedication.

Depression

The Depression, Anxiety, Stress Scale (DASS, Lovibond & Lovibond, 1995) was used to assess the severity of psychological symptoms experienced by clergy. This is a scale that measures the severity of symptoms in these three areas, and provides meaningful discrimination between these three related states. It is also a useful scale for measuring current state and change in state over time.

Health Indicators

In addition to the use of the DASS to assess the severity of psychological symptoms a range of other health-related questions were used to assess the overall health of respondents. The question used to determine self-assessed health status was, "In general, would you say your health is: Excellent, Very Good, Good, Fair or Poor?". This question was originally formulated for the Short Form 36 (SF36, J.E. Ware, Snow, Kosinski, & Gandek, 1993). The responses were scored (1) Excellent, (2) Very Good, (3) Good, (4) Fair, (5) Poor. As higher scores indicate poor health this variable is referred to as general health (poor) in the analyses to ensure the meaning of higher scores is accurately interpreted.

Further health indicators included the number of prescribed medications taken in the past 12 months, stays in hospital over the past 12 months, visits to the doctor in past 12 months, days off work due to illness or injury in past 12 months, how many days a week they engaged in physical activity for 30 minutes or more, and whether the participant had sought professional counselling in the past 12 months.

Turnover

In order to assess the potential for turnover participants were asked "In the past 12 months how often have you considered resigning from the ministry". The response options were (1) never, (2) sometimes, (3) often, and (4) frequently. Turnover intention has been found to be a consistent predictor of actual turnover (Laker, 2011; Mobley, Griffeth, Hand, & Meglino, 1979). However, studies have found that actual turnover rates are lower than turnover intention (Dollar & Broach, 2006).

Self-rated performance

An objective assessment of performance was not possible for this study. In order to obtain an indication of performance, participants were asked "Please

rate your performance over the past 12 months?". The response options were (1) poor, (2) below average, (3) average, (4) good, (5) excellent.

4.3 Results

The results are structured to facilitate examination of the stated aims of the research (Chapter 3). Participant demographic information is provided, and then the results with regard to aim one are described. Aim one was to "To provide a recent assessment of the demands, resources, burnout, engagement, health problems and work outcomes experienced by clergy and where possible compare this assessment with other clergy and occupations."

In order to provide meaningful consideration of these variables the correlation between variables will also be considered. This allows consideration of aim two, an examination of the JDR model with regard to the relationships between variables. Separate correlation tables are provided as they relate to the hypotheses. Full correlation tables are provided in appendix two. These tables also include Cronbach's alpha for each of the scales. The results section concludes with analysis of the hypotheses of the JDR model regarding the mediation (section 4.4) and moderation (section 4.5) of the relationships between the work environment (demands and resources) and health and work outcomes.

Response rate and representativeness of the sample

There were 23 incomplete surveys, a further 24 were excluded as their employment did not meet the criterion of congregational leader used in this study. This left 283 respondents.

The response rate varied depending on the denomination surveyed and the method of invitation for the survey. Table 4.1 shows the response rate by invitation method and denomination.

**Table 4.1 Response Rate by Denomination and Method of Invitation
(n=282)**

Invited by Diocese/Denomination			
Denomination	Respondents	Number invited	% Response Rate
Anglican	76	224	34%
Baptist	105	400	26%
Uniting	35	209	17%
		Sub total	26%
Invited by Diocese and/or other form of invitation			
Catholic (invited by Diocese)		225	
	24		6%
Catholic Sydney Arch-Diocese (directly invited)*		159	
MTS Past Trainees **	31	267	12%
		Sub total	9%
Other Denominations***	11	11	
		Overall	19%
		Response Rate	

Note: One missing response for total of 283 participants

* Catholic priests in the Sydney Arch-Diocese were directly contacted by an email to each church email address. It is not possible to determine what proportion of Catholic priests that responded were those invited by their Diocese or contacted directly.

**Ministry Training Strategy contacted all the past trainees that they had a record of, to invite them to participate in the survey. Many of these have not gone on to become congregational leaders or are currently still in training. Therefore, they are not able to participate in this study. A small number of those that responded may also have been invited by their denomination.

*** The method of invitation is uncertain for the 11 participants that were not from one of the invited denominations and were not MTS Past Trainees. It is likely that they were forwarded the invitation by other Clergy. Therefore, the number invited was estimated as 11.

The response rate for the three denominations where participants were invited by their denomination was 26%. The response rate for the Catholic priests was much lower. One reason for this would have been the method of invitation, as those in the Sydney Arch-Diocese were not provided with a letter of support from the denomination. The response rate for past MTS trainees was much

lower, many of those invited were not currently congregational leaders and therefore not able to participate in this study.

The overall response rate of nineteen percent is more than one standard deviation below the mean of published organisational research ($M = 52.7$, $SD = 21.2$, Baruch & Holtom, 2008). However, a sample of published research with clergy shows response rates of 26% (Beebe, 2007), 33% (Dowson, Miner, Nelson, & Sterland, 2005) and 66% (Miner, Dowson, & Sterland, 2010). Therefore, the response rate of those invited by their denomination is at least close to that of other published research for clergy. Given the number of those that responded that were not congregational leaders (24), it is likely that there was a reasonable proportion invited by denominations that were not suitable for this study and identified this from the invitation email. Previous research does not indicate that a web-based survey significantly reduces the response rate compared to traditional mail surveys (Baruch & Holtom, 2008). A small number of participants accepted the option to do a paper version of the survey. For all respondents this survey was voluntary and not a job requirement. One of the major factors that is likely to have impacted on the response rate is the length of the survey (30-40 minutes to complete). This is partially supported by the number of incomplete surveys (23). The other major factor is that requests by many surveyors could contribute to respondent burden and thus decrease the response rate. A number of Anglican and Catholic Diocese declined to participate in the survey for this reason.

Non-Response Bias Analysis

Rogelberg and Stanton (2007) recommend conducting non-response bias analysis regardless of the response rate to ascertain the impact of non-response bias. Rogelberg et al. (2003) found that the majority of non-respondents were passive non-respondents that were willing to undertake the survey but for various reasons including forgetting, losing the survey and running out of time due to other commitments, they did not complete the survey. They found that these respondents did not differ on job satisfaction or other related variables. They suggested that passive non-respondents can be an issue if the focus of the survey is related to workload. As this is the case with

this survey there is a potential that some of those that did not respond did so due to workload. One method of analysis of non-response is to examine when respondents filled in the survey, referred to as wave analysis. In this way those that responded later to the survey may be similar to the passive non-responders that actually did not respond to the survey.

A correlation of the date and time of completion of the survey with job demands, burnout, work engagement, depression, and general health was conducted. This showed that there were three significant small correlations. The first correlation with age showed that older clergy responded earlier to the survey than younger clergy ($r = -.30, p < .01$). The second showed that those with higher efficacy responded earlier ($r = -.14, p < .05$). If this linear relationship is extrapolated it may mean that non-responders had lower efficacy than responders. The third correlation showed that those with higher psychological demands responded later ($r = .20, p < .01$). As this scale primarily measures workload this is consistent with the research of Rogelberg et al. (2003) into reasons non-responders provide for not completing a survey. The effect size (r^2) for the relationship between psychological demands and date and time completed is .04. Therefore, this wave analysis indicates that there was a small amount of bias identified with later responders being younger, reporting lower efficacy, and reporting higher psychological demands. However, as indicated by the effect size this is unlikely to have biased the results substantially.

Rogelberg and Stanton (2007) also suggest doing a benchmarking analysis using established scales used in the survey to compare with other samples and norms. Comparisons were conducted on a range of established scales used in this survey and are reported throughout the results section. There is variability in the means and distribution for these scales between samples. Overall there was no consistent difference between the results for the clergy in this research when compared to other samples including other clergy. For example, the mean scores of the clergy in this study were significantly lower on the cynicism scale than the other clergy samples but the clergy in this study were not significantly different from at least one of the other samples on either the exhaustion and efficacy scales. As cynicism was not shown in the wave

analysis to have a relationship with time of completion of the survey it is unlikely this result is related to non-response bias.

In conclusion, this non-response bias analysis indicates that there may have been a small effect related to age, efficacy and psychological demands (workload) but this does not appear to have resulted in noticeable differences in scales when benchmarked. So, when considering these results the low response rate does need to be taken into account but the non-response bias analysis indicates that these results can be interpreted with a reasonable level of confidence.

Participant information

Table 4.2 Participant demographic information

Demographic	Statistic
Age	median age= 47, min=22, max=75
Gender	male= 82.1%, female= 17.9%
Marital status (current)	married = 79%*
No. of dependent children	41.7% did not have dependent children, the remaining 58.3% had between 1 and 7 dependent children.

*Catholic Priests are not permitted to marry.

Table 4.3 Participant denomination

Denomination	Number	% of total participants
Anglican	98	34.8
Baptist	108	38.3
Uniting	36	12.8
Catholic	24	8.5
Other	16	5.7

The denominations contained in other included nine Independent churches, two Presbyterian, and two university groups (Australian Fellowship of Evangelical Students).

Table 4.4 Participant location

Location	No. of participants	% of overall participants	*NSW/ACT
			Labour Force%
Rural (population of largest township is less than 1000)	7	2.5%	22%
Small regional (population of largest township is 1,001 to 20,000)	65	23%	12%
Large regional (population of largest township is 20,001 to 99,999)	53	19%	8%
Urban (population of largest township is 100,000 plus)	158	56%	86%

*Data from Australian Bureau Statistics, Census 2011, excludes Rural Balance.

This survey included Clergy in the capital cities of Canberra and Sydney. As Table 4.4 indicates that in comparison with the distribution of the labour force in NSW/ACT this survey is more representative of regional NSW than urban NSW/ACT.

Health Impairment Pathway

Job demands variables

The next section provides the results for the job demands variables.

Study One Hypotheses

In order to determine whether the first hypothesis from the JDR theory was consistent with the sample of congregational leaders a correlation table was constructed. The table below shows the correlations for each of the demographic variables, and the job demands assessed in the first survey with the burnout scales, the self-rating of general health and the DASS scales.

This table shows that of the 17 job demands considered, there were 8 job demands that were significantly related to the burnout scales, health, and depression. Many of the other job demands also had significant correlations with individual burnout scales or general health. This confirms:

Hypothesis 1a: Job demands are positively related to burnout, and

Hypothesis 1c: Job demands are positively related to health problems.

Table 4.5 Correlations r_s and τ (Demographics, Demands, Burnout, Health)

	MBI Exhaustion Scale	MBI Cynicism Scale	MBI Efficacy Scale	General health (poor) [†]	DASS Stress Scale	DASS Anxiety Scale	DASS Depression Scale
Demographics							
Age	-.27**	-.20**	.10	.03	-.18*	-.14*	-.12*
Gender	-.08	.03	.00	-.07	.06	-.03	-.04
Children	.08	.12*	-.06	-.03	.19**	.10	.05
Location	-.08	-.08	.14*	-.15**	-.02	-.08	-.11
Job Demands							
Congregation Size	-.04	-.06	.13*	-.08	-.10	-.03	-.12*
Work Hours	.11	-.04	.06	-.04	.06	.08	-.03
Interruptions [‡]	.03	-.05	.02	.05	.07	.08	.05
Total Duration	-.15*	-.08	.07	-.08	-.10	-.14*	-.11
Average Parish Duration	-.12	-.02	-.03	-.10*	-.11	-.16*	-.11
Financial Concerns (Ch) [‡]	.19**	.16**	-.10*	.07	.16**	.14**	.17**
Financial Concerns (Per) [‡]	.22**	.14**	-.07	.19**	.21**	.19**	.24**
Psychological Demands	.45**	.22**	-.11	.11*	.30**	.21**	.21**
Work Home Interference Scale	.63**	.45**	-.30**	.31**	.56**	.48**	.50**
Role Clarity Scale	-.32**	-.46**	.46**	-.14**	-.38**	-.30**	-.44**
Role Conflict	.46**	.38**	-.23**	.19**	.39**	.29**	.35**
Interpersonal Disputes Scale	.36**	.27**	-.26**	.08	.29**	.23**	.31**
Care Frequency	.12*	.03	.14*	.07	.05	.13*	.08
Emotion Positive	.17**	.05	.12*	.07	.11	.04	.04
Emotional Dissonance	.42**	.34**	-.21**	.17**	.42**	.31**	.37**

Table 4.5 note: Pearson correlations except where superscript τ which indicates Kendall's tau correlation. ** $p < 0.01$ (2-tailed), * $p < 0.05$ level (2-tailed). Significant correlations are in bold. Financial Concerns (Ch) = church, (Per)=personal. General health (poor) 1=excellent through 4=poor health, Female=0, Male=1, Rural =1 through Urban=5, interruptions 1=always through 5=never.

A detailed description of these correlations is provided in the following section on job demands variables.

Demographics

Age was significantly related to the burnout scales – exhaustion and cynicism, and the stress, anxiety and depression scales of the DASS. As age increased, scores for burnout decreased as did those for the DASS scales. Age was not significantly related to reports of general health over the last 12 months.

There is the potential for cohort factors and other risk factors to explain some of the age differences on these scales. For example, there is a significant correlation between age and children. It is also possible that this effect is related to the early career experience of clergy, as age is correlated with average parish duration and total duration, suggesting that as clergy get older they move less and stay in parish's longer (appendix two, Table A2.1-4).

Gender was not significantly related to any of the burnout or health variables. Having dependent children was significantly related to higher scores on the cynicism and the stress scale. This appears to indicate the effects of the additional demands of parenting and family life.

The location of clergy was significantly related to efficacy and general health. As the location of clergy moves from rural to urban, efficacy scores are higher, and the rating of general health (poor) is better. This is likely to be due to a range of factors as the correlations with other job characteristics shows (appendix two, Table A2.1-3). For example, as the location of clergy changed from rural to more populated and urban areas this was correlated with higher co-worker social support, less work home interference, lower care frequency, higher decision authority and higher rewards.

Congregation Size

The median congregation size was 150, with a range from 20 to 3000.

Congregation size was significantly correlated with the efficacy scale and with the depression scale. Comments from clergy indicate that there are different demands for different size churches. For example, in response to the question "Which aspects of your ministry do you find most demanding" clergy responded with:

- *'Big Picture' leadership of a larger and complex church.*
- *Juggling several different areas of ministry and administration*
- *Small church syndrome where one is expected to do it all!*
- *As a sole pastor the weight of responsibility without always the people around to speak to about decisions and difficulties*

Congregation size also had a significant correlation with other demands (appendix two, Table A2.1-4). These correlations indicate that higher congregation size was related to lower financial concerns (church and personal), and higher role clarity. Congregation size was also significantly correlated with higher co-worker support and higher ratings of performance. As co-worker support is an important resource this may explain the higher rates of efficacy and lower depression levels amongst clergy in larger congregations.

Frequency of care for those experiencing loss and trauma

More than 25.4% of clergy reported that they assisted those that were experiencing life-threatening injury, illness or loss of a loved one a few times a month or more often. Clergy were also asked more specifically how often they assist those that have experienced trauma. Clergy responded that 16.7% were assisting those that have experienced trauma a few times a month or more often.

In Table 4.5 care frequency is shown to have a significant relationship with exhaustion and efficacy. Higher levels of care frequency were related to higher

levels of exhaustion, but were also related to higher levels of efficacy. Quotes from clergy that did the survey also illustrate this, in response to "What aspects of your ministry do you find rewarding" a comment was *"Being there for people in difficult times, e.g Funerals, tragedies."* Yet in response to "What aspects of your ministry do you find most demanding" comments from Clergy were *"Conducting funerals" and "Sharing the frustrations of health and life of those for whom I have pastoral responsibility."*

Ministry Duration

The median duration in the ministry of clergy surveyed was 12 years. There were clergy that had been in ministry for less than one year through to those in ministry for the past 57 years.

In terms of their current parish or church, 14.9% (42) reported that they had been there for less than one year. The median length of time in the current parish for those that had been in their current parish or church for more than one year, was five years. Some had been in the same parish or church for as many as 26 years.

Table 4.5 shows that there was a relationship between good health and low exhaustion levels for those that had been in ministry for longer. Previous research has shown that the first years of ministry can be very difficult, perhaps as people continue in ministry they find a way to work in a sustainable way (Francis et al., 2004). It is also likely that this finding about staying longer in ministry is at least in part due to clergy leaving if they find ministry impacting on their health and well-being.

Relocation Demands

There was a reasonable number of clergy that had not changed parish or church since commencing in congregational leadership (28.8%). The average parish duration across the total duration of clergy's employment had a median of 3.8 years, with a range from less than a year in each parish to 19 years.

The relationship displayed in Table 4.5 between average parish duration and general health (poor), seems to indicate that frequent moves and short stays in parishes have a negative effect on clergy health. Therefore, longer stays in churches generally appear to be better for the health of clergy.

Psychological demands (workload)

In order to understand the extent of psychological demands comparison was made with other samples. A recent assessment of psychological demands of Australian workers was conducted as part of the larger Australian workplace barometer project (G.B. Hall, 2012). Unfortunately, the questions used were from the JCQ 2.0 which have sufficiently changed from the JCQ 1.0 (6/94) used in this study. A recommendation for future research is to use the JCQ2.0 questions to enable comparison with other Australian workers. Table 4.6 compares the results of the survey with a white collar sample of employees from Quebec, Canada. There was no significant difference in the mean response for psychological demands and the employees from Quebec. The research by Karasek et al. (1998) contains a number of comparison samples with the range of the means for men 30.1 - 31.91, and for women 30.6 - 34.8. This shows the variation between samples across cultures, and occupational groups.

Table 4.6 Psychological demands - descriptive statistics and comparison by gender

	Men		Women	
	Clergy	Canada- Quebec White	Clergy	Canada- Quebec White
		Collar*		Collar
M	30.9	31.2	31.7	30.6
SD	5.5	5.3	7.0	5.4
N	228	1364	50	1302
t-test	-0.84 ^{ns}		1.37 ^{ns}	

* Karasek et al., 1998 p 337, based on the 5 item scale of the JCQ 1.0, ns=non-significant

Table 4.7 Psychological demands comparison between Salvation Army clergy and NSW/ACT clergy

	NSW/ACT clergy	Salvation Army clergy ^a
M	2.6	2.7
SD	0.23	0.43
N	279	355
t-test	3.32***	

Note: This comparison is based on the 9-item scale of the JCQ 1.0.

a Cotton (2006), *** $p < .001$

Table 4.7 shows that the Salvation Army clergy had significantly higher psychological demands than those reported by the NSW/ACT clergy.

Psychological demands had a significant relationship with the exhaustion and cynicism scales, general health (poor) and DASS scales (Table 4.5). This demonstrates the negative impact on the health of clergy of high levels of psychological demands but also the potential positive health effects of reducing the workload. Clergy comments illustrate the difficulties with this demand such as *"No ability to say 'my case load is full' to pastoral asks. Carving out time to work on the big picture when the daily demands are constant."* And *"...constant deadlines, never getting to the end."*

Role Conflict and Role Clarity

The table below compares the results of the clergy for role conflict and role clarity with a Danish sample of adult employees across a range of industries (T. S. Kristensen et al., 2007).

Table 4.8 Role conflict and role clarity descriptive statistics and comparison with a Danish sample

Role Clarity	M	SD	N	t-test
Clergy	71.34	18.02	280	-2.17*
Danish sample ^a	73.5	16.4	4636	
Role Conflict	M	SD	N	t-test
Clergy	38.50	21.81	244	-3.15***
Danish sample ^a	42.0	16.6	4639	

Note: ^aKristensen et al., 2007, * $p < .05$; ** $p < .01$; *** $p < .001$

The mean response for role clarity and role conflict was significantly less ($p < .05$) for the clergy surveyed than the Danish comparison group. This is a mixed result indicating less job demands from lower role conflict, but more demands from lower role clarity.

Role clarity and role conflict had a significant relationship with all burnout scales, general health (poor) and DASS scales (refer to Table 4.5). This is consistent with previous research that emphasises the importance of these variables for burnout and health (Cox et al., 2000). The responses to the question "What aspects of your ministry do you find most demanding" also illustrate the issue with role clarity and role conflict. Clergy provided comments such as "*People's Expectations, Conflicting Expectations*" and "*...managing the conflicting expectations of others of what they think I should be doing/not be doing.*"

Work Home interference

The Table below compares the results for the clergy with a sample of employees from a range of industries in the Netherlands (Geurts et al., 2005). The t-test indicates that the clergy had a higher level of work home interference than the international comparison group.

Table 4.9 Work Home Interference descriptive statistics and comparison

	Clergy	Geurts et al., 2005
M	1.01	0.86
SD	0.56	0.48
N	280	1857
t-test	4.76***	

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

Work home interference had a significant relationship with all burnout scales, general health (poor) and DASS scales. This is consistent with the research by Geurts et al. (2005) and confirms this issue as a critical one for clergy that needs ongoing management. Comments from Clergy illustrate this, for example "Always being on call" and "The job has no time boundaries - always on call, the phone rings after hours etc".

Emotional demands

The table below shows the descriptive information for the two emotional work scales, positive emotional expression and emotional dissonance. The results for the clergy are compared with a sample of workers in Germany from several industries including hospitality, banking, call centres, and kindergartens (Zapf & Holz, 2006).

Table 4.10 Emotional Demands descriptive statistics and comparison

	Display Positive Emotions		Emotional Dissonance	
	Clergy	German Service Wkrs*	Clergy	German Service Wkrs*
M	3.85	3.44	2.64	3.12
SD	0.57	0.82	0.79	0.79
N	277	1152	282	1152
t-test	7.88***		-9.15***	

*(Zapf & Holz, 2006) *** $p < .001$

These results show that in comparison to the German sample the display of positive emotions was more frequent for clergy, but the experience of emotional dissonance was less prevalent. The variation in response for the display of positive emotions was lower for clergy as indicated by the standard deviation, this may impact on later analysis.

The lower emotional dissonance may be a reflection of the beliefs and values of clergy that enable them to experience the required emotions, described by Hochschild (1983) as deep acting, a critical strategy for managing emotional dissonance.

The display of positive emotions had a significant relationship with the exhaustion scale and the efficacy scale. The direction of this relationship indicates that as the frequency of positive emotional expression increases the scores on the exhaustion scale increased but paradoxically, the scores on the efficacy scale also increased. This suggests as for care frequency that although the requirement to display positive emotions is exhausting it is also leads to a perception of self-efficacy. In contrast, emotional dissonance had a significant relationship with the burnout scales, general health (poor) and depression scale. The direction of this relationship indicates that as emotional dissonance increases burnout, general health (poor) and depression scores worsen.

The information reported by clergy regarding their income is described below.

Table 4.11 Weekly Income by Employment Status

Employment Status	N	Mean (\$)	Median (\$)	Standard Deviation	Range (\$)
Full-time	202	910	961	383	2700
Part-time	44	638	503	420	1900
Retired in Active Supply	6	541	688	437	1027

A majority of clergy had serious concerns about their church finances over the past 12 months with 52% of clergy reporting that they had occasional or more frequent serious concerns about their church finances. There were also a high number of clergy that had serious concerns for their personal finances with 46% indicating that they had occasional or more frequent serious concerns. The correlation between income and personal finances concerns was not significant, therefore the existence of financial concerns is more complex than the level of income received.

Table 4.5 shows the relationships between the financial demands variables and the burnout and health variables. Low scores on the financial demands questions indicate a high frequency of concern. The relationships with financial demands in Table 4.5 shows that having personal financial concerns is significantly related to general health (poor), exhaustion, cynicism and the DASS scales. This indicates that as the frequency of personal financial concerns increase exhaustion and cynicism increase, stress, anxiety and depression increases and the rating of health is poorer.

Church financial concerns did not have a significant relationship with general health (poor), but did have a significant relationship with all the burnout scales, and stress, anxiety and depression. Therefore, if a church is struggling

financially this takes its toll on clergy, with higher depression, anxiety and stress symptoms, and increased burnout. This confirms previous research by the National Church Life Survey (Kaldor & Bullpitt, 2001, p. 64).

Interpersonal disputes scale

A new scale was developed for the first survey to measure interpersonal disputes and the extent of their impact on clergy. This variable was included due to consistent findings that conflict with congregational members or with denominational leaders is related to turnover and burnout (Croucher & Allgate, 1994; Kaldor & Bullpitt, 2001).

Participants reported that interpersonal disputes, defined as a "serious difference of opinion" were occurring at least every 3 months or more often for 35% of the clergy. Where disputes occurred 79.5% of clergy reported that the majority were able to be satisfactorily resolved. The majority of the disputes lasted for more than a month (59%). On a 5 point scale, where 1 represents very confident in their ability to resolve disputes satisfactorily and 5 represents not at all confident, 69% of clergy rated themselves as 1 or 2.

Table 4.12 provides the descriptive statistics for this scale and the Cronbach's alpha as a measure of the internal reliability of the questions in the scale.

Table 4.12 Interpersonal Disputes Scale descriptive statistics

Interpersonal Disputes Scale	M	SD	N	Cronbach's Alpha
Clergy	5.24	3.28	281	0.7

As this was a new scale the reliability and validity of the scale was explored through a variety of methods. The interpersonal disputes scale showed an acceptable split-half reliability for Cronbach's alpha of .7 (Field, 2009) and there were significant correlations between the items although these ranged from .24

to .45. The test-retest reliability for the small sample of respondents for both surveys was moderately high ($r=.509, p<.01$).

Convergent validity

The convergent validity of the interpersonal disputes scale is supported by results confirming hypotheses about the relationship between this scale and various outcome measures. A hypothesis based on Australian research by Kaldor and Bullpit (2001) is that clergy that were experiencing conflict with congregational members would experience a higher degree of burnout. Also, that interpersonal difficulties would lead to more severe symptoms on the depression scale in accordance with the Interpersonal Therapy model of depression (Stuart & Robertson, 2003). The significant correlations of the interpersonal disputes scale with all three burnout scales and with the depression scale, support these hypotheses.

Discriminant Validity

As this scale is measuring interpersonal relationships, one explanation for its relationship with burnout and health may be that it is just measuring an aspect of social support. As the co-workers of clergy are generally members of their congregation as well as paid staff in some instances, a correlation with this variable is expected. However, they should not be correlated at a sufficient level to indicate they are measuring the same thing. These two variables were moderately correlated ($r=-.28, p<.001$) indicating that less difficulties with interpersonal disputes were correlated with higher co-worker social support. This provides some support for the discriminant validity of this scale.

The analysis of this scale's reliability, factor structure and inter-correlation between items, as well as preliminary investigations of its validity, shows that it is promising as a brief measure of the extent of interpersonal disputes and the efficacy of the member of the clergy in responding to these disputes.

Qualitative Responses

Clergy had the opportunity to provide written responses to the open question "What aspects of your ministry do you find the most demanding?". All 283 respondents provided a written response to this question. A sample of their responses are provided in Table 4.13. These responses are grouped under thematic headings that related to the job demands measured. These responses are provided for illustrative purposes, I have not conducted formal qualitative analysis of these responses as part of this research.

Table 4.13 Qualitative responses for job demands

Work Home Interference	<ul style="list-style-type: none">• Hobbies, friends etc usually require extra nights out - I crave being at home• Intrusion of awkwardly timed appointments into peak busy times of day for my young family...• Always being on call• The job has no time boundaries - always on call, the phone rings after hours etc
Workload	<ul style="list-style-type: none">• "...constant deadlines, never getting to the end."• "No ability to say 'my case load is full' to pastoral asks. Carving out time to work on the big picture when the daily demands are constant."• "Not enough recovery time from crisis times - Sundays keep marching on."
Role Clarity & Role Conflict	<ul style="list-style-type: none">• People's expectations, conflicting expectations• Balancing the important that needs to be done over time with the urgent that comes up.• Managing my own expectations and the many expectations others have of me.• ...managing the conflicting expectations of others of what they think I should be doing/not be doing• Accepting that spiritual and organisational expectations of church leaders are frequently unrealistic or 'out of touch' with the ministry vocation.

	<ul style="list-style-type: none"> • Not meeting everyone's expectations
Emotional Demands	<ul style="list-style-type: none"> • I really love much of what I do although I find dealing with the hard issues in people's lives is a constant emotional and spiritual drain • The emotional and other costs associated with responding to those who are averse to change
Frequency of Care (Illness/Trauma/Loss)	<ul style="list-style-type: none"> • In a large church, in pastoral care, especially with a larger older congregation, there are many long term illnesses, hospitalisations and deaths to be dealt with - sometimes it gets quite busy • Conducting funerals • Sharing the frustrations of health and life of those for whom I have pastoral responsibility. Watching people make poor decisions. • Counselling, especially those in crisis.
Congregation Size	<ul style="list-style-type: none"> • 'Big Picture' leadership of a larger and complex church. • Juggling several different areas of ministry and administration • Small church syndrome where one is expected to do it all! • As a sole pastor the weight of responsibility without always the people around to speak to about decisions and difficulties

Motivational Enhancement Pathway

Job Resources (and Personal Resources) Variables

The next section provides the results for the job resources variables.

Study One Hypotheses

In order to examine the hypotheses of the motivational enhancement pathway of the JDR theory the correlation Table 4.14 was constructed. Hypothesis 2a proposes that "Job resources are positively related to work engagement", and Hypothesis 2c "Job resources are positively related to positive work outcomes".

The correlation table shows that of the 15 job resources measured, ten of these were significantly correlated with at least one of the scales of work engagement. There were ten job resources that were significantly correlated with turnover intention and/or performance rating in the predicted direction. This confirms these hypotheses of the JDR theory regarding the motivational enhancement pathway.

The full correlation tables (Table A2.1-4, appendix two) also shows the relationships to examine hypothesis 3a: Job demands are negatively related to job resources. These tables show a large number of significant negative correlations between job demands and job resources. This supports further analysis considering the role of job resources in reducing job demands and their effects on burnout and health.

Table 4.14 Correlations (r_s and τ) of demographic variables and resources with work engagement and work outcomes (motivational enhancement pathway)

	UWES		UWES		Performance Rating
	UWES Vigour Scale	Absorption Scale	Dedication Scale	Turnover Intention	
Demographics					
Age	.15[†]	.05	.12*	-.06	.08
Gender	0.03	-.06	-.08	-.10	-.07
Dependent children	-0.3	-.06	-.08	.07	-.12*
Location	.15[†]	.03	.08	-.08	.03
Resources					
Academic	-.01	.01	.01	-.13*	.03
Pre-Ordained Leadership	-.03	-.06	-.07	-.04	.05
Prayer	.05	-.01	.05	-.01	.09
Personal Bible Reading	.09	.05	.09	-.10	.09
God Support Scale	.07	.04	.13[†]	-.11*	.18**
Decision Authority	.22**	-0.08	.16**	-.15**	.15**
Skill Discretion	.21**	.14[†]	.33**	-.18**	.22**
Decision Latitude	.26**	-.01	.25**	-.18**	.19**
Co-worker Support Scale	.39**	.19**	.38**	-.26**	.26**
Supervisor Support Scale	.26**	.05	.22**	-.13*	.09
Social Support Openness	.10	.00	.12	-.10	.12*
Job Promotion Scale	.18**	.02	.20**	-.33**	.10**
Esteem Scale	.24**	.00	.23**	-.40**	.18**
Job Security Scale	.13*	.01	.18**	-.29**	.03
Relocation Control	.15[†]	0.04	.13[†]	-.09	.09

Note: Pearson correlations except where superscript τ which indicates Kendall's tau correlation.

Turnover intention: High scores indicate high turnover intention; Performance rating: High scores indicate high performance rating.

** Correlation is significant at the 0.01 level (2-tailed), * Correlation is significant at the 0.05 level (2-tailed). Significant correlations are in bold.

These correlations are discussed in the following discussion of the job resources variables.

Demographic Variables

Age had a significant relationship with vigour, the direction of this relationship indicates that as age increased the level of vigour also increased in the clergy surveyed. There were no significant relationships between gender and the work engagement or work outcomes variables. There was a relationship between dependent children and the rating of performance, the direction of this relationship was that as the number of dependent children increased the rating of performance decreased. The location of clergy had a significant relationship with vigour, higher levels of vigour were experienced by those in urban areas.

Relocation Control

The responses to relocation control were on a 5 point scale with an anchor of *no control* at one end and *complete control* at the other end. Many Clergy indicated they had a high level of control over the timing (69%) and the location (74%) of their relocation to a new church. The responses to the two questions about relocation timing and location were combined to construct the relocation control variable. The mean for this variable was 7.5 (SD 2.89).

Relocation control had a significant relationship with the work engagement scales, vigour and dedication. The direction of the relationship indicates that higher levels of control over the timing and location of relocation were related to higher levels of vigour and dedication in the new ministry location.

Communication with God

The responses of clergy indicated that 16.3% engaged in prayer only at times of stress, need or gratitude, 6.7% at a set time daily and 77% both at a set time and spontaneously.

The frequency of private bible reading was relatively high with 46.5% engaging in daily reading, 44.3% engaging in bible reading a few times weekly and the remainder (9.2%) doing so on a weekly or occasional basis.

An earlier study by Kaldor and Bullpitt (2001) using the same questions showed lower levels of prayer (48% both set time and spontaneously) but higher levels of bible reading (75% daily). Unfortunately, they do not provide sufficient information to consider if this difference is significant or due to sampling differences.

Prayer and bible reading did not have a significant relationship to work engagement, or work outcomes. The overall levels of prayer and bible reading were high which means that there may not have been sufficient variation amongst clergy to determine a relationship with work engagement and work outcomes when examined as a correlation. This seems to indicate that this is unlikely to be a crucial area for intervention at a secondary level to increase work engagement. However, this does not detract from the potential resource that this communication provides Clergy in responding to the demands of their work.

Support from God

Table 4.15 God support scale descriptive statistics and reliability

	M	SD	N	Cronbach's α
Clergy	4.63	.68	283	.85

The beliefs that clergy had about God's support and attitude towards them had a strong relationship to the level of engagement and work outcomes.

Rewards

The mean and standard deviation of the three reward subscales from the Effort Reward Imbalance Questionnaire (Siegrist, 2007) are in Table 4.16 below.

Table 4.16 Rewards scales descriptive statistics

Rewards	M	SD	N
Job Promotion Scale	18.36	2.25	271
Esteem Scale	23.60	2.84	268
Job Security Scale	9.21	1.41	282

Job promotion prospects were important for clergy, they had a significant relationship with vigour, dedication, turnover intention and performance rating. This may be a reflection that clergy do want to see a reward for their efforts reflected in adequate work prospects, salary and job promotion prospects.

As with job promotion, esteem was significantly related to vigour, dedication, turnover intention and performance rating. This reflects the importance of respect and support from supervisors and co-workers to work engagement and positive work outcomes.

Unlike job promotion and esteem, job security was not significantly related to vigour or performance. However, there was a significant relationship with dedication, and turnover intention. This is a relationship that indicates both when job security is high the level of dedication to work is also high and turnover intention is low and that when the viability of a church or of the position of clergy is at risk, clergy struggle to maintain the same level of dedication and consider resigning from the ministry.

To compare with previous research the rewards subscales were combined, and then grouped according to gender. This was then compared with two samples from the paper by Siegrist et al. (2004) they report their results from surveys using the same rewards scales from the Effort Reward Imbalance questionnaire as used for this study. The first sample has a cross-section of occupations in

France (GAZEL), the second is of civil servants in the United Kingdom (UK, Whitehall II).

Table 4.17 Rewards Scales combined compared to other samples, grouped by gender.

	Men			Women		
	Clergy	GAZEL, France *	Whitehall II	Clergy	GAZEL, France *	Whitehall II
M	51.7	46.7	34.5	48.9	46.7	33.9
SD	4.57	7.86	5.60	8.10	8.24	6.09
N	211	6447	2783	45	2454	914
t-test		-9.08***	-43.45***		-1.79 ^{ns}	-15.8**

** $p < .01$, *** $p < .001$, ns=non-significant

The mean of the rewards total scores of the clergy for men were significantly higher than the mean of the participants in the GAZEL and Whitehall II research ($p < .001$). The mean of the rewards total for women was significantly higher than the mean of the Whitehall II research but not the GAZEL research. This indicates that clergy are reporting higher levels of job promotion prospects, esteem and job security than the civil-servants in the UK and for male clergy for the cross-section of occupations in France.

Social Support

The social support of clergy was measured with two scales co-worker support and supervisor support. These were compared using a t-test with a white collar sample from Quebec, Canada reported by Karasek et al. (1998, p. 337). The range of means in this international sample varied for co-worker support, from 12-13.2 for both men and women. They varied for supervisor social support, for men from 10.9-12.6, and for women 11-12.8. Although there was one high mean in one of the samples for both scales, the other international samples were all lower than the clergy mean.

Table 4.18 Co-Worker Support descriptive statistics by gender and comparison with other research.

	Men		Women	
	Clergy	Canada-Quebec White Collar *	Clergy	Canada-Quebec White Collar *
M	12.7	12.3	12.8	12.3
SD	1.7	1.6	2.2	1.5
N	227	1364	50	1302
t-test		3.21*		2.25**

* Karasek et al., 1998 p 337, * $p < .05$, ** $p < .01$, *** $p < .001$

The results of the t-test indicate that the clergy in this study reported significantly higher co-worker support than the comparison sample of white collar workers in Canada-Quebec. There was also higher variation in responses among women clergy than the white collar sample.

In Table 4.14 co-worker social support had a significant relationship with each of the work engagement scales, and the work outcome measures. This result reflects the importance of clergy being supported by their pastoral, administrative and leadership team. If this support was high then the level of engagement of clergy was high, turnover intention was low and clergy rated their performance as higher. Co-worker support requires both the clergy and their co-workers to address issues and work well together to see the benefits for clergy and the leadership team.

Table 4.19 Supervisor support descriptive statistics by gender and comparison with other research.

	Men		Women	
	Clergy	Canada-Quebec White Collar *	Clergy	Canada-Quebec White Collar *
M	11.9	11.9	12.1	12.0
SD	2.3	2.2	2.7	2.1
N	138	1364	36	1302
t-test		.05 ^{ns}		.31 ^{ns}

*Karasek et al., 1998 p337; ns=non-significant

Of the 283 that responded to the survey, 178 answered all the questions related to supervisor support. As indicated in feedback prior to the survey, many clergy do not have a supervisor as it is usually defined. The responses of clergy in this study are not significantly different (higher or lower) than the responses from the white collar sample of workers from Quebec, Canada.

Unlike co-worker support, supervisor support did not have a significant relationship with the absorption of clergy or their rating of performance. However, it did have a significant correlation with their consideration of turnover, and their level of vigour and dedication (See Table 4.14). As the level of supervisor support increased turnover intention decreased, and the level of vigour and dedication increased. Once again the variation in scores for women clergy was higher than the Canada-Quebec sample.

Social Support Openness

The majority (88%) of clergy reported that they had someone they are able to completely open with. Kaldor and Bullpitt (2001) in their survey of Australian clergy found the same proportion of clergy, 88%, reported they had someone they can be completely open with. Of those that responded this was the case,

clergy reported an average of 3 people with whom they have this type of relationship. The most frequent people that clergy had a close relationship with were a friend (outside the congregation), spouse, and other clergy. The table below provides information on the responses of clergy to the questions about social support openness.

Table 4.20 Social support openness responses (n=283)

	Yes	%
<i>Social support openness</i>	246	88
Friend (outside the congregation)	174	62
Friend (member of the congregation)	98	35
Other clergy	166	59
Spouse	167	59*
Family member	48	17
Denominational leader	49	17

*This includes married and non-married respondents

The openness in social support was important as indicated by the significant relationship between dedication and performance.

Job Control

The table below provides the descriptive statistics for job control, described by Karasek et al. (1998) as decision latitude, the combination of decision authority and skill latitude. In their international study the mean and standard deviation varied between samples. The range of means for the samples is reported and for a t-test comparison a white collar sample of workers in Quebec, Canada is used.

Table 4.21 Job Control scales descriptive statistics and comparison to other research.

Decision Authority				
	Men		Women	
	Clergy	Canada- Quebec White Collar *	Clergy	Canada- Quebec White Collar *
M	38.9	35.3	36.7	33.6
SD	5.8	6.2	7.5	6.4
N	227	1364	50	1302
Range of Means from international samples		31.3-36.7		28.1-35.6
t-test		8.34***		3.33***
Skill Discretion				
M	21	37.5	21.9	34
SD	2.5	5.5	2.8	5.9
N	226	1364	49	1302
Range of Means from international samples		32.6-37.5		31-35.5
t-test		-44.44***		-14.48***
Decision Latitude				
M	59.9	72.8	58.8	67.5
SD	6.9	10.3	8.3	10.6
N	224	1364	49	1302
Range of Means from international samples		66.0-73.1		60-71.1
t-test		-17.96***		-5.71***

*Karasek et al., 1998 p337; *** $p < .001$

The comparison with the white collar sample indicates that the Australian clergy had a relatively high level of decision authority, but a low level of skill discretion.

This opposing result led to a lower decision latitude score when the two scales were combined. This suggests that where possible, further analysis should separate the two job control scales rather than combine them as decision latitude.

Table 4.14 shows that skill discretion was an important resource with a strong relationship to all aspects of work engagement and with turnover and performance rating. The significant relationships with decision authority show the importance of having clear decision authority with regard to work tasks as it leads to better work outcomes and higher levels of engagement.

Education and Prior Work Experience

Prior experience in lay positions of ministry was very common amongst the clergy with 87% indicating they had worked in lay positions of ministry prior to working in an ordained ministry position. The most common position held amongst those surveyed was as a youth leader 45(%). However, many had held more than one position and there was a large variety of positions. An area of previous experience that involves a two year full-time apprenticeship is the MTS apprenticeship. Of those surveyed 32 (13%) reported that they had completed an MTS apprenticeship.

The average level of education of clergy was Bachelor/Honours Degree. In previous research by Karasek and others this level of training for a job indicated a medium to high level of control (eg. Karasek et al., 1981, p. 697).

The level of training (academic) had a significant relationship with turnover intention (see Table 4.14). There was no relationship between this and levels of burnout or general health (poor). As this was the only relationship with any of the outcome variables, this may reflect the unwillingness of those that have done extensive training to consider resigning.

Pre-ordained leadership including the MTS apprenticeship did not have a significant relationship with work engagement or the work outcome measures.

Although pre-ordained leadership is important for many reasons, it appears that by the time you have done training and been in ministry it does not have a significant relationship with work engagement or work outcomes.

Qualitative Responses

Clergy had the opportunity to provide written responses to three open questions about the resources they draw on in their work. All 283 respondents provided a response to these questions. The first question was "What support from others is most helpful in your role?" A sample of the responses to this question is shown in Table 4.22 that are grouped under headings that reflect particular themes in the responses to this question. These responses and themes are provided for illustrative purposes, I have not conducted formal qualitative analysis of these responses as part of this research.

Table 4.22 Written responses to open question on support from others

What support from others is most helpful in your role?	
Encouragement (and acceptance, care)	<ul style="list-style-type: none"> • Encouragement, concern in how I'm going. Encouragement to keep going when the going is tough • Encouragement from congregational members
Listening	<ul style="list-style-type: none"> • A listening ear and a place to offload. • I find I need my close people. They listen without judgement, provide honest feedback and won't compromise in their love, acceptance and honesty. • Wife accepts, solid support
Prayer	<ul style="list-style-type: none"> • Listening, empathy and prayer! • Prayer support • Those who understand the issues of ministry and are willing to pray together and be vulnerable together in our relationship • That they pray for me and are interested in my well-being
Mentoring (Share ideas with those with more experience)	<ul style="list-style-type: none"> • Good advice from more experienced people on practical considerations of ministry. • Advice from more experienced pastors • Listening and reflecting back to me, giving me a clearer perspective. • Drawing on the experience and knowledge of others.
Accountability	<ul style="list-style-type: none"> • Trusted friends asking the 'hard questions' about my godliness and ministry and diligence." • I am part of an accountability group - 3 other guys. We meet every fortnight. We encourage each other in grass-roots growth in Christ. I

	really appreciate their prayers.
Partners in the ministry	<ul style="list-style-type: none"> • Manpower - people who will help out when needed. • Volunteer congregation members who volunteer support of any kind.

The following two tables provide a sample of the responses to the questions "What aspects of ministry do you find most rewarding?" and "In what ways does your relationship with God help you with the demands of ministry?".

Table 4.23 Written responses to open question on rewarding aspects of ministry?

What aspects of ministry do you find most rewarding?
<ul style="list-style-type: none"> • Preaching - the final delivery (prep..... plain hard work.) • Being there for people in difficult times, e.g Funerals, tragedies. • Encouraging and assisting people in distress. • Seeing God at work in the lives of other people. Being used by God to encourage others/help them grow. • Seeing people coming to know Christ and mature in their relationship with him. • Seeing the church serve together and love together as a united body. • Seeing people using their gifts and abilities with fulfilment and fruit. • Without a doubt that would be seeing God move in the lives of individuals and in the life of our church.

Table 4.24 Written responses to open question to the ways the Clergy's relationship with God helps with the demands of ministry?

In what ways does your relationship with God help you with the demands of ministry?

- As I'm not a naturally overly compassionate person, I have to dig into God's resources in order to love more deeply than I can myself.
- He equips, sustains, provides and cares about what I do and who I am. He empowers me to do more than I can on my own
- I don't feel guilty if I need to rest and do so - I sense God covering that for me.
- God is the person and place that I can refocus and recalibrate life when things, or I, go pear shaped.
- Knowing that even if I fail I cannot lose God's love or approval
- I feel valued in my relationship with God and I think while I probably still struggle with this at times I don't draw my self-esteem from ministry. So the struggle of ministry doesn't detract from personal relationship with God
- I wouldn't be doing this job unless I felt God was in it with me. I am a pastor because I believe I have been called by God to do so (both generally and in my specific situation).
- It helps inspire me for work; sustains me in difficult times; gives me patience; motivates me; gives me courage to keep going; gives me peace when uncertain; in fact without that relationship I would easily give up and go under!!
- God uses people like my wife and family to give me rest and refreshment that I need to cope with life and ministry.
- It's what keeps you going. the purpose, the comfort, the encouragement the reward is your relationship with God

Outcome Variables

The next section examines the results on the outcome variables for survey one.

Study One Hypotheses

In order to examine the JDR theory hypotheses related to the outcome variables a correlation table was developed that compared these variables.

Table 4.25 Correlations (r_s and τ) between outcome variables for the health impairment pathway and the motivational enhancement pathway

	2.Cyn	3.Eff	4.Dep	5.GH [†]	6.Vig	7.Abs	8.Ded	9.TI [†]	10. PR [†]
1.Exhaustion Scale	.61 ^{***}	-.26 ^{***}	.61 ^{***}	.21 ^{***}	-.40 ^{***}	-.05	-.33 ^{***}	.29 ^{***}	-.19 ^{**}
2.Cynicism Scale		-.40 ^{***}	.69 ^{***}	.22 ^{***}	-.55 ^{***}	-.21 ^{***}	-.62 ^{***}	.42 ^{***}	-.34 ^{***}
3.Efficacy Scale			-.44 ^{***}	-.12 [†]	.50 ^{***}	.24 ^{***}	.54 ^{***}	-.30 ^{***}	.33 ^{***}
4.DASS Depression Scale				.26 ^{***}	-.51 ^{***}	-.14 [†]	-.49 ^{***}	.40 ^{***}	-.29 ^{***}
5.General health (poor) [†]					-.18 ^{**}	-.01	-.15 ^{***}	.20 ^{**}	-.16 ^{**}
6.UWES Vigour Scale						.58 ^{***}	.77 ^{***}	-.28 ^{***}	.34 ^{***}
7.UWES Absorption Scale							.54 ^{***}	-.08	.10 [†]
8.UWES Dedication Scale								-.29 ^{***}	.36 ^{***}
9.Turnover Intention [†]									-.25 ^{***}

Note: 10.PR=self-rated performance

Pearson correlations except where superscript τ which indicates Kendall's tau correlation. Turnover intention: High scores indicate high turnover intention; Performance rating: High scores indicate high performance rating.

* $p < .05$ ** $p < .01$, *** $p < .001$ (two tailed), significant correlations in bold.

In relation to the health impairment pathway there are two hypotheses that relate to the relationships between the outcome variables. These are:

Hypothesis 1bi: There is a positive relationship between burnout and health problems.

Hypothesis 1bii: There is a positive relationship between burnout and depression symptoms.

Table 4.25 shows that both these hypotheses were confirmed with significant positive correlations between burnout (exhaustion, cynicism, efficacy) and the rating of general health (poor), and burnout and depression symptoms in the predicted direction.

The hypothesis related to the outcome variables for the motivational enhancement pathway is Hypothesis 2b that proposes "There is a positive relationship between engagement and positive work outcomes". Table 4.25 shows that there was a significant positive relationship between work engagement (UWES scales) and self-rated performance. There was also a significant relationship between the vigour and dedication scales and turnover intention. The absorption subscale of the UWES did not have a significant correlation with turnover intention. Therefore, with the exception of the absorption scale with turnover intention, Hypothesis 2b was confirmed.

Table 4.25 also enables consideration of several of the hypotheses developed from research on the JDR theory about the cross-links between the various components of the model.

These hypotheses were:

Hypothesis 3b: Burnout has a negative relationship with engagement

Hypothesis 3c: Health problems are negatively related to positive work outcomes.

Hypothesis 3e: Burnout is negatively related to positive work outcomes.

Hypothesis 3b was confirmed except for the relationship between the exhaustion scale and the absorption scale. Hypothesis 3c was also confirmed. The significant correlation between general health (poor) and turnover intention indicates that as general health (poor) worsened (higher score) the rating of

turnover intention increased. Similarly, as depression symptoms increased the turnover intention increased. The significant correlation between general health (poor), and depression symptoms with self-rated performance shows that as general health worsened and depression symptoms increased the rating of performance decreased.

Hypothesis 3e was confirmed with significant negative relationships between burnout and both turnover intention and performance rating.

The full correlation tables A2.1-4 (appendix two) provide information to consider Hypothesis 3d: Job resources are negatively related to burnout. These tables show that 12 of the 14 job resources were significantly negatively correlated with all or at least one of the burnout scales. This provides support for further analysis of the role of resources in reducing burnout.

Burnout

The table below shows the responses of the Australian clergy compared to the survey norms developed from the responses of North American workers from a range of occupations (MBI-GS manual, Maslach et al., 1996).

Table 4.26 Levels of Burnout of Australian Clergy in Survey One

	Exhaustion	Cynicism	Efficacy
Low	50.5%	50.4%	27.2%
Average	20.8%	26.6%	23.3%
High	28.6%	23%	49.5%

This shows that 23-29% of the clergy were experiencing high exhaustion, cynicism and professional efficacy. Although a different burnout inventory was used (Alban Institute Burnout Inventory) similar results were reported by Kaldor and Bullpitt (2001) in a sample of 4400 Australian clergy with 23% experiencing high to extreme burnout.

The means of the burnout scales are compared with other samples from previous research in the following table, including other clergy as well as other occupations.

Table 4.27 Exhaustion scale descriptive statistics and comparison with other samples.

Exhaustion Scale	Mean	Standard Deviation	N	T-test
<i>Australian Clergy 2010</i>	2.30	1.37	283	
USA Clergy (Golden et al., 2004)	2.47	1.27	321	1.58 ns
Aust. Oncology Workers (Girgis et al., 2008)	2.26	1.54	101	-0.24 ns
Salvation Army Officers (Cotton, 2006)	2.83	1.45	356	4.70***
Cynicism Scale				
<i>Australian Clergy 2010</i>	1.39	1.19	282	
USA Clergy	1.69	1.24	321	3.02**
Australian Oncology Workers	1.47	1.25	102	0.57ns
Salvation Army Officers	1.85	1.40	353	4.39***
Professional Efficacy Scale				
<i>Australian Clergy 2010</i>	4.66	0.92	283	
USA Clergy	4.96	075	321	4.41***
Australian Oncology Workers	4.58	1.17	102	-0.70ns
Salvation Army Officers	4.57	097	343	-1.18ns

* $p < .05$, ** $p < .01$, *** $p < .001$, ns = non-significant

The comparison in Table 4.27 shows that the exhaustion scale mean was not significantly different from United States (U.S.) clergy or Australian oncology workers but was significantly lower than the Salvation Army officers. The cynicism scale mean was significantly lower compared to the other clergy samples. The Professional efficacy scale mean was not significantly different from the Salvation Army officers and oncology workers but was significantly lower than U.S. clergy.

Depression

As Table 4.28 shows there were 11.1% of clergy that were experiencing symptoms of depression that were in the moderate to extremely severe range according to the Australian norms (Lovibond & Lovibond, 1995). The proportion of responses for the clergy compared to a sample of U.S. Emergency Medical Service Professionals (Bentley, Crawford, Wilkins, Fernandez, & Studnek, 2013) as well as a recent sample of the Australian population between aged 25 and 90 (J. Crawford, Cayley, Lovibond, Wislon, & Hartley, 2011) shows that clergy were reporting a significantly higher proportion of depressive symptoms on the DASS subscale than these two samples. The chi-square comparison for EMS Professionals was ($\chi^2=116$, $df=4$, $p<.001$) and for the Australian population sample was ($\chi^2=38.70$, $df=4$, $p<.001$).

Table 4.28 Depression Level of Clergy – Survey One (N=279) compared with EMS Professionals in the United States^a and Australian Population Sample^b Percentiles

Depression Level	Clergy		EMS Professionals	Australian Population Sample
	Frequency	%	%	%
Normal	215	77.1	93.2	85
Mild	33	11.8	3.5	7
Moderate	21	7.5	2.4	3
Severe	6	2.2	0.5	1
Extremely Severe	4	1.4	0.4	4
			$\chi^2=116^{***}$ df=4	$\chi^2=38.70^{***}$ df=4

* $p < .05$, ** $p < .01$, *** $p < .001$, ns = non-significant

^a Bentley, Crawford, Wilkins, Fernandez, and Studnek (2013)

^b Crawford, Cayley, Wilson, Lovibond, and Hartley (2011) Age 25-90 percentiles

The table below shows the results for the two other DASS scales: anxiety and stress when compared with the US EMS Professionals (Bentley et al., 2013) and a recent Australian population sample (Crawford et al., 2011).

Table 4.29 DASS-21 Anxiety and Stress Scale Levels compared with EMS Professionals in the United States^a and Australian Population Sample^b Percentiles (age 25-90).

	Anxiety Scale Level (N=280)			Stress Scale Level (N=281)		
	Clergy	EMS Prof.	Australian Population Sample	Clergy	EMS Prof.	Australian Population Sample
	%	%	%	%	%	%
Normal	86.1	94	87	84.3	94.1	83
Mild	4.3	2.5	4	6.4	3.1	7
Moderate	6.1	2.7	6	5.3	1.9	5
Severe	2.9	0.5	1	2.8	0.7	3
Extremely Severe	0.7	0.3	2	1.1	0.1	2
		$\chi^2=50^{***}$ df=4	$\chi^2=12^*$ df=4		$\chi^2=75^{***}$ df=4	$\chi^2=1.5^{ns}$ df=4

* $p<.05$, ** $p<.01$, *** $p<.001$, ns = non-significant

^a Bentley, Crawford, Wilkins, Fernandez, and Studnek (2013)

^b Crawford, Cayley, Wilson, Lovibond, and Hartley (2011) Age 25-90 percentiles

The results described in Table 4.29 show that the proportion of responses for the Australian clergy on the anxiety scale was significantly different to that for the EMS Professionals ($\chi^2=50, 4, p<.001$), and the Australian population sample ($\chi^2=12, 4, p<.05$). Although this difference was much less with the Australian population sample. Similarly, the proportion of responses between Australian clergy and the EMS Professionals on the stress scale was significantly different ($\chi^2=75, 4, p<.001$). The proportion of responses with the Australian population sample was not significantly different for the stress scale ($\chi^2=1.5, 4, p>.05$).

Table 4.30 DASS-21 Descriptive Statistics and comparison with Australian population sample^b.

Depression Scale	Mean	Standard Deviation	N	t-test
Australian Clergy 2010	2.81	2.97	279	
Australian population sample ^b	2.21	3.60	395	-2.29*
Anxiety Scale				
Australian Clergy 2010	1.52	2.11	281	
Australian population sample ^b	1.48	2.60	395	-.21 ^{ns}
Stress Scale				
Australian Clergy 2010	4.86	3.44	280	
Australian population sample ^b	3.79	4.10	395	-3.57***

* $p < .05$, ** $p < .01$, *** $p < .001$, ns = non-significant

^b Crawford, Cayley, Wilson, Lovibond, and Hartley (2011) Age 25-90 percentiles

Table 4.30 shows the t-test comparison of the means for the Australian clergy compared with the Australian population sample on the depression scale (Crawford et al., 2011). The t-test indicates that the clergy were experiencing significantly higher symptoms than the Australian population sample. This is consistent with the chi-square result in Table 4.28 that found that proportion of responses was significantly different to the population sample.

The t-test comparison of the means for the Australian clergy compared with the Australian population sample (Crawford et al., 2011) for the anxiety and stress scales contrasted with the chi-square results in Table 4.28. This is likely to be due to the variation of results within the ranges captured by the levels of depressive symptoms. The anxiety scale mean of the clergy was not significantly different from the Australian population sample. Whereas, the stress scale mean for clergy was significantly higher than the Australian population sample.

Health Indicators

In accordance with aim one of this research the health of clergy was assessed and where possible comparison was made with the Australian population.

The perception of clergy of their general health over the previous 12 months was largely positive with a large majority (89%) responding that their health was good to excellent, and only 11% responding that their health was fair to poor. The responses to fair and poor were combined due to low numbers rating poor. Table 4.31 shows that a higher proportion of clergy rated their health as excellent to good, 90%, compared to a matched comparison for age of the 2011-2012 Australian Health Survey (Australian Bureau of Statistics, 2013b) which was 85%. A chi-square test was used to compare the proportions of self-rated health categories between clergy and the Australian population. The chi-square (13.14, $p=.004$) was significant, indicating that the pattern of self-rated health was significantly different.

Table 4.31 Comparison of response to the self-rated health question of general health to the Australian Health Survey 2011-2012*

	Clergy (%)	Australian Health Survey 2011-2012* (%)
Excellent	13	19
Very Good	40	36
Good	37	30
Fair/Poor	11	14

*Australian Bureau of Statistics (2013), Age 25-74. Note: Due to rounding % does not add to 100%.

Health indicators were also measured for the previous 12 months including the number of prescribed medications, stays in hospital, visits to doctor, days off, frequency of physical activity, and professional counselling.

Table 4.32 Health Indicators for 12 months prior to Survey One (n=279-281)

Question	Mean	SD	Median	Range	Upper Third
Prescribed medications	1.83	2.65	1	30	2-30
Hospital stays	0.23	0.53	0	4	N/A
Doctor visits	3.2	2.98	3	30	4-30
Sick leave days	4.42	12.07	1	150	3-150
Physical activity (days/wk)	2.88	1.94	3	7	4-7

A reasonable number of clergy had sought professional counselling over the past 12 months (n=52, 18%).

Table 4.33 Health Indicators compared with the Australian Health Survey 2011-2012*

Question	Clergy	AHS
Hospital stay in past 12 months	19%	13%
Doctor visits in past 12 months ^a	92%	86%

*Australian Bureau of Statistics (2013) Age range 25-74, a Australian Health survey - responses to GP visits, in the past 12months (does not include specialist doctors).

Table 4.33 compares two of the health indicators for the clergy with a similar age group in the Australian Health Survey 2011-2012 (Australian Bureau of Statistics, 2013a). This shows that a higher proportion of clergy had a hospital stay in the past 12 months than that found in the Australian Health Survey ($\chi^2=3.00, p=.001$), Table 4.33 also shows that a higher proportion of clergy visited a doctor compared with the relevant age group in the population, although the clergy responses are likely to have included specialist doctors, while the Australian Health Survey responses only included GPs.

The relationship of these health indicators was examined through the construction of contingency tables for self-rated general health with

dichotomised health indicators. Four of the health indicators prescribed medications, doctor visits, sick leave days, and physical activity were divided into two categories upper third compared with lower and middle third of responses (see Table 4.32). The health indicator hospital stays was divided into hospital stays and no hospital stays. The contingency tables showed that the pattern of responses for the health indicators was significantly independent for the two categories. Therefore, there is a strong relationship between general health rating and medications ($\chi^2=49.55, p<.000$), hospital stays ($\chi^2=18.72, p<.000$), doctor visits ($\chi^2=34.74, p<.000$), sick days ($\chi^2=21.94, p<.000$), and physical activity ($\chi^2=10.98, p=.012$).

The strong relationship between health indicators and self-rated general health was then evaluated by an age-adjusted ordinal logistic regression. Age was included as health generally declines with age. The results of this regression are in Table 4.34 below.

Table 4.34 Age-adjusted ordinal logistic regression of the health indicators on self-rated general health (poor)

Variable	B (SE)	95% Confidence Interval for Odds Ratio			$\chi^2(df)^*$ & Sobel test
		Lower	Ratio	Upper	
Response Variable					
General Health (poor) Category 1	-1.82(.57)**	0.16	0.05	0.50	76.3(6)***
General Health (poor) Category 2	0.52(.55) ^{ns}	1.68	0.57	4.93	
General Health (poor) Category 3	3.01(.59)***	20.27	6.39	64.30	
Explanatory variables					
Age	-0.01(.01) ^{ns}	0.97	0.99	1.02	
Medications (1=2-30 Medications)	1.20(.29)***	1.89	3.33	5.86	
Hospital Stays (1= Hospital Stay)	0.56(.32) ^{ns}	0.93	1.75	3.31	
Doctor visits (1=4-30 visits)	0.71(.28)*	1.17	2.04	3.55	
Sick Days (1=3-150 days)	0.57(.26)*	1.07	1.77	2.94	
Physical Activity (1=4-7days/wk)	-0.82(.26)**	0.27	0.44	0.73	

Table 4.34 note: * $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant a Omnibus Test – Is a test of model fit that is based on $-2 \log$ -likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.
General Health 1=Excellent, 2=Very Good 3=Good, 4=Fair/Poor

Table 4.34 shows hospital stays was not a significant predictor of self-rated general health. The low frequency of hospital stays is the most likely reason that this was a poor predictor. Age was also not a significant predictor of self-rated general health, as perhaps respondents were rating their health as they would expect at their age. Previous research has found a low correlation between age and self-rated general health (Erikson, 2001).

The results in Table 4.34 for the remaining health indicators show that poor health (higher ratings) was predicted by higher rates of medication use, a higher number of doctor visits, more sick days, and less physical activity. Therefore, although this is a self-report of general health it is a reflection of health-related behaviours, and the impact of poor health on work indicated by the significant prediction by sick days.

Work Engagement

The responses for the work engagement scale indicate that 85% had an average to very high level of vigour, 96% had an average to very high level of dedication, and 95% had an average to very high level of absorption.

The mean responses for the work engagement scales were compared with the mean responses for the international norms and also a sample of Australian Salvation Army Officers.

Table 4.35 Work engagement (UWES-17) scales descriptive statistics and comparison with other research.

Vigour Scale			
	Clergy	UWES-17 International Norms ^a	Salvation Army Officers ^b
M	3.9	4.2	4.1
SD	0.73	1.09	0.95
N	276	12161	361
t-test		-4.09***	-2.02*
Dedication Scale			
	Clergy	UWES-17 International Norms ^a	Salvation Army Officers ^b
M	4.5	4.3	4.4
SD	0.75	1.36	1.01
N	279	12161	362
t-test		1.96 ^{ns}	1.39 ^{ns}
Absorption Scale			
	Clergy	UWES-17 International Norms ^a	Salvation Army Officers ^b
M	3.9	3.8	4.1
SD	0.74	1.28	0.96
N	279	12161	362
t-test		1.04 ^{ns}	-3.32***

a: Schaufeli and Bakker, 2003; b: Cotton, 2006, * $p < .05$, ** $p < .01$, *** $p < .001$, ns=not significant

These results show that the mean for the vigour scale for the clergy in this study was significantly lower than the mean for vigour for the international norms and the Salvation Army Officers. There was no significant difference between the mean of the clergy in this study for dedication and the mean for the dedication scale for the international norms or the Salvation Army Officers. The mean for the absorption scale of the clergy in this study was significantly lower than the Salvation Army Officers but not significantly different from the international

norms. The variation was lower for clergy for all three work engagement scales than the norms or Salvation Army Officers, this may affect later analysis.

Turnover Intention

The clergy reported a relatively high level of resignation intention, with 45% reporting that they sometimes, often or frequently have considered resigning in the past 12 months ($M=1.59$, $SD=.769$). However, this was lower than the resignation intention (74%) of the Salvation Army Officers when they responded to the same question ($M=1.92$, $SD=.70$, Cotton, 2006).

Self-rated performance

In response to the question of self-rated performance over the past 12 months, five percent of participants rated their performance as poor or below average, 21% rated their performance as average and the remaining 75% rated their performance as good or excellent ($M=3.75$, $SD=.677$). This is similar to the Salvation Army Officers, 73% responded in the good to excellent range (Cotton, 2006).

4.4 Results – Aim 2 - Mediation Analysis

This section considers hypotheses from the JDR model that propose the mediation of outcome variables by an intermediate variable. These hypotheses are:

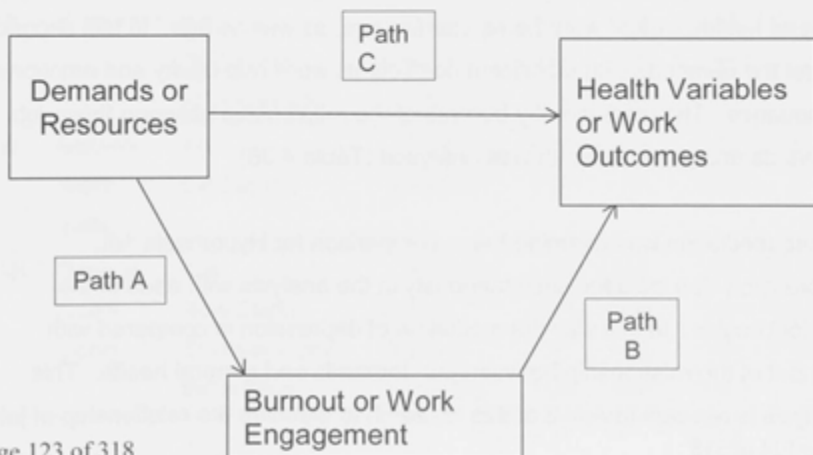
- Hypothesis 1di: Burnout will mediate the relationship between job demands and experienced health problems.
- Hypothesis 1dii: Burnout will mediate the relationship between job demands and depression symptoms
- Hypothesis 2d: Engagement will mediate the relationship between resources and positive work outcomes.

The approach to mediation used in this study is the one recommended by Baron and Kenny (1986). This approach is illustrated in Figure 4.1. According to their approach a variable is a mediator if it meets the following conditions:

1. There is a significant relationship between the independent variable and the response variable. (Path C)
2. There is a significant relationship between the independent variable and the mediator. (Path A)
3. A significant relationship exists between the mediator and the response variable when the independent variable(s) are entered into the equation. (Path AB)

4. The relationship between the independent variable and the response variable is reduced when the mediator is in the equation. If this relationship is reduced to zero, mediation is said to be full. If the relationship does not reduce to zero, mediation is said to be partial. There is reduced power in the final regression due to multi-collinearity between the independent variable and the mediator (Baron & Kenny, 1986). This contributes to reduced power in the test of the co-efficients. Therefore, reduction in the size of the B value also needs to occur if there is mediation. The significance of the indirect effect can be tested using the Sobel test as recommended by Baron and Kenny (1986). This is a test of whether the indirect effect of the IV on the DV via the mediator is significantly different from zero.

Figure 4.1: Mediation Analysis (Baron & Kenny, 1986)



In these analyses when the response variable is ordinal (general health), ordinal logistic regression is used. When the response variable is continuous (depression, burnout, work home interference), linear regression is used.

Hypothesis 1di: Burnout will mediate the relationship between job demands and experienced health problems.

General Health

There were seven job demands that had a significant correlation with general health (poor) as shown in Table 4.5. General health, the response (dependant) variable is ordinal, therefore an ordinal logistic regression analysis was conducted to determine the best linear combination of demands that had the strongest relationship with general health. The effect of age was included in this analysis. When all the job demands were included in this analysis, work home interference was the only significant predictor for general health. As previous research has found work home interference can have a mediating role (Janssen et al., 2004; Van der Heijden, Demerouti, Bakker, & Hasselhorn, 2008), the relationship of this variable with job demands, burnout and general health was analysed separately (Tables 4.37-4.39).

In order to consider the relationship of the other job demands, a second model was fitted using all the job demands that were significantly correlated with general health, except work home interference, as well as age. In this second model the demands with significant coefficients were role clarity and emotional dissonance. The mediation by burnout of the relationship between these job demands and general health was analysed (Table 4.36).

A third mediation was examined as a comparison for Hypothesis 1di. Depression was included simultaneously in the analysis with each of the burnout scales. In this way the mediation of depression is compared with burnout of the relationship between job demands and general health. This analysis is relevant to Aim 3 of this research to examine the relationship of job
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characteristics with burnout and depression. The results of these mediation analyses are tabled below.

Job Demands – Burnout - General Health

In table 4.36 the mediation of the two job demands that had a significant effect on general health are examined, role clarity and emotional dissonance. The mediation of the relationship between this combination of job demands with general health by the burnout scales is considered. Efficacy did not mediate the relationship between job demands and general health, as Table 4.36 shows it was non-significant when these variables were in the model. Ordinal logistic regression was used when general health was the response variable, linear regression was used when exhaustion was the response variable.

Table 4.36 Mediation analysis of the relationship between job demands and general health by burnout

Paths	Response Variable	Predictor	B (SE)	95% Confidence Interval			$\chi^2(df)^a$ & Sobel test		
				Exp Lower	Odds Ratio	Exp Upper			
C	General health (poor)	Age	0.01(.01) ^{ns}	0.99	1.01	1.03	^a 22.4(3) ^{***}		
		Role Clarity	-0.02(.01) ^{**}	0.97	0.98	1.00			
		Emotional Diss.	0.50(.15) ^{***}	1.23	1.65	2.20			
A	Exhaustion	Age	-0.03(.01) ^{***}	0.97	0.96	0.98	^a 97.15(3) ^{***}		
		Role Clarity	-0.02(.004) ^{***}	0.98	0.98	0.99			
		Emotional Diss.	0.65(.09) ^{***}	1.61	1.91	2.29			
B	General health (poor)	Age	0.03(.01) [*]	1.01	1.03	1.05	^a 31.5(2) ^{***}		
		Exhaustion	0.49(.09) ^{***}	1.37	1.63	1.94			
AB	General health (poor)	Age	0.02(.01) [*]	1.00	1.02	1.05	^a 35.6(5) ^{***}		
		Role Clarity	-0.01(.01) ^{nsFM}	0.98	0.99	1.00		-2.9(.002) ^{**}	
		Emotional Diss.	0.28(.1) ^{nsFM}	0.96	1.32	1.81			3.1(.06) ^{**}
		Exhaustion	0.36(.10) ^{***}	1.18	1.43	1.74			

Paths	Response Variable	Predictor	B (SE)	95% Confidence Interval			
				Exp Lower	Odds Ratio	Exp Upper	$\chi^2(df)^a$ & Sobel test
Cynicism							
C	General health (poor)	Age	0.01(.01) ^{ns}	0.99	1.01	1.03	^a 22.4(3) ^{***}
		Role Clarity	-0.02(.01) ^{**}	0.97	0.98	1.00	
		Emotional Diss.	0.50(.15) ^{**}	1.23	1.65	2.20	
A	Cynicism	Age	-0.02(.01) ^{**}	0.97	0.98	1.00	^a 98.9(3) ^{***}
		Role Clarity	-0.03(.003) ^{***}	0.97	0.98	0.98	
		Emotional Diss.	0.39(.08) ^{***}	1.26	1.47	1.72	
B	General health (poor)	Age	0.02(.01) ^{ns}	1.00	1.02	1.04	^a 29.0(2) ^{***}
		Cynicism	0.52(.10) ^{***}	1.39	1.39	2.05	
AB	General health (poor)	Age	0.02(.01) ^{ns}	1.00	1.02	1.04	^a 37.1(5) ^{***}
		Role Clarity	-0.01(.01) ^{nsFM}	0.98	0.99	1.01	-3.2(.003) ^{**}
		Emotional Diss.	0.35(.16) ^{PM}	1.05	1.42	1.93	2.8(.06) ^{**}
		Cynicism	0.41(.12) ^{***}	1.20	1.51	1.89	
Efficacy							
C	General health (poor)	Age	0.01(.01) ^{ns}	0.99	1.01	1.03	^a 22.4(3) ^{***}
		Role Clarity	-0.02(.01) ^{**}	0.97	0.98	1.00	
		Emotional Diss.	0.50(.15) ^{**}	1.23	1.65	2.20	
A	Efficacy	Age	0.01(.00) ^{ns}	1.00	1.01	1.01	^a 72.2(3) ^{***}
		Role Clarity	0.02(.003) ^{***}	1.02	1.02	1.03	
		Emotional Diss.	-0.14(.06) [*]	0.76	0.87	0.98	
B	General health (poor)	Age	0.01(.01) ^{ns}	0.99	1.01	1.03	^a 8.8(2) [*]
		Efficacy	-0.35(.12) ^{**}	0.56	0.71	0.90	
AB	General health (poor)	Age	0.01(.01) ^{ns}	0.99	1.01	1.03	^a 23.9(4) ^{***}
		Role Clarity	-0.01(.01) ^{ns}	0.97	0.99	1.00	
		Emotional Diss.	0.48(.15) ^{**}	1.20	1.61	2.16	
		Efficacy	-0.17(.14) ^{ns}	0.64	0.84	1.11	

^a $p < .05$, ^{**} $p < .01$, ^{***} $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Note: Psych. Demands = Psychological Demands scale, Emotional Diss. = Emotional Dissonance scale

Table 4.36 shows that the two demand variables had a significant relationship with the general health question and with the exhaustion subscale of the MBI-GS. When these demands were included in the regression for general health, the exhaustion subscale had a significant relationship with general health. The B parameters of the two demand variables reduced and they were no longer significant. This indicates that exhaustion fully mediated the relationship between general health and the job demands, role clarity and emotional dissonance. The Sobel test confirms that there was a significant mediation effect, role clarity ($z = -2.9, p < .01$), and emotional dissonance ($z = 3.1, p < .01$).

Role clarity and emotional dissonance had a significant relationship with cynicism and general health. When the cynicism scale was included with the job demands in the mediation regression it had a significant relationship with general health. The B parameters reduced and p values increased for role clarity and emotional dissonance, role clarity was no longer significant. This indicates full mediation by cynicism of the relationship between role clarity and general health, and partial mediation of the relationship between emotional dissonance and general health. This mediation effect was confirmed by the significant Sobel test for role clarity ($z = -3.2, p < .01$) and emotional dissonance ($z = 2.8, p < .01$).

Both demands had a significant relationship with efficacy and general health. When the efficacy scale was included with the job demands in the mediation regression with general health, efficacy had a non-significant B parameter. Therefore, efficacy does not mediate the relationship between job demands and general health in this sample.

Work Home Interference

As discussed in the introduction work home interference is included in hypothesis 1di as a job demand and therefore its relationship with general health

health is predicted to be mediated by burnout. However, in order to contribute to the research questions about the role of work home interference as a demand, mediator and outcome, further analyses were conducted.

Work Home Interference – Burnout – General Health

The first analysis conducted with work home interference considers it as a job demand as it was by Schaufeli et al. (2009) and Cotton (2006).

Table 4.37 Model One: Examination of the mediation effect of each of the burnout scales (exhaustion, cynicism, efficacy) on the relationship between work-home interference and general health

Paths	Response Variable	Explanatory Variable	B (SE)	95% Confidence Interval			$\chi^2(df)^a$ & Sobel test
				Exp Lower	Odds Ratio	Exp Upper	
Exhaustion							
C	General health (poor)	Age	0.02(.01) [*]	1.001	1.02	1.04	^a 47.8(2) ^{***}
		WHI	1.45(.22) ^{***}	2.77	4.28	6.60	
A	Exhaustion	Age	-0.02(.01) ^{***}	0.97	0.98	0.99	^a 154(2) ^{***}
		WHI	1.48(.11) ^{***}	3.52	4.39	5.49	
B	General health (poor)	Age	0.03(.01) [*]	1.01	1.03	1.05	^a 31.5(2) ^{***}
		Exhaustion	0.49(.09) ^{***}	1.37	1.63	1.94	
AB	General health (poor)	Age	0.03(.01) [*]	1.01	1.03	1.05	^a 51.7(3) ^{***}
		WHI	1.17(.26) ^{***}	1.93	3.23	5.39	1.9(.16) ^{ns}
		Exhaustion	0.21(.11) ^{PM}	1.00	1.23	1.52	
Cynicism							
C	General health (poor)	Age	0.02(.01) [*]	1.001	1.02	1.04	^a 47.8(2) ^{***}
		WHI	1.45(.22) ^{***}	2.77	4.28	6.60	
A	Cynicism	Age	-0.02(.01) ^{**}	0.97	0.98	1.00	^a 68.8(2) ^{***}
		WHI	0.91(.11) ^{***}	1.96	2.47	3.10	
B	General health (poor)	Age	0.02(.01) ^{ns}	1.00	1.02	1.04	^a 29.0(2) ^{***}
		Cynicism	0.52(.10) ^{***}	1.39	1.39	2.05	
AB	General health (poor)	Age	0.03(.01) [*]	1.01	1.03	1.05	^a 57.2(3) ^{***}
		WHI	1.22(.23) ^{***}	2.15	3.40	5.37	2.8(.11) ^{**}
		Cynicism	0.33(.11) ^{**}	1.12	1.39	1.71	

Paths	Response Variable	Predictor	B (SE)	95% Confidence Interval			$\chi^2(df)^a$ & Sobel test
				Exp Lower	Odds Ratio	Exp Upper	
Efficacy							
C	General health (poor)	Age	.02(.01) [*]	1.001	1.02	1.04	^a 47.8(2) ^{***}
		WHI	1.45(.22) ^{***}	2.77	4.28	6.60	
A	Efficacy	Age	.01(.01) ^{ns}	1.00	1.01	1.02	^a 25.9(2) ^{***}
		WHI	-.47(.10) ^{***}	0.52	0.63	0.75	
B	General health (poor)	Age	.01(.01) ^{ns}	0.99	1.01	1.03	^a 8.8(2) [*]
		Efficacy	-.35(.12) ^{**}	0.56	0.71	0.90	
AB	General health (poor)	Age	.02(.01) [*]	1.00	1.02	1.05	^a 49.0(3) ^{***}
		WHI	1.40(.23) ^{***}	2.59	4.04	6.30	
		Efficacy	-.14(.13) ^{ns}	0.68	0.87	1.12	

^{*} $p < .05$, ^{**} $p < .01$, ^{***} $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

WHI=Work Home Interference (Negative) Scale

a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Table 4.37 shows the results of the analysis of the mediation by the burnout scales of the relationship between work home interference and general health. Work home interference, and the burnout scales were significant predictors of general health. Yet, when the burnout scales and work home interference were entered into the ordinal logistic regression with general health, the parameter estimates for exhaustion and cynicism reduced, and the p values increased, while efficacy was no longer significant. The parameter estimate for work home interference lowered only marginally with the inclusion of the burnout scales, and the p value remains small. The Sobel test confirms that there was not a significant indirect effect with exhaustion but there was partial mediation by cynicism of the relationship between work home interference and general health with a significant indirect effect, Sobel's $z=2.8(p < .001)$.

Burnout – Work Home Interference – General Health

To consider whether work home Interference may be mediating the relationship between burnout and general health a further mediation analysis was conducted.

Table 4.38 Mediation by work home interference of the relationship of each of the burnout scales (exhaustion, cynicism, efficacy) with general health

Paths	Response Variable	Explanatory Variable	Explanatory B (SE)	95% Confidence Interval for Odds Ratio			$\chi^2(df)^a$ & Sobel test
				Lower	Odds Ratio	Upper	
Exhaustion							
C	General health (poor)	Age	0.03(.01) [*]	1.01	1.03	1.05	^a 31.5(2) ^{***}
		Exhaustion	0.49(.09) ^{***}	1.37	1.63	1.94	
A	WHI	Age	0.001(.003) ^{ns}	1.00	1.00	1.00	^a 139(2) ^{***}
		Exhaustion	0.26(.02) ^{***}	1.24	1.30	1.34	
B	General health (poor)	Age	0.02(.01) [*]	1.001	1.02	1.04	^a 47.8(2) ^{***}
		WHI	1.45(.22) ^{***}	2.77	4.28	6.60	
AB	General health (poor)	Age	0.03(.01) [*]	1.01	1.03	1.05	^a 51.7(3) ^{***}
		WHI	1.17(.26) ^{***}	1.93	3.23	5.39	
		Exhaustion	0.21(.11) ^{PM}	1.00	1.23	1.52	4.3(.07) ^{***}
Cynicism							
C	General health (poor)	Age	0.02(.01) ^{ns}	1.00	1.02	1.04	^a 29.0(2) ^{***}
		Cynicism	0.52(.10) ^{***}	1.39	1.39	2.05	
A	WHI	Age	-0.03(.003) ^{ns}	1.00	1.00	1.00	^a 62.9(2) ^{***}
		Cynicism	0.25(.02) ^{***}	1.17	1.23	1.29	
B	General health (poor)	Age	0.02(.01) [*]	1.001	1.02	1.04	^a 47.8(2) ^{***}
		WHI	1.45(.22) ^{***}	2.77	4.28	6.60	
AB	General health (poor)	Age	0.03(.01) [*]	1.01	1.03	1.05	^a 57.2(3) ^{***}
		WHI	1.22(.23) ^{***}	2.15	3.40	5.37	
		Cynicism	0.33(.11) ^{PM}	1.12	1.39	1.71	4.9(.06) ^{***}

Paths	Response Variable	Explanatory Variable	B (SE)	95% Confidence Interval for Odds Ratio				$\chi^2(df)^a$ & Sobel test
				Lower	Ratio	Upper		
Efficacy								
C	General health (poor)	Age	0.01(.01) ^{ns}	0.99	1.01	1.03	^a 8.8(2) [*]	
		Efficacy	-0.35(.12) ^{**}	0.56	0.71	0.90		
A	WHI	Age	-0.007(.003) [*]	0.99	0.99	1.00	^a 30.0(2) ^{****}	
		Efficacy	-0.170(.03) ^{****}	0.79	0.84	0.90		
B	General health (poor)	Age	0.02(.01) [*]	1.001	1.02	1.04	^a 47.8(2) ^{****}	
		WHI	1.45(.22) ^{****}	2.77	4.28	6.60		
AB	General health (poor)	Age	0.02(.01) [*]	1.00	1.02	1.05	^a 49.0(3) ^{****}	
		WHI	1.40(.23) ^{****}	2.59	4.04	6.30		
		Efficacy	-.14(.13) ^{nsFM}	.68	.87	1.12	-4.1(.06) ^{****}	

^a $p < .05$, ^{**} $p < .01$, ^{****} $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

WHI=Work Home Interference (Negative) Scale

a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Table 4.38 shows the results of the analysis of the mediation by work home interference of the relationship between burnout and general health. As shown in Table 4.38 for each of the burnout scales the B parameter reduced when work home interference was in the model with general health and the p value increased. There was a significant indirect effect of work home interference as shown by Sobel's z for exhaustion (4.3, $p < .001$), cynicism (4.9, $p < .001$) and efficacy (-4.1, $p < .001$). This provides support for the mediation by work home interference of the relationship between burnout and general health.

Job Demands – Work Home Interference – General Health

The results of Table 4.38 show mediation of the relationship between burnout and general health by work home interference. To investigate the mediating role of work home interference further, analysis of the mediating role of work home interference of the relationship between job demands and general health was conducted. These results are shown in Table 4.39.

Table 4.39 Mediation analysis of the relationship between job demands and general health by work home interference

Paths	Response Variable	Predictor	B (SE)	95% Confidence Interval for Odds Ratio			χ^2 (df) ^a & Sobel test
				Lower	Odds Ratio	Upper	
C	General health (poor)	Age	0.01(.01) ^{ns}	.99	1.01	1.03	^a 22.4(3) ^{***}
		Role Clarity	-0.02(.01) ^{**}	.97	.98	1.00	
		Emotional Diss.	0.50(.15) ^{**}	1.23	1.65	2.20	
A	WHI	Age	-0.002(.003) [*]	.99	.99	1.00	^a 116(3) ^{***}
		Role Clarity	-0.007(.002) ^{***}	.99	.99	1.00	
		Emotional Diss.	.34(.04) ^{***}	1.30	1.40	1.50	
AB	General health (poor)	Age	.02(.01) ^{ns}	1.00	1.02	1.04	^a 48.4(4) ^{***}
		Role Clarity	-.01(.07) ^{nsFM}	.98	.99	1.00	2.8(.003) ^{**}
		Emot. Diss.	.09(.17) ^{nsFM}	.78	1.09	1.53	4.2(10) ^{***}
		WHI	1.27(.26) ^{***}	2.14	3.56	5.90	

Emot. Diss.= emotional dissonance, WHI=work home interference

* $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

a Omnibus Test – Is a test of model fit that is based on $-2 \log$ -likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Table 4.39 shows that when work home interference was entered the B parameters of the job demands on general health reduced and were no longer significant ($p > .05$). Sobel's test confirms there was a significant indirect effect (mediation) of the job demands via work home interference on general health for role clarity ($z = -2.8$, $p < .01$) and emotional dissonance ($z = 4.2$, $p < .001$).

Conclusion

Table 4.37 shows that here was partial mediation by cynicism of the relationship between work home interference and general health. This provides limited

support for hypothesis 1di regarding work home interference as a job demand. Tables 4.38 – 4.39 suggest that work home interference has a mediating role in the relationship between job demands and general health, and burnout and general health. As this analysis is only on data at one time, further analysis at time two will examine the temporal relationships between these variables, particularly between work home interference and burnout.

Depression

Job Demands – Depression – General Health

An analysis of the mediation by depression of the relationship between job demands and general health was conducted. Depression was included simultaneously in the analysis with each of the burnout scales. In this way the mediation of depression is compared with burnout of the relationship between job demands and general health. In part this assists in addressing the claim by some researchers that depression and burnout are the same construct (Bianchi et al., 2013).

All of the burnout scales were significant predictors of general health (poor) as shown in Table 4.36. However, when efficacy was included in the mediation with job demands on general health (poor) it was no longer significant. Which indicates that it was not a mediator of the relationship between job demands and general health (poor).

Table 4.40 Mediation analysis of the relationship between job demands and general health by depression

Paths	Response		B (SE)	95% Confidence Interval			Exp χ^2 (df) ^a & Sobel test
	Variable	Predictor		Lower	Odds Ratio	Upper	
C	General health (poor)	Age	0.01(.01) ^{ns}	0.99	1.01	1.03	^a 22.4(3) ^{***}
		Role Clarity	-0.02(.01) ^{**}	0.97	0.98	1.00	
		Emotional Diss.	0.50(.15) ^{**}	1.23	1.65	2.20	
A	Depression	Age	-0.04(.03) ^{ns}	0.91	0.96	1.02	^a 92.1(3) ^{***}
		Role Clarity	-0.12(.02) ^{***}	0.86	0.89	0.92	
		Emotional Diss.	2.23(.40) ^{***}	4.25	9.27	20.21	
AB	General health (poor)	Age	0.02(.01) ^{ns}	1.00	1.02	1.04	^a 33.2(4) ^{***}
		Role Clarity	-0.01(.01) ^{ns}	0.98	0.99	1.00	-3.0(.003) ^{**}
		Emotional Diss.	0.37(.16) [†]	1.07	1.45	1.98	3.0(.06) ^{**}
		Depression	0.07(.02) ^{**}	1.02	1.07	1.12	
Exhaustion							
Exhaustion		Age	-0.03(.01) ^{***}	0.96	0.97	0.98	
		Role Clarity	-.02(.004) ^{***}	0.98	0.98	0.99	^a 97.1(3) ^{***}
		Emotional Diss.	.65(.09) ^{***}	1.61	1.92	2.29	
General health (poor)		Age	0.03(.01) [†]	1.00	1.03	1.05	^a 40.2(5) ^{***}
		Role Clarity	-0.01(.01) ^{ns}	0.98	0.99	1.00	-2.3(.002) [†]
		Emotional Diss.	0.26(.16) ^{ns}	0.94	1.30	1.78	2.5(.08) [†]
		Depression	.04(.03) ^{ns}	0.99	1.04	1.09	
		Exhaustion	.29(.11) ^{**}	1.08	1.34	1.67	

Paths	Response		B (SE)	95% Confidence Interval			
	Variable	Predictor		Lower		Upper	
				Exp Odds Ratio	Exp	$\chi^2(df)^a$ & Sobel test	
Cynicism							
Cynicism	Age		-0.02(.01)**	0.97	0.98	1.00	^a 98.9(3)***
	Role Clarity		-0.03(.003)***	0.97	0.98	0.98	
	Emotional Diss.		0.39(.08)***	1.26	1.47	1.72	
General health (poor)	Age		0.02(.023) ^{ns}	1.00	1.02	1.04	^a 38.3(5)***
	Role Clarity		-.01(.01) ^{ns}	.98	.99	1.01	-2.4(.004)*
	Emotional Diss.		0.37(.16)*	1.02	1.39	1.91	2.2(.06)*
	Depression		.03(.03) ^{ns}	.98	1.03	1.09	
	Cynicism		.34(.14)*	1.06	1.41	1.86	
Efficacy							
Efficacy	Age		0.01(.00) ^{ns}	1.00	1.01	1.01	^a 72.2(3)***
	Role Clarity		0.02(.003)***	1.02	1.02	1.03	
	Emotional Diss.		-0.14(.06)*	0.76	0.87	0.98	
General health (poor)	Age		.02(.01) ^{ns}	1.00	1.02	1.04	^a 33.3(5)***
	Role Clarity		-.01(.01) ^{ns}	.98	.99	1.01	-3.0(.003)**
	Emotional Diss.		.37(.16)*	1.07	1.45	1.98	3.0(.05)**
	Depression		.07(.02)**	1.02	1.07	1.22	
	Efficacy		-.04(.15) ^{ns}	.72	.96	1.28	

* $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

a Omnibus Test – Is a test of model fit that is based on $-2 \log$ -likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Table 4.40 shows that role clarity had a significant relationship with depression and general health, yet it was no longer significant in the regression model with general health when depression was included. An indirect effect was confirmed by Sobel's $z = -2.7$ ($p < .01$). The effect of emotional dissonance on general health decreased from $B = .50$ ($p < .01$), to $B = .37$ ($p < .05$) when depression was in the model. This partial mediation was confirmed by a significant Sobel's $z = 2.8$ ($p < .01$).

Exhaustion was added into the ordinal logistic regression with depression to compare the mediation of these two variables of the relationship between the job demands and general health. When exhaustion was entered depression no longer had a significant relationship with general health, which indicates it was no longer mediating the relationship between the job demands and general health. An indirect effect of exhaustion was confirmed for role clarity Sobel's $z=-2.2$ ($p<.05$) and emotional dissonance Sobel's $z=2.5$ ($p<.05$).

When cynicism was added into the ordinal logistic regression on general health, depression no longer had a significant relationship with general health. An indirect effect of cynicism was confirmed by significant Sobel's $z=-2.4$ ($p<.05$) for role clarity and Sobel's $z= 2.2$ ($p<.05$) for emotional dissonance.

When efficacy was entered into the ordinal logistic regression on general health, depression was still a significant predictor of general health, while efficacy was no longer significant. As discussed, this is not related to the effect of depression as efficacy was not significant when entered with job demands on general health, as shown in Table 4.36. An indirect effect of depression was confirmed by significant Sobel's $z=-3.00$ ($p<.01$) for role clarity, and Sobel's $z=3.00$ ($p,.01$) for emotional dissonance. This was a similar result when a burnout scale was not part of the regression.

Hypothesis 1di Conclusion

The burnout scales, exhaustion and cynicism mediated the relationship between job demands and general health with both job demands fully mediated by exhaustion. Although there was partial mediation by cynicism of the relationship between work home interference and general health, the results were better explained by the mediation of work home interference of the relationship between the burnout scales and general health. Work home interference and the exhaustion scale fully mediated the relationship of both job demands with general health. Depression (Table 4.40) was not as effective in mediating the relationship between job demands and general health compared with exhaustion and cynicism.

Hypothesis 1dii: Burnout will mediate the relationship between job demands and depression symptoms.

The same procedure for assessing mediation (Baron & Kenny, 1986) was used to examine Hypothesis 1cii. There were eight job demands that had a significant correlation with the depression scale (Table 4.5) and four of these entered significantly into a linear model with the depression scale as the response variable. This indicates there was substantial shared variance of the relationship between the eight job demand variables and the depression scale. So, when the mediation of the relationship between the job demands and the depression scale by the burnout scales is considered this is representative of the health impairment pathway due to the correlation among the demand variables. Age was included as it has a significant relationship with exhaustion and cynicism.

Table 4.41 Mediation analysis of the relationship between job demands and the depression scale by exhaustion

Path	Response	Explanatory	B(SE)	95% C.I.		R ²	Sobel B(SE)
				Lower	Upper		
C	Depression N=265	Age	-0.03(.03) ^{ns}	-0.08	0.03	.375	
		Work Home Int.	3.68(.60) ^{***}	2.50	4.86		
		Role Clarity	-0.09(.017) ^{***}	-0.13	-0.06		
		Positive Emot.	-1.49(.58) [*]	-2.63	-0.35		
		Emotional Diss.	2.00(.53) ^{***}	0.96	3.04		
A	Exhaustion N=270	Age	-0.02(.01) ^{***}	-0.04	-0.01	.445	
		Work Home Int.	1.27(.13) ^{***}	1.01	1.52		
		Role Clarity	-0.01(.004) [*]	-0.02	0.00		
		Positive Emot.	-0.05(.13) ^{ns}	-0.30	0.19		
		Emotional Diss.	0.27(.12) ^{ns}	0.05	0.50		
AB	Depression N=266	Age	0.02(.03) ^{ns}	-0.04	0.07	.475	
		Work Home Int.	1.36(.64) ^{PM}	0.10	2.62		5.7(.41) ^{***}
		Role Clarity	-0.08(.02) ^{***PM}	-0.11	-0.05		-2.4(.007) [*]
		Positive Emot.	-1.40(.53) ^{**}	-2.50	-0.36		
		Emotional Diss.	1.51(.49) ^{**}	0.55	2.48		
		Exhaustion	1.84(.26) ^{***}	1.33	2.35		

*p<.05, **p<.01, ***p<.001, PM=partial mediation, FM=Full mediation

Note: Work Home Int. = Work Home Interference Scale, Positive Emot. = Positive Emotional Expression scale, Emotional Diss. = Emotional Dissonance Scale

Although, there were four job demands that had a significant relationship with the depression scale, when these four demands were regressed on the exhaustion scale only work home interference and role clarity had a significant relationship with the exhaustion scale. Thus, exhaustion does not mediate the relationship between positive emotional expression and emotional dissonance and the depression scale. When exhaustion was entered into the regression equation the B value for work home interference and role clarity decreased. Sobel's test confirmed an indirect effect of work home interference ($z=5.7$, $p<.001$) and role clarity ($z=-2.4$, $p<.05$) on depression through exhaustion.

Table 4.42 Mediation analysis of the relationship between job demands and the depression scale by cynicism

Path	Response	Explanatory	B(SE)	95% C.I Lower	95% C.I Upper	R ²	Sobel B(SE)
C	Depression N=265	Age	-0.03(.03) ^{ns}	-0.08	0.03	.375	
		Work Home Int.	3.68(.60) ^{***}	2.50	4.86		
		Role Clarity	-0.09(.017) ^{***}	-0.13	-0.06		
		Positive Emot.	-1.49(.58) [*]	-2.63	-0.35		
		Emotional Diss.	2.00(.53) ^{***}	0.96	3.04		
A	Cynicism N=268	Age	-0.02(.005) ^{**}	-0.03	-0.005	.375	
		Work Home Int.	0.54(.12) ^{***}	0.30	0.77		
		Role Clarity	-0.02(.003) ^{***}	-0.03	-0.01		
		Positive Emot.	-0.26(.12) [*]	-0.49	-0.04		
		Emotional Diss.	0.44(.11) ^{***}	0.23	0.65		
AB	Depression N=264	Age	0.01(.02) ^{ns}	-0.03	0.06	.555	
		Work Home Int.	2.23(.53) ^{***PM}	1.19	3.27		4.1(.35) ^{***}
		Role Clarity	-0.03(.02) ^{***PM}	-0.06	-0.02		-5.6(.01) ^{***}
		Positive Emot.	-0.81(.49) ^{nsFM}	-1.78	0.16		-2.1(.33) [*]
		Emotional Diss.	0.78(.46) ^{nsFM}	-0.13	1.70		3.7(.32) ^{**}
		Cynicism	2.73(.26) ^{***}	2.21	3.25		

* $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

Note: Work Home Int. = Work Home Interference Scale, Positive Emot. = Positive Emotional Expression scale, Emotional Diss. = Emotional Dissonance Scale

Table 4.42 shows that all four job demands that made up the best linear combination of job demands with the depression scale also had a significant relationship with cynicism when entered into the regression. The inclusion of cynicism in the model resulted in decreases in the absolute values of B estimates for all job demands suggesting mediation by cynicism of their relationship with depression. Sobel's test confirmed that there was a significant indirect effect of the job demands on depression through cynicism, work home interference ($z=4.1$, $p < .001$), role clarity ($z=-5.6$, $p < .001$), positive emotional expression ($z=-2.1$, $p < .05$), and emotional dissonance ($z=3.7$, $p < .01$). There was full mediation of the emotional demands, positive emotional expression and

emotional dissonance as these were both non-significant when cynicism was included in the regression with depression (Baron & Kenny, 1986).

Table 4.43 Mediation analysis of the relationship between job demands and the depression scale by efficacy

Path	Response	Explanatory	B(SE)	95% C.I		Sobel B(SE)
				Lower	Upper	
C	Depression	Age	-0.03(.03) ^{ns}	-0.08	0.03	.375
		Work Home Int.	3.68(.60) ^{***}	2.50	4.86	
		Role Clarity	-0.09(.02) ^{***}	-0.13	-0.06	
		Positive Emot.	-1.49(.58) [*]	-2.63	-0.35	
		Emotional Diss.	2.00(.53) ^{***}	0.96	3.04	
A	Efficacy	Age	0.004(.005) ^{ns}	-0.01	.01	.272
		Work Home Int.	-0.26(.10) ^{**}	-0.46	-.07	
		Role Clarity	0.02(.003) ^{***}	0.01	.03	
		Positive Emot.	0.32(.10) ^{**}	0.13	.51	
		Emotional Diss.	-0.16(.09) ^{ns}	-0.33	.02	
AB	Depression	Age	0.02(.03) ^{ns}	-0.08	.03	.405
		Work Home Int.	3.32(.59) ^{***PM}	2.15	4.49	2.1(.16) [*]
		Role Clarity	-0.07(.02) ^{***PM}	-0.10	-.03	-3.2(.008) ^{**}
		Positive Emot.	-1.05(.58) ^{nsFM}	-2.20	.08	-2.4(.17) [*]
		Emotional Diss.	1.79(.52) ^{***}	-0.77	2.82	
		Efficacy scale	-1.31(.36) ^{***}	2.02	-6.1	

* $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

Note: Work Home Int. = Work Home Interference Scale, Positive Emot. = Positive Emotional Expression scale, Emotional Diss. = Emotional Dissonance Scale

When the four job demands were regressed on efficacy all of them had a significant relationship except emotional dissonance. So, efficacy does not mediate the relationship between emotional dissonance and depression. When efficacy was entered into the regression equation the B value for the remaining job demands decreased. Positive emotional expression was no longer a significant predictor of depression when efficacy was included in the model indicating full mediation (Sobel's $z = -2.4$, $p < .05$). The reduced B parameters indicate partial mediation for work home interference (Sobel's $z = 2.1$, $p < .05$), and role clarity (Sobel's $z = -3.2$, $p < .001$).

Hypothesis 2c: Work Engagement will mediate the relationship between resources and positive work outcomes.

The hypothesis regarding mediation for the motivational enhancement pathway is that work engagement will mediate the relationship between job resources and positive work outcomes, reduced turnover intention and good work performance. Turnover intention will be considered first and then self-rated work performance. As both turnover intention and self-rated performance are measured with single questions, the most appropriate analysis is to treat these as ordinal variables rather than continuous variables. Therefore, ordinal logistic regression has been used to analyse the mediation hypotheses.

Turnover Intention

The correlation table (Table 4.14) indicates there were nine resources that have a significant correlation with turnover intention. There were also significant correlations among these resources. When all these resources were included in ordinal logistic regression with turnover, four resources had significant parameters. This suggests that there was substantial shared variance between resources and turnover intention and that those resources in the best regression are representative of the JDR motivational pathway. These resources were co-worker support, social support openness, and the job rewards; job security and esteem. As turnover intention is a single question it is best analysed as an ordinal variable. Table 4.44 shows the ordinal logistic regression of the mediation by work engagement of the relationship between job resources and turnover intention.

Table 4.44 Mediation Analysis: Job resources, work engagement and turnover intention (ordinal logistic regression)

Response			95% Confidence Interval for Odds				
Paths	Variable	Predictor	B (SE)	Ratio			$\chi^2(df)^a$ & Sobel test
				Odds Lower	Ratio	Upper	
Vigour							
C	Turnover	CWS	-0.22(.08)**	0.69	0.81	0.94	^a 61.7(4)***
		Intention	SSO=1	-0.81(.37)*	0.22	0.45	
		Job Sec.	-0.22(.10)*	0.66	0.80	0.99	
		Esteem	-0.18(.05)***	0.76	0.83	0.92	
A	Vigour	CWS	0.12(.03)***	1.07	1.12	1.18	^a 42.5(4)***
		SSO=1	0.21(.13) ^{ns}	0.96	1.24	1.60	
		Job Sec.	0.30(.03) ^{ns}	0.97	1.03	1.10	
		Esteem	0.02(.02) ^{ns}	0.99	1.02	1.06	
AB	Turnover	CWS	-0.14(.08) ^{ns}	0.74	0.87	1.02	-2.9(.04)**
		Intention	SSO=1	-0.50(.39) ^{ns}	0.28	0.60	
		Job Sec.	-0.20(.11) ^{ns}	0.66	0.82	1.00	
		Esteem	-0.18(.05)**	0.76	0.84	0.93	^a 82.8(5)***
		Vigour	-0.91(.21)*	0.27	0.40	0.60	
Dedication							
C	Turnover	CWS	-0.22(.08)**	0.69	0.81	0.94	^a 61.7(4)***
		Intention	SSO=1	-0.81(.37)*	0.22	0.45	
		Job Sec.	-0.22(.10)***	0.66	0.80	0.99	
		Esteem	-0.18(.05)*	0.76	0.83	0.92	
A	Dedication	CWS	0.12(.03)***	1.07	1.13	1.19	^a 46.7(4)***
		SSO=1	0.28(.13)*	1.02	1.32	1.71	
		Job Sec.	0.07(.04)*	1.00	1.07	1.15	
		Esteem	0.01(.02) ^{ns}	0.97	1.01	1.04	
AB	Turnover	CWS	-0.10(.09) ^{ns}	0.76	0.90	1.06	-3.00(.04)**
		Intention	SSO=1	-0.64(.38) ^{ns}	0.25	0.53	
		Job Sec.	-0.07(.11) ^{ns}	0.76	0.93	1.15	-1.62(.05) ^{ns}
		Esteem	-0.20(.05)***	0.74	0.82	0.90	^a 86.1(5)***
		Dedication	-1.05(.21)***	0.24	0.35	0.53	

Paths	Response Variable	Predictor	B (SE)	95% Confidence Interval for Odds Ratio			$\chi^2(df)^a$ & Sobel test
				Lower	Odds Ratio	Upper	
Absorption							
A	Absorption	CWS	0.07(.03)**	1.02	1.08	1.14	
		SSO=1	-0.02(.14) ^{ns}	0.74	0.98	1.29	
		Job Sec.	0.01(.04) ^{ns}	0.94	1.01	1.09	
		Esteem	-0.02(.02) ^{ns}	0.94	0.98	1.02	^a 7.7(4) ^{ns}
B	Turnover Intention	Absorption	-0.30(.16) ^{ns}	0.54	0.74	1.02	^a 3.4(1) ^{ns}

* $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

a Omnibus Test – Is a test of model fit that is based on $-2 \log$ -likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Note: CWS=Co-Worker Support Scale, SSO=Social Support Openness (1=yes do have someone they can be completely open with), Job Sec.=Job Security.

The mediation models (path AB) with vigour ($\chi^2=51(5)$, $p < .001$) and dedication ($\chi^2=54(5)$, $p < .001$) performed significantly better than the threshold only model. The parameter for co-worker support reduced when vigour and dedication were included in the model, and there was an increase in the p value. Partial mediation of co-worker support was indicated by the reduction of the B parameter, and the significant Sobel's $z=-2.9$, $p < .01$ with vigour, and Sobel's $z=-3.0$, $p < .01$ with dedication.

Social support openness, and job security were both significant predictors of turnover intention and dedication. When dedication was included in the model with the resources on turnover intention, social support openness and job security were both no longer significant. In accordance with the guidelines for mediation provided by Baron and Kenny (1986) this would suggest that the relationship of these resources with turnover intention was mediated by dedication. However, the Sobel test contradicts this conclusion, with a non-

significant Sobels' $z = -1.89$, $p > .05$ for social support openness, and Sobel's $z = -1.62$, $p > .05$ for job security. Therefore, the relationship of these two resources with turnover intention was not mediated by dedication when co-worker support was in the model.

As shown in Table 4.44 co-worker support is the only one of the four resources that had a significant parameter with the absorption scale (path a), and absorption did not have a significant parameter with turnover intention (path b). Therefore, in accordance with Baron and Kenny's (1986) approach absorption is not mediating the relationship between resources and turnover intention in this sample. This interpretation is also supported by alternative approaches to mediation, that do not require a significant relationship between predictors and the response variable (path c, eg. LeBreton, Wu, & Bing, 2009).

Esteem had a significant relationship with turnover intention, but did not have a significant relationship with any of the work engagement scales. Therefore, the relationship of Esteem with turnover intention is not mediated by work engagement.

Self-Rated Performance

The second work outcome was self-rated performance. As the correlation table (Table 4.14) indicates there were seven resources that had a significant correlation with self-rated performance. There were significant correlations between these resources. When all these resources were included in linear regression with performance, four resources had significant parameters. This suggests that there was substantial shared variance between resources with performance and that those resources in the best linear regression are representative of the JDR motivational pathway. The significant resources in the linear regression were skill discretion, co-worker support, the God support scale and social support openness. When these were included in a regression with the work engagement scales as the response variable, only skill discretion and co-worker support had a significant relationship. Therefore, work engagement did not mediate the relationship between the God support scale

and social support openness with self-rated performance. As shown in Table 4.45 the work engagement scale, absorption did not have a significant relationship with performance rating and only had a significant relationship with co-worker support. As discussed these significant relationships are a pre-condition for mediation. So, a mediation analysis was not conducted for absorption.

Table 4.45 Mediation analysis: resources, work engagement and self-rated performance (ordinal logistic regression)

Paths	Response		B (SE)	95% Confidence Interval for Odds Ratio			$\chi^2(df)^a$ & Sobel test
	Variable	Predictor		Lower	Ratio	Upper	
		Vigour					
C	Performance Rating	Skill Disc.	0.15(.06)**	1.04	1.16	1.30	^a 41.7(4)***
		CWS	0.25(.08)**	1.10	1.28	1.50	
		GSS	0.16(.06)**	1.04	1.17	1.32	
		SSO	0.80(.40)*	1.01	2.23	4.91	
A	Vigour	Skill Disc.	0.04(.02)*	1.01	1.04	1.07	^a 52.1(4)***
		CWS	0.14(.02)***	1.10	1.15	1.21	
		GSS	-0.001(.02) ^{ns}	0.96	1.00	1.04	
		SSO	0.16(.13) ^{ns}	0.91	1.18	1.51	
AB	Performance Rating	Skill Disc.	0.15(.06)**	1.04	1.16	1.30	1.9(.02) ^{ns} 4.2(.04)*** 1.34 4.28 ^a 79.0(5)***
		CWS	0.14(.08) ^{ns}	0.98	1.15	1.35	
		GSS	0.17(.06)**	1.05	1.18	1.34	
		SSO	0.68(.39) ^{ns}	0.91	1.98	4.28	
		Vigour	1.12(.21)***	2.03	3.06	4.60	

Response		95% Confidence Interval for Odds Ratio					$\chi^2(df)^a$ & Sobel test
Paths	Variable	Predictor	B (SE)	Lower	Odds Ratio	Upper	
C	Performance Rating	Skill Disc.	0.15(.06)**	1.04	1.16	1.30	^a 41.7(4)***
		CWS	0.25(.08)**	1.10	1.28	1.50	
		GSS	0.16(.06)**	1.04	1.17	1.32	
		SSO	0.80(.40) [†]	1.01	2.23	4.91	
A	Dedication	Skill Disc.	0.07(.02)***	1.04	1.08	1.11	^a 66.7(4)***
		CWS	0.13(.02)***	1.08	1.13	1.19	
		GSS	0.02(.02) ^{ns}	0.98	1.02	1.06	
		SSO	0.19(.13) ^{ns}	0.95	1.21	1.55	
AB	Performance Rating	Skill Disc.	0.10(.06) ^{ns}	0.99	1.10	1.23	3.0(.03)**
		CWS	0.17(.08) [†]	1.01	1.18	1.38	4.2(.04)***
		GSS	0.15(.06) [†]	1.03	1.16	1.30	
		SSO	0.63(.39) ^{ns}	0.87	1.88	4.04	
		Dedication	1.15(.21)***	2.07	3.16	4.81	^a 77.2(5)***
Absorption							
A	Absorption	Skill Disc.	0.03(.02) ^{ns}	1.00	1.03	1.07	^a 12.4(4) [†]
		CWS	0.06(.03) [†]	1.01	1.07	1.12	
		GSS	0.001(.02) ^{ns}	0.96	1.00	1.04	
		SSO	-0.04(.14) ^{ns}	0.73	0.96	1.26	
B	Performance Rating	Absorption	-0.33(.17) ^{ns}	0.99	1.40	2.00	^a 3.7(1) ^{ns}

* $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, PM=partial mediation, FM=Full mediation

a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Note: Skill Disc.= Skill Discretion, CWS = Co-Worker Support, GSS=God Support Scale, SSO=Social Support Openness

The mediation models (path AB) with vigour ($\chi^2=79(5)$, $p < .001$) and dedication ($\chi^2=77(5)$, $p < .001$) performed significantly better than the threshold only model.

The work engagement scale, vigour, partially mediated the relationship of co-worker support with self-rated performance as shown by the reduction in B parameter for co-worker support. Sobel's test showed that this reduction was reliable ($z=4.2, p<.001$).

Dedication mediated the relationship between the resources, skill discretion and co-worker support, and self-rated performance. The B value for both skill discretion and co-worker support decreased and the p value increased, with skill discretion no longer significant when dedication was included in the regression. This indicates that there was full mediation of skill discretion (Sobel's $z=3.0, p<.01$) and partial mediation of co-worker support (Sobel's $z=4.2, p<.001$).

4.5 Results – Aim 2 – Moderation (Buffering) Analysis

The research aims also focused on the links between resources and demands. The full correlation table for Study One in Appendix 2.1-2.5 confirms that many of the demands and resources have significant negative correlations. This supports Hypothesis 3a that job demands will be negatively related to job resources. This supports the theoretical distinction between demands and resources.

Two groups of interactions are considered, the buffering of demands by resources with regard to burnout and health problems and the buffering of demands by resources with regard to work engagement. The following hypotheses are proposed to test interactions in accordance with the JDR model.

Hypothesis 3f: Resources will buffer the relationship between job demands and burnout

Hypothesis 3gi: Resources will buffer the relationship between job demands and health

Hypothesis 3gii: Resources will buffer the relationship between job demands and depression symptoms

Hypothesis 3h: Resources will buffer the relationship between job demands and work engagement.

Hypothesis 3gi and ii are key hypotheses for the Demands Control-Support (DCS) theory, whereas Hypothesis 3f and 3h are specific to the Job Demands Resources (JDR) theory. Due to the nature of this study multiple demands, resources and outcome variables can be measured. However, multiple comparisons without controlling for the Type I error rate produces misleading results. In order to manage the Type I error rate the moderation analyses were restricted to seven demands and two resources. The choice of the seven demands and resources was informed by previous research that has identified their relationship with resources and burnout, including interactions. The correlations between variables (appendix two) and the multi-variate analyses also provided information about shared variance of the demands and resources.

Lastly, variables were chosen that best facilitated a match between the cognitive and emotional domains for demands and resources. The demands were: psychological demands, role conflict, role clarity, work-home interference, emotional dissonance, interpersonal disputes, and care frequency. The resources were: co-worker social support and decision latitude (skill discretion and decision authority). The response variables for hypotheses 3f and 3g were restricted to three variables: depression, general health, and the combined MBI-GS burnout scales (Honkonen et al., 2006, p. 60). When data is complex some researchers have used a unitary measure of burnout (eg. Honkonen et al., 2006). Although it would have been preferable to examine the individual burnout scales, this would have led to a total of 70 interactions tested, compared to an already large 42 interactions when the burnout scales are combined.

The response variables for hypothesis 3h were: vigour, dedication and absorption. Hypotheses 3f and 3g will be examined first, and then hypothesis 3h.

Hypothesis 3f and 3gi and ii: Resources will buffer the relationship of job demands with burnout, general health and depression

Multiple regression and logistic regression were used to assess moderation of the relationship between job demands and burnout and health variables, by job resources. To address multi-collinearity the job demand variable and resources variable were centred around the mean as suggested by Aiken and West (1991). The main effects for job demand and resources variable with the burnout or health variable were then entered with a multiplicative interaction term. There were six interactions that had a p value less than 0.05, from 42 possible interactions, a 1 in 7 result.

Table 4.46 Moderation of demands by resources for burnout, general health and depression.

Response Variable	Predictor Centred	B (SE)	p	95% Confidence Interval for Odds Ratio			Goodness of Fit ^a χ^2
				Exp Lower	Odds Ratio	Exp Upper	
general	psych. demands	0.05(.02)	.007	1.02	1.06	1.10	31.04(3)***
health (poor)	co-worker support	-0.26(.07)	.000	0.68	0.77	0.88	
	PDxCWS	-0.03(.01)	.005	0.95	0.97	0.99	
general	IPD	0.03(.03)	.407	0.96	1.03	1.10	23.29(3)***
health (poor)	co-worker support	-0.25(.07)	.000	0.68	0.78	0.89	
	IPDxCWS	-0.04(.02)	.020	0.92	0.96	0.99	
general	WHI	1.4(.22)	.000	2.55	3.94	6.09	56.02(3)***
health (poor)	decision latitude	-0.04(.02)	.030	0.94	0.97	1.00	
	WHIxDL	-0.07(.03)	.030	0.88	0.94	0.99	
burnout	care frequency	0.05(.02)	.008	1.01	1.05	1.08	21.66(3)***
	co-worker support	-0.06(.03)	.012	0.90	0.94	0.99	
	CFx CWS	-0.03(.01)	.003	0.96	0.97	0.99	
depression	care frequency	0.16(.13)	.209	0.91	1.18	1.51	35.62(3)***
	co-worker support	-1.0(.19)	.000	0.25	0.36	0.52	
	CFx CWS	-0.14(.07)	.047	0.77	0.87	1.00	
depression	ED	2.6(.51)	.000	5.00	13.58	36.89	61.92(2)***
	co-worker support	-0.8(.18)	.000	0.31	0.45	0.64	
	EDx CWS	-0.55(.27)	.047	0.34	0.58	0.99	

*** $p < .001$, ** $p < .01$, * $p < .05$, ^a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Note: PD = Psychological Demands scale, WHI = Work Home Interference scale, ED = Emotional Dissonance scale, CF = Care Frequency scale, IPD = Interpersonal Disputes scale.

These interactions are graphed on the following pages in order to clarify the nature of these interactions. Figure 4.2 to 4.7 show that all six of these interactions demonstrated buffering of the job demand by the job resource on the outcome variable, general health, burnout, or depression. This provides partial support for Hypotheses 3f and 3g, although there were many non-

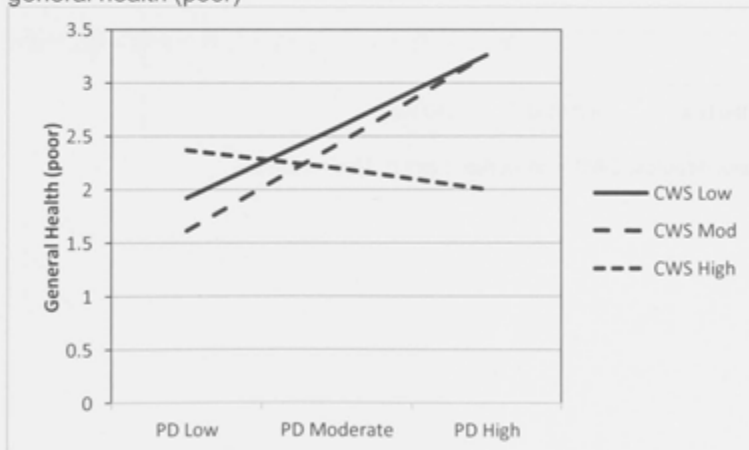
significant interactions between job demands and job resources on burnout and health outcomes.

It is important to note when interpreting Figure 4.2 to 4.4 that higher scores on general health indicate poorer health. The analysis for this interaction was an ordinal logistic regression, therefore calculation of simple slopes is not readily available. The significant interaction does indicate that the relationship between the demand and general health was significantly different at different levels of the resource.

Figure 4.2 Interaction of psychological demands and co-worker support on general health (poor)

Figure 4.2 illustrates the significant interaction of psychological demands with co-worker support on general health (poor). For those with low to moderate co-worker support as psychological demands increased their general health deteriorated (higher rating). Whereas, the general health rating for those with high co-worker support showed a small improvement as psychological demands increased. This illustrates the buffering effect of psychological demands by co-worker support on general health.

Figure 4.2 Interaction of psychological demands and co-worker support on general health (poor)

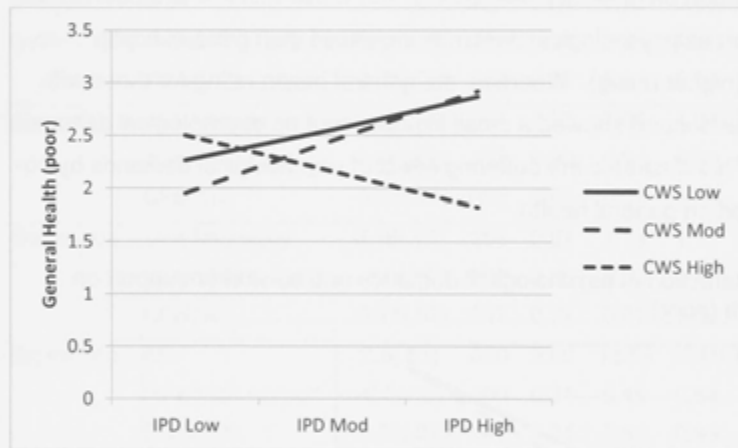


CWS = Co-worker support, PD = Psychological demands, Mod= moderate

Figure 4.3 Interaction of interpersonal disputes with co-worker support on general health (poor)

Figure 4.3 illustrates that when the difficulties with interpersonal disputes increased the general health of those with low to moderate co-worker support worsened (higher scores). In comparison, the general health for those with high co-worker support showed a small improvement as difficulties with interpersonal disputes increased. This shows the buffering effect of co-worker support on the impact of the work demand, interpersonal disputes, on general health.

Figure 4.3 Interaction of interpersonal disputes with co-worker support on general health (poor)

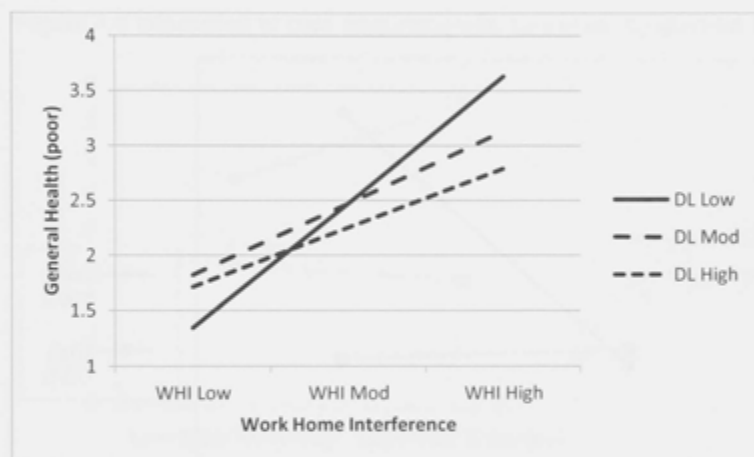


IPD=interpersonal disputes, CWS = co-worker support, Mod=moderate

Figure 4.4 Interaction of work home interference with decision latitude on general health (poor)

Figure 4.4 illustrates that as work home interference increased the general health of those with low decision latitude declined at a significantly higher rate than those with high decision latitude. This illustrates the benefit of decision latitude as it reduces the effect of high work home interference on general health.

Figure 4.4 Interaction of work home interference with decision latitude on general health (poor)

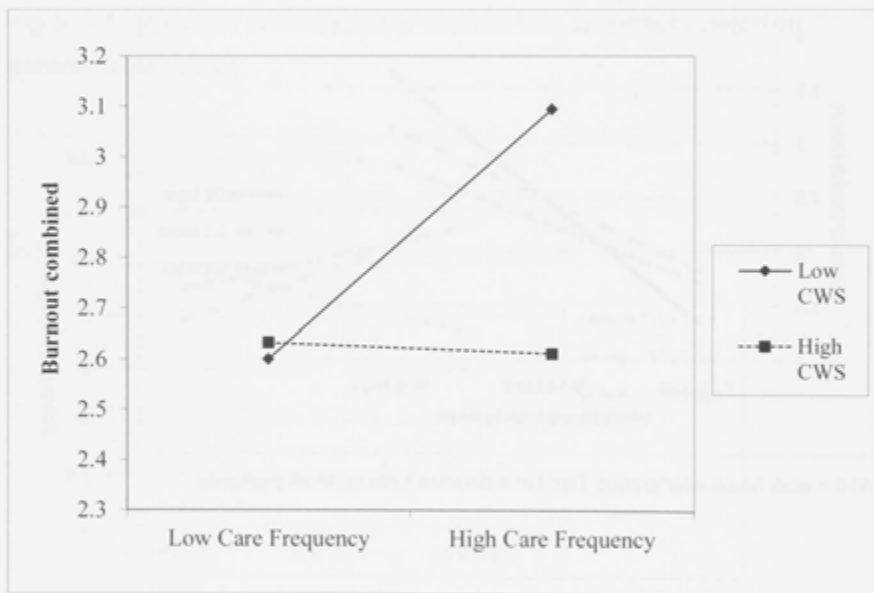


WHI = work home interference, Dec Lat = decision latitude, Mod=moderate

Figure 4.5 Interaction of care frequency with co-worker support on burnout

Figure 4.5 shows that as care frequency increased burnout increased for those with low co-worker support whereas there was no effect on burnout for those with high co-worker support. This was confirmed by the simple slope test that found a significant difference between the value of burnout at low care frequency compared to high care frequency for those with low co-worker support ($t=5.01, p<.000$) whereas there was no significant difference for those with high co-worker support ($t=-.24, p=.811$).

Figure 4.5 Interaction of care frequency with co-worker support on burnout

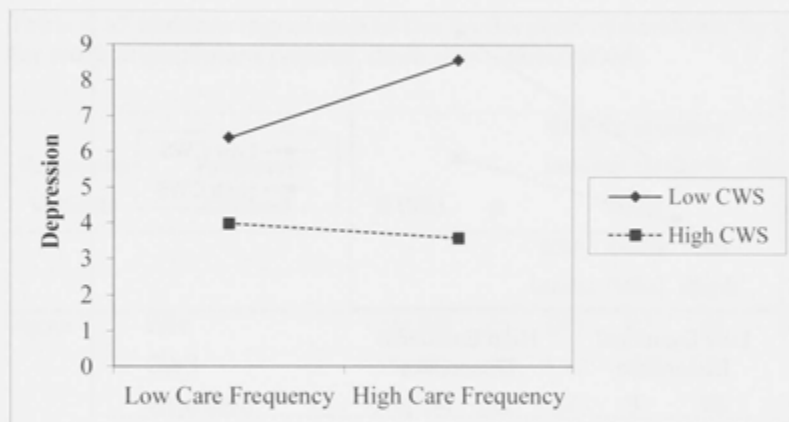


CWS=co-worker support

Figure 4.6 Interaction of care frequency with co-worker support on depression

Figure 4.6 shows that as care frequency increased the effect of this on depression for those with high co-worker support was significantly less than for those with low co-worker support. The simple slopes test showed that the value of depression at low care frequency was significantly higher at high care frequency for those with low co-worker support ($t=2.26, p=.03$), the value of depression was not significantly different for those with high co-worker support between low care frequency and high care frequency ($t=-0.47, p=.64$).

Figure 4.6 Interaction of care frequency with co-worker support on depression

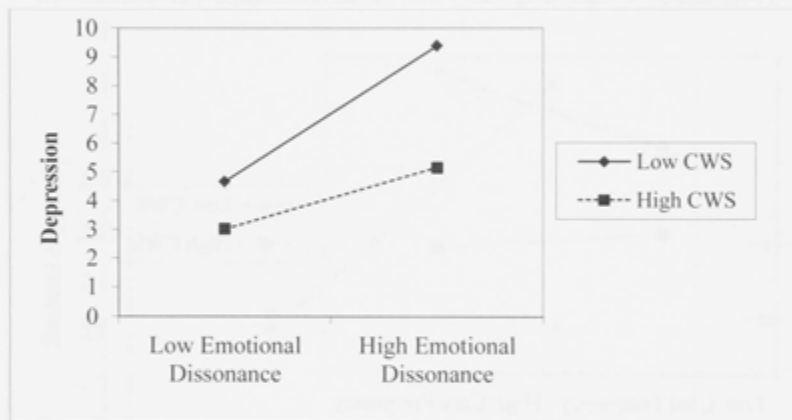


CWS=co-worker support

Figure 4.7 Interaction of emotional dissonance with co-worker support on depression

Figure 4.7 illustrates the interaction that as emotional dissonance increased the depression symptoms of those with high co-worker support increased at a significantly lower rate than those with low co-worker support. The simple slopes test shows that the increase in depression from low emotional dissonance to high emotional dissonance was significant for both low and high co-worker support (Low CWS $t=5.43$, $p<.000$, High CWS $t=2.16$, $p=.032$).

Figure 4.7 Interaction of emotional dissonance with co-worker support on depression



CWS=co-worker support

Hypothesis 3h: Resources will buffer the relationship between job demands and work engagement.

Multiple regression was used to assess moderation of the relationship between job demands and work engagement by job resources. To address multicollinearity the job demand variable and resources variable were centred as suggested by Aiken and West (1991). The main effects for the job demand and resources variables with the work engagement scale (vigour, dedication, absorption) were then entered with a multiplicative interaction term. There was only one interaction that had a p value less than 0.05 from 42 possible interactions.

Table 4.47 Multiple regression of the moderation of demands by resources for work engagement (vigour, dedication, absorption)

Response Variable	Predictor Centred	B (SE)	p	95% Confidence Interval for Odds Ratio			Goodness of Fit
				Exp Lower	Odds Ratio	Exp Upper	
vigour	WHI	-.19(.08)	.01	.071	.83	.96	55(3)
	CWS	.15(.03)	.00	1.11	1.16	1.21	
	WHIxCWS	-.10(.04)	.02	.84	.91	.96	

*** $p < .001$, ** $p < .01$, * $p < .05$, a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

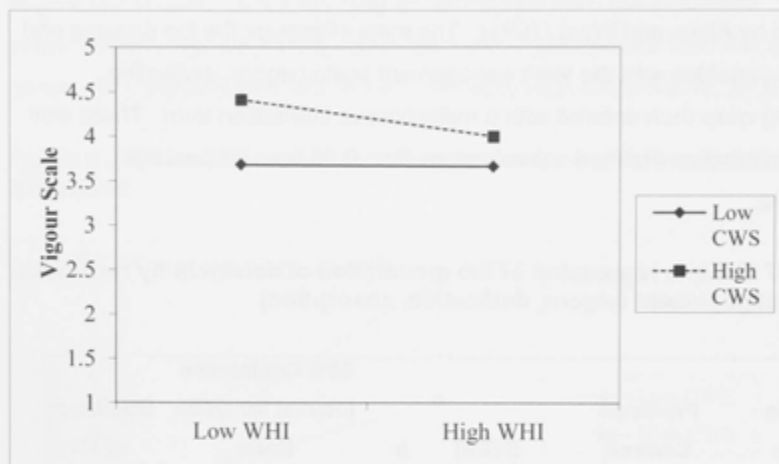
Note: WHI = Work Home Interference scale, CWS=Co-Worker Support Scale

Figure 4.9 shows that as work home interference increased the vigour scale score for those with high co-worker support decreased significantly more than those with low co-worker support. The simple slope test reveals that there was not a significant difference between the value of vigour for low and high work home interference when co-worker support was low ($t = -.17$, $p = .87$), whereas there was a significant difference between the value of vigour for low and high work home interference when co-worker support was high ($t = -3.2$, $p = .002$).

Figure 4.9 and the simple slope tests show that hypothesis 3h was not supported in this interaction as the effect of increasing work home interference

on vigour was not reduced by co-worker support, rather co-worker support had significantly less benefit as work home interference increased.

Figure 4.9 Interaction of work home interference with co-worker support on vigour



WHI=work home interference, CWS=co-worker support

In conclusion, this result combined with the non-significant interactions indicates that in this study hypothesis 3f was not supported, resources did not buffer the relationship between job demands and work engagement.

Chapter Five: Study 2

5.1 Introduction and design

In the first study the job demands-resources (JDR) model was examined in a cross-sectional survey. The two pathways, health impairment and motivational enhancement were examined as well as the links between these pathways. This provided a strong foundation for understanding work stress in a clergy sample.

The second study was designed to develop this investigation through a focus on one of these pathways, health impairment. This involves the investigation of the relationship between job demands, burnout and health outcomes. A particular focus of this study are the workplace predictors and mediators for the development of depression.

As the focus of this study is on the health impairment pathway and in particular burnout, health and depression the majority of the motivational enhancement pathway was not included in this study. The outcome variables for the motivational enhancement pathway, turnover intention and performance were not included, nor was the mediator for this pathway, work engagement. The research evidence indicates that work engagement, turnover intention, and performance do not have a strong association with depression or health as indicated in a review of studies by Cotton (2006). There is also evidence that long time lags (eg. 2 years) are necessary to identify any association between work engagement and depression (Mauno et al., 2007). Therefore, these components of the first survey were not included in this second study with its focus on depression.

A number of job resources were retained in this study as the research has demonstrated that there are cross links between the health impairment and motivational enhancement pathways, such that resources have been found to buffer the impact of demands on burnout (Cotton, 2006; Hakanen et al., 2008;

Schaufeli & Bakker, 2004). This will be investigated by considering the relationship between Time 1 job demands and job resources with Time 2 burnout, and the interaction of Time 1 job demands and resources on Time 2 depression and health. In addition to the interaction hypotheses of the JDR model, research into job characteristics and depression has demonstrated a number of resources that have a negative association with depression symptoms. These include: effort-reward imbalance, low job control, low social support, and high job insecurity (Dragano et al., 2008; Stansfeld & Candy, 2006). The DCS and ERI (Niedhammer et al., 2004; Theorell & Karasek, 1990) models also propose a direct relationship between resources, social support, and rewards respectively, on health including depression. These direct relationships were described in hypotheses 3gi and 3gii examined in study one.

For those demands and resources that were not included in the second study the major basis for their removal was that they did not contribute to the models of clergy well-being in the first study. Also, the response rate for the first survey was lower than expected. Feedback received from participants indicated that the length of the survey was a deterrent for some potential respondents. So a reduction in the size of the survey by removing variables was expected to minimise the impact of survey length on the response rate.

Burnout has been demonstrated in a range of studies to have a strong association with depression symptoms (Schaufeli & Enzmann, 1998). In one longitudinal study this relationship was found to have a reciprocal effect so that burnout predicted new depression cases and depression predicted new burnout cases (Ahola & Hakanen, 2007). Further cross-lagged analysis was conducted by Hakanen, Schaufeli and Ahola (2008) to clarify the temporal order of burnout and depression. This analysis concluded that the model that best fit the data was the one in which burnout at Time 1 predicted depression at Time 2. One of the aims of this study is to examine this relationship, through a longitudinal study of these two constructs.

The benefit of a longitudinal design in this study is the opportunity it provides to examine the impact of work characteristics on health over time, and provide

evidence of plausible causal relations between work characteristics and health. This can be done when there is evidence of an association between two variables, and there is evidence about the direction of causality. Yet, causal inferences cannot be made unless there are no alternative explanations for the results. In order to strengthen the plausibility of causal conclusions about variables, De Jonge et al. (2001) made several recommendations: using a full-panel design with an adequate time lag, taking the stability of variables into account, and using covariance structure modelling. A full-panel design was used for this study, where the proposed cause and effect variables were measured on both occasions for each person. The time lag used was 12 months a relatively short timeframe given the stability of the burnout scales (Maslach et al., 1996, p. 25; T. W. Taris & Kompier, 2003). Where possible, covariance structure modelling has been used to analyse the results.

5.2 Aims and Hypotheses

Study Two examines Aims 2 and 3 (Chapter 3). These aims are:

Aim 2: To examine the job demands resources (JDR) model with general and occupationally specific demands and resources in a clergy sample, and evaluate how well it explains the results obtained from the sample.

Aim 3: To investigate the relationship between job characteristics, burnout and depression over time.

The hypotheses investigated in this study extended the cross-sectional analysis at Time 1 by examining the relationship between job demands, job resources, burnout and health from Time 1 to Time 2. The original hypotheses are re-stated here with specific hypotheses about the relationship between the variables at Time 1 and Time 2 in accordance with the JDR model. Additional hypotheses have been added as research suggests that depression and health have a direct relationship with job resources.

Health Impairment Process

Burnout and Job Demands

- Hypothesis 1a: Job demands at Time 1 will predict burnout at Time 2 when burnout at Time 1 is controlled.
- Hypothesis 1bi: Burnout at Time 1 will predict general health at Time 2, controlling for the level of general health at Time 1.
- Hypothesis 1bii: Burnout at Time 1 will predict depression symptoms at Time 2, controlling for the level of depression symptoms at Time 1.

Job Demands

- Hypothesis 1ci: Job demands at Time 1 will predict general health at Time 2, controlling for general health at Time 1.
- Hypothesis 1cii: Job demands at Time 1 will predict depression at Time 2, controlling for depression at Time 1.

Mediation by Burnout

- Hypothesis 1di: Burnout at Time 1, will mediate the relationship between job demands at Time 1 and general health at Time 2, controlling for general health at Time 1.
- Hypothesis 1dii: Burnout at Time 1, will mediate the relationship between job demands at Time 1 and depression at Time 2, controlling for depression at Time 1.

Cross-link of Resources with Burnout, Health and Depression

- Hypothesis 3a: Job demands at Time 1 will be negatively related to resources at Time 1.
- Hypothesis 3d: Resources at Time 1 will be negatively related to burnout at Time 2, controlling for burnout at Time 1.
- Hypothesis 3f: Resources at Time 1 will buffer the relationship between job demands at Time 1 and burnout at Time 2, controlling for burnout at Time 1.
- Hypothesis 3gi: Resources at Time 1 will buffer the relationship between job demands at Time 1 and general health at Time 2, controlling for general health at Time 1.
- Hypothesis 3gii: Resources at Time 1 will buffer the relationship between job demands at Time 1 and depression at Time 2, controlling for depression at Time 1.

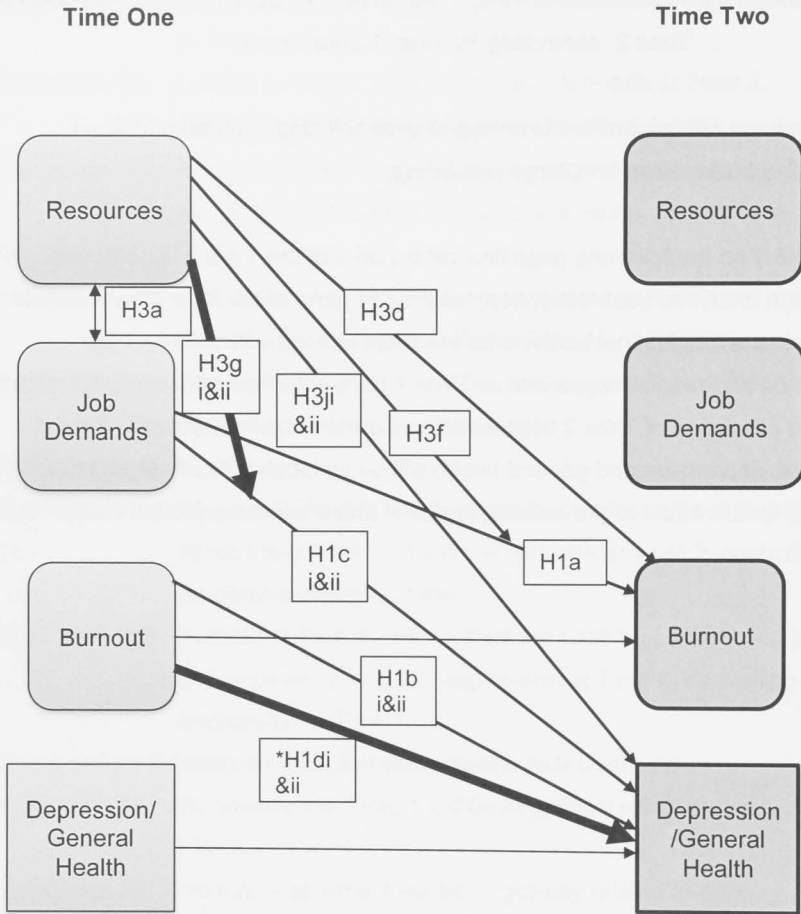
Hypothesis 3ji: Resources at Time 1 will be negatively related to general health at Time 2, controlling for general health at Time 1.

Hypothesis 3jii: Resources at Time 1 will be negatively related to depression at Time 2, controlling for Time 1 depression.

The findings with regard to these Hypotheses will also contribute to Aim 4 regarding intervention for Clergy well-being.

Figure 5.1 on the following page illustrates some of the Time 2 hypotheses. Although analysed separately, depression and general health are combined to illustrate the longitudinal analysis for the response variables. Time 1 job demands and resources, as well as Time 1 burnout will be analysed with regard to their prediction of Time 2 depression and general health (arrows). Time 1 burnout, depression and general health will be included in the analyses to control for the effect of pre-existing levels of these variables (dotted lines).

Figure 5.1 Study 2: Jobs Demands Resources Model Hypotheses



* See Figure 5.2 for illustration of the analysis for his hypothesis.

5.3 Method

Design

As described in Section 5.1 the second survey was based on the first survey, with fewer variables. The only new questions were those related to role change, see below. The survey was delivered primarily in a web-based format. Participants were provided with an opportunity to receive a paper version of the survey.

Target Group

As the second survey was a follow-up survey, the target group were those who had completed the first survey. They were from the Association of Baptist Churches SW/ACT, Uniting Church, Anglican Church and Catholic Church denominations as well as a few smaller church organisations.

To maintain privacy the respondents to the first survey were not identified. Thus, a general invitation was sent out with a request for those that completed the first survey to do the second survey. The same method of invitation was used for the second survey with the majority of participants invited to participate through an email from their denomination. Those in the Catholic Archdiocese of Sydney were sent an email directly by the researcher. Ministry Training Strategy sent an invitation to the 267 individuals that had been invited to complete the first survey.

Role Change

Time 2 participants were asked whether their role had changed since the previous survey in April-June 2010. If they responded yes, several questions following to determine whether they were continuing in congregational leadership, their church location, employment status (full-time or part-time) and work hours.

Demographic items

Questions regarding age, gender, marital status, number of dependent children and denomination were not included in the second survey. The data from the first study were used to provide these values for analysis.

Variables in the Follow-up Survey

The table below summarises the variables that were included in Survey 2. A description of each of these variables was provided in Section 4.2

Table 5.1: Summary of variables in the follow-up survey (Survey 2)

	Variables Included
Job Demands	Interruptions Trauma Care Psychosocial Demands Role Clarity Work/Home Interference Emotional Dissonance Positive Emotional Expression Interpersonal Conflict
Job Resources (and Personal Resources)	Prayer Bible Reading God Support Scale ERI - Rewards Scales Co-Worker Social Support Control – Decision Authority Control – Skill Latitude
Outcome Variables	Depression Scale MBI-GS Exhaustions Scale MBI-GS Cynicism Scale MBI-GS Efficacy Scale General Health Question Health Indicators

5.4 Results

Response Rate

There were 283 congregational leaders that responded to the first survey, and, of these, 67 responded to the second survey. However, three were no longer congregational leaders for the second survey and so 64 were included in the Time 2 analysis. This was a response rate of 23 % from the Time 1 respondents. Thus the overall response rate for both times for those invited by their denomination was 5%.

Table 5.2 Response Rate by denomination and method of invitation

Invited by Diocese or Denomination					
Denomination	Number invited	Respondents Time One	Response Rate Time 1(%)	Respondents Time Two	Response Rate Time 2(%)
Anglican	224	76	34%	20	9%
Baptist	400	105	26%	11	3%
Uniting	209	35	17%	12	6%
Subtotal	833	216	26%	43	5%
Invited by Diocese or other form of invitation					
Catholic (invited by Diocese)	225				
Catholic Sydney Arch-Diocese (directly invited)*	159	24	6%	10	3%
MTS Past Trainees **	267	31	12%	11	4%
Subtotal	651	55	9%	21	3%
Other Denominations***	11	11		0	
	Total=1495	Total = 282	19%	Total = 64	4%

Note: One missing response for total of 283 participants

* Catholic priests in the Sydney Arch-Diocese were directly contacted by an email to each church email address. It is not possible to determine what proportion of Catholic priests that responded were those invited by their Diocese or contacted directly.

**Ministry Training Strategy contacted all the past trainees that they had a record of, to invite them to participate in the survey. Many of these have not gone on to become congregational leaders or are currently still in training. Therefore, they are not able to participate in this study. A small number of those that responded may also have been invited by their denomination.

*** The method of invitation is uncertain for the 11 participants at Time 1 that were not from one of the invited denominations and were not MTS Past Trainees. It is likely that they were forwarded the invitation by other Clergy. Therefore, the number invited was estimated as 11. It is likely these were not re-invited by other Clergy at Time 2 hence none responded at Time 2.

Non-Response analysis

The low response rate for those that responded to both surveys makes it essential to ascertain whether the respondents at Time 2 were representative of the Time 1 respondents. Table 5.3 shows a close resemblance in age and gender for respondents from Time 1 and Time 2.

Table 5.3 Participant Demographic Information

	Time One (N=283)	Time Two (N=64)
Age	Mean=48	Mean= 49.94
	Median Age= 47	Median=49.5
	Min=22	Min = 30
	Max=75	Max=75
Gender	Male= 82%	Male=80%
	Female= 18%	Female=20%

In order to determine the extent that the Time 2 sample on which longitudinal analysis will be carried out is representative of the initial Time 1 sample a comparison was conducted for those that did and those that did not provide complete longitudinal data. A *t*-test was used for age, gender and outcome variables relevant at Time 2. This provided a comparison of the means to determine whether there were any significant differences between these two groups.

Table 5.4 Independent sample *t*-test evaluating the mean differences between the respondents at Time 1 who completed the survey at Time 2(N=64) and those that did not respond at Time 2(N=219)

Variables	Mean T1 only	Mean T1&2	t	df	p
Demographics	N=215-219	N=63-64			
Age	47.68(10.78)	50(10)	-1.50	280	.14
Gender	Male=.8	Male=.8	0.57	277	.57
Outcome variables					
MBI-GS Exhaustion Scale	2.33(1.4)	2.18(1.29)	0.77	281	.44
MBI-GS Cynicism Scale	1.45(1.22)	1.16(1.05)	1.75	280	.08
MBI-GS Efficacy Scale	4.67(.91)	4.63(.99)	0.36	281	.72
General Health	2.48(.86)	2.35(.81)	1.11	280	.27
DASS – Depression Scale	5.7(5.83)	5.37(6.31)	0.40	277	.69

Table 5.4 shows that there were no significant differences between the means for age, gender or any of the outcome variables.

Descriptive Analysis

Table 5.5 below shows the correlation between each of the Time 1 demands, resources, and outcome variables and each of the Time 2 variables. The significant correlations are in bold. The demands variables with the strongest relationships were emotional dissonance, interpersonal disputes, work home interference and the role clarity scale. Surprisingly, psychological demands, a core measure of the DCS model, did not have a significant linear relationship with the Time 2 outcome variables. The resources that had a significant relationship with the Time 2 outcome variables were co-worker support, the God support scale, skill discretion, decision latitude and the rewards (combined scales). There were no significant correlations of Time 1 demands and resources with Time 2 general health. Time 2 depression had more significant correlations with Time 1 resources, than the burnout scales. As Table 5.5

shows the correlations were higher between Time 1 response variables and Time 2 response variables, than most of the correlations of the Time 1 demands and resources with Time 2 response variables. The shaded areas in Table 5.5 show the stability coefficients (test-retest reliability) for the depression scale (.39), exhaustion scale (.48), cynicism scale (.35), efficacy scale (.51), and general health item. The level of the stability coefficients in comparison to the other correlation coefficients does create issues for identifying causal relationships because this provides less opportunity for other variables to influence these scales (Schaufeli & Enzmann, 1998, p. 98). Full correlation tables are provided in appendix three, Tables A3.1-4.

Table 5.5 Correlation (r_s and τ) of Time 1 variables with Time 2 response variables (N=62-64)

Time One Variables	Time 2 Response Variables					
	Depression	Exhaustion	Cynicism	Efficacy	General health (poor) [†]	Burnout
Demands						
Trauma Care interruption	-.11	.03	.03	.28**	-.01	-.07
Psychological Demands	-.05	.22	.01	-.06	-.01	.15
Emotion Positive	.00	.11	-.07	.04	.04	-.01
Emotional Dissonance	.33**	.37*	.40*	-.37**	.08	.46**
Interpersonal Disputes	.28*	.34**	.34**	-.23	-.02	.38**
Work Home Interference	.35**	.50**	.38**	-.38**	.18	.54**
Role Clarity Scale	-.36**	-.25*	-.33*	.47**	.03	-.40**
Resources						
Prayer [‡]	-.08	-.09	-.08	.09	-.10	-.12
Bible Reading [‡]	-.03	-.24[‡]	-.09	-.02	-.16	-.17
Co-Worker Support	-.41**	-.21	-.43**	.21	-.02	-.35**
God Support Scale	-.25*	-.08	-.22	.28*	-.12	-.20
Rewards Combined	-.33*	-.29*	-.34*	.22	-.16	-.35**
Decision Authority	-.17	.04	-.22	.12	-.05	-.10
Skill Discretion	-.30*	-.12	-.24	.16	-.10	-.21
Decision Latitude	-.26*	.01	-.27*	.17	-.08	-.15
Response Variables						
Depression Scale	.41**	.46**	.40**	-.44**	.27*	.53**
Exhaustion Scale		.63**	.26*	-.27*	.06	.52**
Cynicism Scale			.42**	-.39**	.14	.57**
Efficacy Scale				.64**	-.20*	-.50**
General Health [†]					.56**	.17
Burnout Combined						.64**

Pearson correlations except where superscript τ which indicates Kendall's tau correlation. Stability co-efficients shaded grey. * $p < .05$, ** $p < .01$, *** $p < .001$ (two tailed), significant correlations in bold.

Role change

There were 17 respondents at Time 2 (25%) who indicated their position or role had changed since Time 1. As already mentioned, three who were no longer in congregational leadership positions were omitted from the analysis. Those who had changed role were asked what location, employment status and work hours they had in their new role or position. Two respondents had moved from part-time to full-time employment, and four had moved to a different type of location (eg. rural to small regional). The mean for work hours had increased, which is partially a feature of the change in status but also several respondents that did not change status reported an increase in work hours.

Table 5.6 Characteristics of the new role for those that had a change in position or role over the past 12 months for respondents at Time 2

Position Characteristics		Survey One	Survey Two
Employment Status	FT	9	11
	PT	5	3
Location	Rural	1	0
	Small Regional	6	5
	Large Regional	1	5
	Urban	6	4
Work Hours	Mean Change*		3.3
	SD		11.7

*Mean increase from Time 1 to Time 2 for those with no change in employment status (N=12).

Outcome Variables

Burnout

Table 5.7 shows the percentage and frequency of the respondents for Time 1 and Time 2 in the levels of burnout for each scale (Maslach et al., 1996, p. 48). At Time 2 there were 30% more respondents at the low level of exhaustion than at Time 1. There were 40% more respondents in the average level of efficacy.

Table 5.7 Burnout Levels for Time 1 and Time 2 (Maslach et al., 1996).

Burnout Level	Time 1		
	Exhaustion, N=63	Cynicism, N=63	Efficacy, N=64
Low	25	37	16
Average	24	18	15
High	14	8	33

Burnout Level	Time 2		
	Exhaustion, N=64	Cynicism, N=62	Efficacy, N=63
Low	33	38	12
Average	19	14	21
High	12	10	30

The stability coefficients for the three scales were exhaustion (.63), cynicism (.42), and efficacy (.64). In comparison, the MBI-GS manual (Maslach et al., 1996) provides data on stability coefficients from a Dutch civil service sample obtained from longitudinal data at a one year interval. The three subscales had stability coefficients of .65 (exhaustion), .60 (cynicism), and .67 (professional efficacy).

Depression

As Table 5.8 below shows, for Time two, 4.7% of clergy were experiencing symptoms of depression that were in the moderate range according to the Australian norms (Lovibond & Lovibond, 1995). The table also shows a contraction in the range of depression symptoms, with an overall lower severity of symptoms for respondents at Time 2. For example, at Time one, 3.6% (10) were experiencing severe or extremely severe symptoms, whereas at Time 2 no respondents were experiencing symptoms at this level.

Table 5.8 Depression Level of Clergy – Time 1 and Time 2 (N= 64)

Depression Level	Time 1		Time 2	
	N	%	N	%
Normal	49	76.6	51	79.7
Mild	7	10.9	10	15.6
Moderate	4	6.3	3	4.7
Severe	2	3.1	0	0
Extremely Severe	1	1.6	0	0

N=number of participants in this level, %= percentage of participants at Time 1 or Time 2 at this level.

Health Indicators

In order to compare the responses to general health from Time 1 to Time 2, a cross-tabulation was constructed, Table 5.9. The chi-square test of independence of the cross tabulation of Time 1 general health with Time 2 general health, shows that there was a strong relationship between general health at Time 1 and Time 2 ($\chi^2=44.6(9)$, $p<.001$) across the categories. Table 5.9 shows that 50-60% of respondents rated their health the same at Time 1 and at Time 2.

Table 5.9 T1 General Health x T2 General Health Cross-tabulation

		T2 General Health				Total	
		1.00	2.00	3.00	4.00		
T1 General Health	1.00	Count	4	4	0	0	8
		% within T1 General Health	50.0%	50.0%	0.0%	0.0%	100.0%
	2.00	Count	1	18	10	1	30
		% within T1 General Health	3.3%	60.0%	33.3%	3.3%	100.0%
	3.00	Count	0	5	12	3	20
		% within T1 General Health	0.0%	25.0%	60.0%	15.0%	100.0%
	4.00	Count	0	1	1	3	5
		% within T1 General Health	0.0%	20.0%	20.0%	60.0%	100.0%
	Total	Count	5	28	23	7	63
		% within T1 General Health	7.9%	44.4%	36.5%	11.1%	100.0%

Note: 1=Excellent, 2=Very Good, 3=Good, 4=Fair/Poor

Additional health indicators were also measured for the previous 12 months including the number of prescribed medications, stays in hospital, visits to doctor, days off, frequency of physical activity, and professional counselling.

Table 5.10 Health Indicators for Time 1 and Time 2 (n=64) for the past 12 months

Health Indicator	Prescribed medications	Hospital stays	Doctor visits	Sick leave days	Physical activity (days/wk)
T2 Mean	2.34	.28	3.84	8.91	2.84
T1 Mean	2.2	.25	3.58	5.5	2.67
T2 SD	3.35	.06	4.34	38.58	1.95
T1 SD	4.41	.47	3.96	19.98	1.86
T2 Median	1	0	2.5	2	3
T1 Median	1	0	3	2	2
T2 Range	24	3	30	300	7
T1 Range	30	2	30	150	7

The proportion of those that had sought counselling in the past 12 months reduced slightly from Time one (28%, n=18), to Time two (20%,n=13).

Aims Two and Three: Longitudinal Hypotheses

The longitudinal hypotheses for Aims 2 and 3 (Section 5.2) were:

Aim 2: To examine the job demands resources (JDR) model with general and occupationally specific demands and resources in a clergy sample, and evaluate how well it explains the results obtained from the sample.

Aim 3: To investigate the relationship between job characteristics, burnout and depression over time.

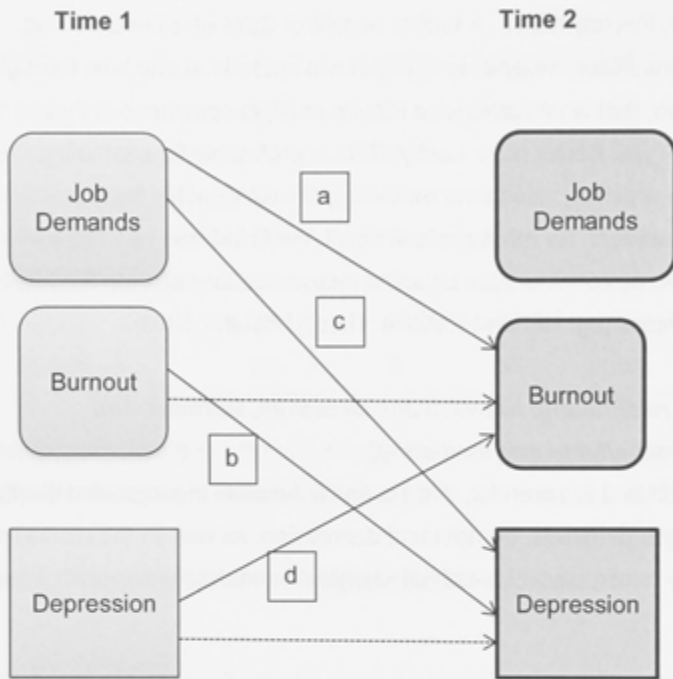
These aims were examined using two approaches. Where the response variables were continuous, the burnout scales or depression scale, covariance structural modelling (structural equation modelling, SEM) as implemented by Amos (Arbuckle, 2011) was used. When the response variable was ordinal, general health, ordinal logistic regression was used to analyse this categorical variable, in preference to undertaking Bayesian analysis with Amos. The major benefit of using SEM is that it enables the construction of "latent variables" that are estimated in the model by several measurement variables. In this study job

demands and job resources are two latent variables that can be estimated in SEM from the various measures of job demands and job resources. When estimating the latent variables measurement error is also estimated, allowing correction for this error when examining the relationships between variables (Holmbeck, 1997; Peyrot, 1996). A further benefit of SEM when undertaking moderation and mediation analysis is that it allows analysis at one time through model comparison, that would otherwise require multiple comparisons that would inflate the Type 1 error rate. Lastly, SEM is preferable for examining reciprocal effects which is relevant for examining the relationship between burnout and depression. As this sample is small, the fit indexes need to be interpreted with some consideration as some indexes under-estimate the level of fit in small samples (eg. NFI and RMSEA, Hu and Bentler, 1999).

Analysis of the relationship between Job Demands, Burnout and Depression (direct effects and mediation)

Hypothesis 1a, 1bi and ii, 1ci and ii, and 1di and ii describe the expected direct effects between job demands, burnout and depression, as well as the mediation by burnout of the relationship between job-demands and depression from Time 1 to Time 2.

Figure 5.2 Diagram of direct effect and mediation analysis with depression as response variable – Time 1 to Time 2



As illustrated in Figure 5.2 in order to examine the mediation hypothesis of the JDR model (hypothesis 1dii) two longitudinal tests were undertaken to estimate the parameters for path a and b, as recommended by Cole and Maxwell (2003). These test hypotheses 1a and 1b respectively. Also, a test of the direct effect of job demands on depression was conducted (path c) to ensure this was significant, an essential requirement for mediation (Holmbeck, 1997). This tests hypothesis 1cii. Firstly, in model M1 the parameter between Time 1 job demands and burnout at Time 2 was estimated, controlling for burnout at Time 1. Secondly, the parameter between Time 1 burnout and depression at Time 2 was estimated, controlling for Time 1 depression (M2). The error variables for Time 1 and Time 2 burnout were allowed to correlate as recommended by Cole and Maxwell (2003, p. 569; Schaufeli et al., 2009) to adjust for shared method

variance. The final model (M3) was of the relationship between T1 job demands with T2 depression, controlling for T1 depression.

Table 5.11 SEM models for the mediation of the relationship of Time 1 job demands on Time 2 depression by Time 1 burnout.

Model (Path)	Explanatory & Control Variables	Response Variable	χ^2	<i>df</i>	NFI	CFI	AIC	RMSEA
M1 (a)	T1 Job Demands T1 Burnout	T2 Burnout	92.2	48	.73	.84	176.2	.12
M2 (b)	T1 Burnout T1 Depression	T2 Depression	12.5	4	.91	.93	44.5	.18
M3 (c)	T1 Job Demands T1 Depression	T2 Depression	50.6	19	.68	.75	100.6	.16

As Table 5.11 shows there is not a good level of fit for M1 or M3, the fit indices for M2 indicate a marginal level of fit, with the NFI and CFI approaching the criteria for a good-fitting model of .95. The RMSEA for all the models is over .1, indicating poor fit, as good fit is below .06 and moderate fit is .08 (Ullman, 2007) but in smaller samples RMSEA was found by Hu and Bentler (1999) to be too large, over-rejecting the true model. The poor model fit for M1 and M3 suggests that these paths of the JDR model described by hypotheses 1a and 1c respectively, were not supported in this sample.

Table 5.12 SEM path estimates for mediation models M1 and M2.

Model	Explanatory	Response	Standard			
	Variable	Variable	Estimate	Error	CR	p
M1	T1 Job Demands	T2 Burnout	0.14	0.507	0.28	.777
	T1 Burnout	T2 Burnout	0.64	0.244	2.62	.009
	T1 Job Demands	T1 Burnout	0.31	0.081	3.81	<.001
M2	T1 Burnout	T2 Depression	-0.60	2.02	-0.29	.77
	T1 Depression	T2 Depression	0.36	0.28	1.27	.203
	T1 Burnout	T1 Depression	5.17	1.19	4.33	<.001
M3	T1 Job Demands	T2 Depression	2.46	2.24	1.10	.27
	T1 Depression	T2 Depression	0.18	0.14	1.32	.19
	T1 Job Demands	T1 Depression	1.90	0.44	4.33	<.001

Table 5.12 shows that the parameter estimate for T1 job demands on T2 depression (M3) was not significant. The parameters for T1 job demands and T2 burnout and T1 burnout on T2 depression were not significant. These results combined with the model fit data that indicated that these models were a poor fit or marginal fit suggests that there was no relationship between Time 1 job demands and T2 depression, when controlling for T1 depression. There was also no relationship between T1 job demands and T2 burnout when controlling for T1 burnout, or T1 burnout and T2 depression when controlling for T1 depression. Thus, there was no support for the hypotheses 1a, 1bii, and 1cii in this sample. As paths a, b, and c were not significant Time 1 burnout did not mediate the relationship between Time 1 job demands and time 2 depression when T1 depression was controlled, in this sample (hypothesis 1dii).

Depression and Burnout

The longitudinal study was designed to enable an examination of the relationship between depression and burnout over time, to see whether one precedes the other. Two competing models were considered to further examine hypothesis 1bii: Burnout at Time 1 will predict depression symptoms at Time 2, controlling for the level of depression symptoms at Time 1.

The first model (M2) is of the situation where burnout at Time 1 predicts depression at Time 2, controlling for depression at Time 1. The alternative model (M4) is of depression at Time 1 predicting burnout at Time 2, controlling for burnout at Time 1. Table 5.13 shows the result of this comparison.

Table 5.13 Comparison of the SEM models for Hypothesis 1bii

Model (Paths)	Explanatory Variable	Response Variable	χ^2	d.f	NFI	CFI	AIC	RMSEA
M2 (b)	T1 Burnout	T2 Depression	12.5	4	.91	.93	44.5	.18
	T1 Depression	T2 Burnout						
M4 (d)	T1 Depression	T2 Burnout	48.0	12	.80	.83	94.0	.22
	T1 Burnout	T2 Depression						

Table 5.13 shows that M2 is a better fit, with a much lower χ^2 than M4. The fit indices also indicate close to a marginal fit for this model with NFI and CFI close to the recommended .95 indicating a good fitting model. This comparison provides some support for the theory that burnout precedes depression. Although, as Table 5.12 shows the parameter estimate for T1 burnout on T2 depression was not significant.

General Health

The analysis for general health was undertaken using ordinal logistic regression. This is because general health is an ordinal response variable, ordinal logistic regression was used in preference to undertaking Bayesian analysis with Amos.

There were three hypotheses that related specifically to general health:

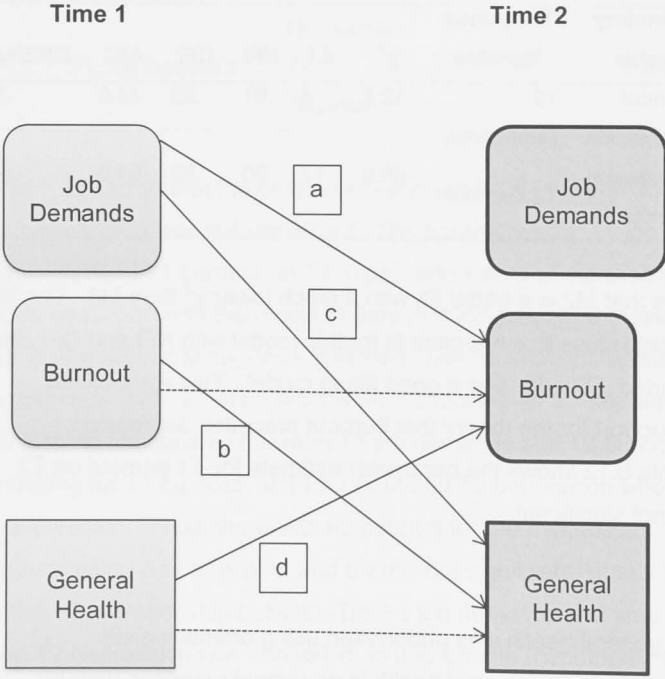
Hypothesis 1bi: Burnout at Time 1 will predict general health at Time 2, controlling for the level of general health at Time 1.

Hypothesis 1ci: Job demands at Time 1, will predict general health at Time 2, controlling for general health at Time 1.

Hypothesis 1di: Burnout at Time 1, will mediate the relationship between job demands at Time 1 and general health at Time 2, controlling for general health at Time 1.

Figure 5.3 illustrates the direct relationships and the mediation relationships examined in this longitudinal analysis.

Figure 5.3 Diagram of direct effect and mediation analysis with general health as response variable – Time 1 to Time 2



The first requirement of mediation (hyp. 1di) is a significant relationship between the independent variable and the response variable (path c, Baron & Kenny, 1986). In this analysis this is between Time 1 job demands and Time 2 general health, controlling for Time 1 general health (hyp 1ci). Table 5.14 shows the results of this analysis.

Table 5.14 Ordinal logistic regression of relationship between T1 job demands and T2 general health, controlling for T1 general health (Path c in Figure 5.2)

Response Variable		Explanatory Variables	B (SE)	95% Confidence Interval			^a χ^2 (SE)
Time Two	Time One			Exp (Lower)	Odds Ratio	Exp (Upper)	
T2 General health (poor)	Work Home Interference		0.33(.92) ^{ns}	0.23	1.40	8.42	36.5(8) ^{***}
	Psych-social Demands		0.04(.06) ^{ns}	0.93	1.04	1.16	
	Interpersonal Disputes		0.16(.09) ^{ns}	0.98	1.18	1.41	
	Emotional Dissonance		0.08(.44) ^{ns}	0.46	1.08	2.55	
	Role Clarity		-0.01(.02) ^{ns}	0.96	0.99	1.02	
	General health (poor)=1		-7.68(1.8) ^{***}	0	0	0.02	
General health (poor)=2		-3.46(1.3) ^{**}	0.003	0.03	0.38		
General health (poor) =3		-1.95(1.2) ^{ns}	0.02	0.14	1.41		

Note: * $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, ^a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

This analysis includes five of the main job demands at Time 1, none of these had a significant relationship with general health (poor) at Time 2. The only significant predictor of Time T2 general health (poor) was Time 1 general health (poor). This provides strong evidence that there was not a significant relationship between Time 1 job demands and Time 2 general health (poor). Thus, hypothesis 1ci is not supported, as there was not a significant relationship between job demands and general health. Hypothesis 1di was also unsupported as the lack of relationship precludes any mediation by burnout. Table 5.14 shows that work home interference was not a significant predictor of

T2 General Health, when T1 general health was included in the model. This contrasts with the results in Study 1 where work home interference mediated the relationship between job demands and general health, as well as the burnout scales and general Health.

Although, mediation is not relevant, the other pathways of the JDR model were investigated (hyp. 1a and 1bi). The burnout scales for each wave were combined, to create Time 1 burnout and Time 2 burnout (Honkonen et al., 2006). A hierarchical multiple regression analysis was conducted of Time 2 burnout on Time 1 job demands, while controlling for Time 1 burnout (hypothesis 1a). The second stage of analysis was to then conduct an ordinal logistic regression of Time 2 general health on Time 1 burnout, controlling for Time 1 general health (hypothesis 1bi). The results of these analyses are shown in Table 5.15.

Table 5.15 Analysis of the relationship between T1 job demands and T2 burnout (T1 burnout controlled), and T1 burnout with T2 general health (poor), T1 general health (poor) controlled

Hypothesis 1a (Path a) Hierarchical Multiple Regression					
Response Variable	Explanatory & Control Variables	B (SE)	95% Confidence Interval		
			Lower	Upper	R ²
Time					
	Two	Time One			
T2 Burnout (Step One)	WHI	.63(.29) [*]	.06	1.21	
	ED	.16(.16) ^{ns}	-.13	.45	
	IPD	.06(.03) ^{ns}	-.12	.000	.39
	Role Clarity	-.007(.006) ^{ns}	-.02	.004	
	Psych. Demands	-.02(.02) ^{ns}	-.06	.02	
T2 Burnout (Step Two)	WHI	0.13(.33) ^{ns}	-0.37	3.15	
	ED	0.10(.14) ^{ns}	-0.18	..38	
	IPD	-0.03(.03) ^{ns}	-0.09	.03	
	Role Clarity	-.006(.005) ^{ns}	-0.017	.005	.47
	Psych. Demands	-0.001(.02) ^{ns}	-.04	.04	
	T1 Burnout	0.40(.143) ^{**}	.11	.69	

Hypotheses 1bi (Path b) Ordinal Logistic Regression

Response Variable	Explanatory & Control Variables	B (SE)	95% Confidence Interval			^a χ^2 (SE)
			Exp Odds (Lower)	Ratio (Upper)	Exp	
Time Two	Time One					
T2 General health (poor)	T1 Burnout	-.07(.32) ^{ns}	.567	1.07	2.02	
	T1 General health (poor)=1	-7.17(1.62) ^{***}	0.00	.001	.018	
	T1 General health (poor)=2	-3.48(1.15) ^{**}	.003	.031	.291	
	T1 General health (poor)=3	-1.96(1.11) ^{ns}	.016	.140	1.23	34.13(4) ^{***}

WHI=Work Home Interference Scale, ED= Emotional Dissonance Scale, IPD=Interpersonal Disputes Scale.

Note: * $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, ^a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Table 5.15 shows that in the first step of the analysis when all five job demands were included in the regression, only T1 work home interference was a significant predictor of T2 burnout. Yet, no T1 job demands had a significant relationship with the combined burnout scales at Time 2, when Time 1 burnout was included in the model (Step two). The best predictor of T2 burnout was T1 burnout. This is consistent with the SEM analysis of this relationship (Model 1) showing a poor fitting model, with a non-significant parameter for the T1 job demands latent variable to T2 burnout latent variable path. These results do not support hypothesis 1a, that predicted that there is a positive relationship between job demands and burnout. These results also provide further confirmation that mediation is not supported (hypothesis 1di) due to the non-significant relationship between job demands and the mediator T2 burnout.

In the second analysis when Time 1 general health was included, burnout at Time 1 did not have a significant relationship with general health at Time 2. Whereas, two of the general health ratings had a significant relationship with T2

general health. This indicates a lack of support of hypothesis 1bi, that predicted a positive relationship between burnout and general health. The strongest predictor of Time 2 general health was Time 1 general health.

Job Resources (and Personal Resources)

In Study Two the direct relationship of job resources (and personal resources) at Time 1 with burnout, as well as health and depression at Time 2 was examined. The interaction of job resources (and personal resources) with job demands was also examined to see if this interaction buffered the relationship of job demands at Time 1 with burnout, health and depression at Time 2. In this way the potential benefit of resources can be explored with greater confidence about the possible causal relationship because the effects can be explored from Time 1 to Time 2.

The same analysis approach was used as for the analysis in Tables 5.11-5.15 of the relationship between job demands, burnout, depression and health. Where the response variables were continuous, the burnout scales or depression scale, covariance structural modelling (structural equation modelling, SEM) as implemented by Amos (Arbuckle, 2011) was used. When the response variable was ordinal, general health, ordinal logistic regression was used to analyse this categorical variable.

Relationship between job demands and job resources (Time 1)

A preliminary hypothesis to test prior to examining the relationship of resources with burnout, health and depression is the relationship for Time 2 respondents between Time 1 resources and Time 1 demands. In this section SEM analysis was used to test hypothesis 3a: Job demands at Time 1 will be negatively related to resources at Time 1. The SEM model, described as M5 is a correlational model with the T1 resources (job resources and personal resources) and T1 job demands. The job resources were skill discretion, decision authority, co-worker social support, job promotion, and esteem. Job security was removed due to a poor relationship with the latent variable. The personal resources bible reading, prayer and support from God were combined

in the latent variable, personal resources. T1 job demands included were interpersonal disputes, work home interference, psychological demands, positive emotional expression, emotional dissonance, and role clarity. Trauma care was omitted as it had a poor relationship with the job demands latent variable.

Table 5.16 SEM model of the relationship between T1 job resources, T1 personal resources and T1 job demands

Model	Explanatory Variable	Response Variable	χ^2	d.f	NFI	CFI	AIC	RMSEA
M5	T1 Job Resources	T1 Personal Resources	90.7	75	.60	.87	178.7	.06
	T1 Job Demands							

The model fit for M5 is mixed, the NFI and CFI fit statistics indicate that the fit for the model is poor as it is below .95. However, the RMSEA for the model is .06 which indicates good to moderate fit. The correlation between T1 Job resources and T1 Job Demands was significant $\beta = -1.23$ ($p=.04$). The correlation between T1 job demands and T1 personal resources was not significant $\beta = -.393$ ($p=.17$). Therefore, hypothesis 3a was supported, T1 job demands were negatively related to T1 job resources. This indicates that the results of those that responded at Time 1 and Time 2 were consistent with the results of all Time 1 respondents indicating a negative relationship between job demands and resources. This supports the distinction between demands and resources in the job demands-resources model and the consideration of direct relationships with elements of the health impairment pathway as well as buffering of the effect of job demands.

Burnout

Hypothesis 3d proposes the following:

Resources at Time 1 will be negatively related to burnout at Time 2, controlling for burnout at Time 1.

In order to consider the role of job resources and personal resources two latent variables were identified from the measures of the two types of resources. The SEM model R1 examines the relationship between T1 job resources and T1 personal resources, on T2 burnout, controlling for T1 burnout. The job resources were skill discretion, decision authority, co-worker social support, job promotion, and esteem. Job security was removed due to a poor relationship with the latent variable. The personal resources bible reading, prayer and support from God were combined in the latent variable, personal resources. The error terms for T1 and T2 burnout were allowed to correlate.

Table 5.17 SEM model of the relationship between Time 1 job resources and Time 2 burnout, controlling for Time 1 burnout.

Model	Explanatory Variable	Response Variable	χ^2	d.f	NFI	CFI	AIC	RMSEA
R1	T1 Job Resources	T2 Burnout	113.6	71	.64	.80	209.6	.10
	T1 Personal Resources							
	T1 Burnout							

There is not a good model fit for model R1 with NFI and CFI well below the fit criteria of .95. The RMSEA for the model is .1, indicating poor fit, as good fit is below .06 and moderate fit is .08 (Ullman, 2007). The model parameters did provide information with regard to the relationship between resources and T2 burnout when controlling for T1 burnout. The path estimate between T1 job resources and T2 burnout was significant $\beta = -.50$ ($p=.04$). The path estimate between T1 personal resources and T2 burnout was not significant $\beta = -.25$

($p=.28$). There was also a significant path estimate between T1 burnout and T2 burnout $\beta = .53$ ($p<.001$). These findings confirm Hypothesis 3d, for job resources, that resources at Time 1 will be negatively related to burnout at Time 2, controlling for burnout at Time 1.

Interaction of T1 resources with T1 job demands on T2 burnout (controlling for T1 burnout)

The hypothesis describing the proposed interaction of T1 job resources and demands with T2 burnout is:

Hypothesis 3f: Resources at Time 1 will buffer the relationship between job demands at Time 1 and burnout at Time 2, controlling for burnout at Time 1.

In order to test this interaction hypothesis multiple regression was used rather than SEM with its complex interaction analysis of latent variables. This also provided the opportunity for the researcher to identify specific resources that buffered the effect of specific job demands on burnout over time.

A limited number of resources were tested to minimise the risk of Type 1 errors. Although not necessary for interaction effects a review of the correlations in Table 5.5 was used to narrow down the resources to include. The job demands considered in the analysis for interaction with these job resources were psychological demands, work home interference, interpersonal disputes, emotional dissonance, and role clarity. To address multi-collinearity the job demand variables and resources variables were centred as suggested by Aiken and West (1991). Multiple regression analyses were conducted with Time 2 burnout as the response variable. The main effects for the T1 job demand and T1 resource were entered with a multiplicative interaction term, and T1 burnout was entered as a control variable. Of the 15 interactions tested, none of these were significant with a p value less than .05. This result does not support hypothesis 3f, as resources were not found to buffer the relationship of Time 1 job demands with Time 2 burnout, when the relationship with Time 1 burnout was controlled.

General Health

The correlations in Table 5.5 show that there were no significant linear relationships between the job demands or resources variables at Time 1, with general health at Time 2. This does not support hypothesis 3gi that reflects the proposed direct effect of resources on general health. To investigate this relationship further an ordinal logistic regression was conducted. The job resources chosen were those included in the analyses with the burnout and depression variables. These are also job resources used in the DCS and ERI models (Johnson & Hall, 1988; Siegrist, 1996) which propose a direct relationship between these resources and health.

Hypothesis 3ji: Resources at Time 1 will be negatively related to general health at Time 2, controlling for general health at Time 1.

Table 5.18 Ordinal logistic regression of Time 1 job resources with Time 2 general health, controlling for Time 1 general health

Response Variable	Explanatory & Control Variables	B (SE)	95% Confidence Interval			^a χ^2 (SE)
			Exp (Lower)	Odds Ratio	Exp (Upper)	
Time Two	Time One					
T2 General health (poor)	Co-Worker Support	.07(.22) ^{ns}	.70	1.08	1.67	31.7(6) ^{***}
	Skill Discretion	.06(.13) ^{ns}	.82	1.06	1.37	
	Rewards	-.05(.08) ^{ns}	.81	0.95	1.12	
	T1 General health (poor)=1	-7.9(1.9) ^{***}	<.001	.000	.02	
		-4.7(1.4) ^{**}	.001	.009	.15	
	T1 General health (poor)=2	-2.7(1.4) ^{ns}	.004	.067	1.04	
	T1 General health (poor)=3					

Table 5.18 describes the results of the test of the relationship between job resources at Time 1 and general health at Time 2, controlling for general health at Time 1. There were no significant relationships with any of the Time 1 job resources with general health at Time 2.

Interaction of T1 resources with T1 job demands on T2 general health (controlling for T1 general health)

The second hypotheses with regard to resources and general health, is the interaction of resources with job demands to moderate the relationship with general health.

Hypothesis 3gi: Resources at Time 1 will buffer the relationship between job demands at Time 1 and general health at Time 2, controlling for general health at Time 1.

Holmbeck (1997, p. 605) stated that moderation effects are strongest when there are no main effects. Therefore, despite the lack of main effects between job demands and general health the interaction between Time 1 job demands and resources on Time 2 general health was examined. Ordinal logistic regression was chosen to test this hypothesis. This is due to the complexity of testing ordinal models in SEM, and of testing latent interactions in SEM for this researcher.

The job demands included in the ordinal logistic regression were psychological demands, work home interference, interpersonal disputes, emotional dissonance, and role clarity. The job resources were: co-worker support, skill discretion and rewards. An example of this analysis of interactions is provided in Table 5.19 for the interaction of Time 1 psychological demands with the three Time 1 job resources in separate analyses on Time 2 general health, controlling for Time 1 general health.

As shown in Table 5.19 the interactions of psychological demands with job resources, co-worker support, skill discretion and rewards on Time 2 general

health were not significant when the effect of Time 1 general health was controlled.

Table 5.19 Ordinal logistic regression of the interaction of T1 psychological demands with T1 job resources on T2 general health, controlling for T1 general health

Response Variable	Explanatory & Control Variables	B (SE)	95% Confidence Interval			^a χ^2 (SE)
			Exp (Lower)	Odds Ratio	Exp (Upper)	
Time	Time One		Exp	Odds	Exp	
	Time Two		(Lower)	Ratio	(Upper)	^a χ^2 (SE)
T2 General health (poor)	Psych Demands	-.23(.35) ^{ns}	.400	.794	1.577	34.3(6) ^{***}
	Co-Worker Support	-.49(.85) ^{ns}	.115	.611	3.229	
	Psych Demandsx Co-Worker Support	.02(.03) ^{ns}	.966	1.019	1.076	
	T1 General health (poor)=1	-6.9(1.61) ^{***}	.000	.001	.023	
	T1 General health (poor)=2	-3.4(1.11) ^{**}	.004	.034	.304	
	T1 General health (poor)=3	-1.6(1.08) ^{ns}	.025	.207	1.718	
T2 General health (poor)	Psych Demands	.26(.44) ^{ns}	.54	1.3	3.07	33.2(6) ^{***}
	Skill Discretion	.34(.66) ^{ns}	.39	1.4	5.10	
	Psych Demands xSkill Discretion	-.01(.02) ^{ns}	.95	.99	1.02	
	T1 General health (poor)=1	-6.8(1.6) ^{***}	<.001	.001	.03	
	T1 General health (poor)=2	-3.2(1.1) ^{**}	.005	.042	.38	
	T1 General health (poor)=3	-1.6(1.1) ^{ns}	.021	.196	1.83	

Response Variable	Explanatory & Control Variables	B (SE)	95% Confidence Interval			^a χ^2 (SE)
			Exp (Lower)	Odds Ratio	Exp (Upper)	
Time Two	Time One					
T2 General health (poor)	Psych Demands	-.45(1.1) ^{ns}	.08	.64	.02	32.0(6) ^{***}
	Rewards	-.32(.70) ^{ns}	.19	.72	.16	
	Psych Demands xRewards	.009(.02) ^{ns}	.97	1.0	.96	
	T1 General health (poor)=1	-7.8(1.9) ^{***}	<.001	.000	.02	
	T1 General health (poor)=2	-4.6(1.4) ^{**}	.001	.01	.16	
	T1 General health (poor)=3	-2.8(1.4) ^{ns}	.004	.06	.96	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$, ns=non-significant, ^a Omnibus Test – Is a test of model fit that is based on -2 log-likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

A further twelve interactions with these job resources were examined for the Time 1 job demands, interpersonal disputes, work home interference, role clarity, and emotional dissonance. However, none of these interactions were significant. These results indicate that there is no support in this sample for the moderation (buffering) of the relationship between job demands at Time 1 with general health at Time 2, by Time 1 job resources (hypothesis 3gi).

Depression

Main effect of job resources

An SEM model was used to test hypothesis 3jii: Job resources at Time 1, will be negatively related to depression at Time 2, controlling for depression at Time 1.

The correlation table shows that the job resources at Time 1 had a negative relationship with depression at Time 2. This analysis considers whether this relationship is significant when depression at Time 1 is controlled.

A T1 job resources latent variable was identified that had the following indicator variables: co-worker support, esteem, job security, job promotion, skill discretion, decision authority, prayer and bible reading. The T1 job resources latent variable was allowed to co-vary with T1 depression. These were both assigned paths with T2 depression.

Table 5.20 SEM Model of the relationship between job resources at Time 1 with depression at Time 2, controlling for depression at Time 1.

Model	Explanatory Variables	Response Variable	χ^2	df	NFI	CFI	AIC	RMSEA
R5	T1 Job Resources T1 Depression	T2 Depression	39.73	33	.70	.92	103.7	.06

In Table 5.20 the NFI and CFI fit statistics indicate that the fit for the model is poor as it is below .95. However, the RMSEA for the model is .06 which indicates good to moderate fit (Ullman, 2007). The parameter for the path between T1 job resources and T2 depression was $B=-2.00$ (S.E.=3.42, $p=.56$) which was not significant. Therefore, hypothesis 3jii was not supported.

Interaction of job resources with job demands

The hypothesis regarding the interaction of job resources and job demands on depression is hypothesis 3gii: Job resources at Time 1 will buffer the relationship between job demands at Time 1 and depression at Time 2, controlling for depression at Time 1.

Multiple regression was used to test this interaction hypothesis, as it was used to test hypothesis 3f regarding the buffering of job demands on burnout by job resources. As well as testing the interaction, a comparison of the results of the

SEM model of the direct effect of job resources on T2 depression, controlling for T1 depression will also be made (hypothesis 3jii).

The job demands included were psychological demands, work home interference, interpersonal disputes, emotional dissonance, and role clarity. The job resources were: co-worker support, skill discretion and rewards. To address multi-collinearity the job demand variables and resources variables were centred as suggested by Aiken and West (1991), as well as Time 1 depression. The main effects for the job demand and resources variable were entered with a multiplicative interaction term, and Time 1 depression. There were four interactions that had a p value less than 0.05 of the 15 interactions tested.

Table 5.21 Multiple Regression of the Interaction of Time One Job Demands with Time One Job Resources on Time Two Depression

Response Variable	Explanatory Variable & Control	B (SE)	p	95% Confidence Interval for Odds Ratio			^a $\chi^2_{(df)}$
				Exp Lower	Odds Ratio	Exp Upper	
Depression	Role Clarity	-.07(.03) [*]	.001	.89	.94	.99	33.3(4) ^{***}
	Skill Disc.	-.37(.17) [*]		.50	.69	.96	
	Role Clarity X Skill Disc.	.03(.01) ^{***}		1.01	1.03	1.05	
	Depression	.16(.08) [*]		1.02	1.18	1.36	
Depression	Role Clarity	-.05(.03) [*]	.003	.90	.95	1	31.2(4) ^{***}
	CWS	-.87(.32) ^{**}		.23	.42	.78	
	Role Clarity x CWS	.05(.02) ^{**}		1.02	1.05	1.08	
	Depression	.06(.09) ^{ns}		.90	1.06	1.25	
Depression	PD	-.08(.11) ^{ns}	.006	.75	.93	1.14	17.5(4) ^{**}
	Rewards	-.46(.23) [*]		.40	.63	.99	
	PD x Rewards	.11(.04) ^{**}		1.03	1.11	1.20	
	Depression	.24(.11) [*]		1.02	1.27	1.58	
Depression	IPD	.27(.15) ^{ns}	.035	.97	1.31	1.75	25.85(4) ^{**}
	CWS	-.82(.33) [*]		.23	.44	.83	
	IPD x CWS	.22(.10) [*]		.66	.81	.99	
	Depression	.08(.09) ^{ns}		.90	1.08	1.30	

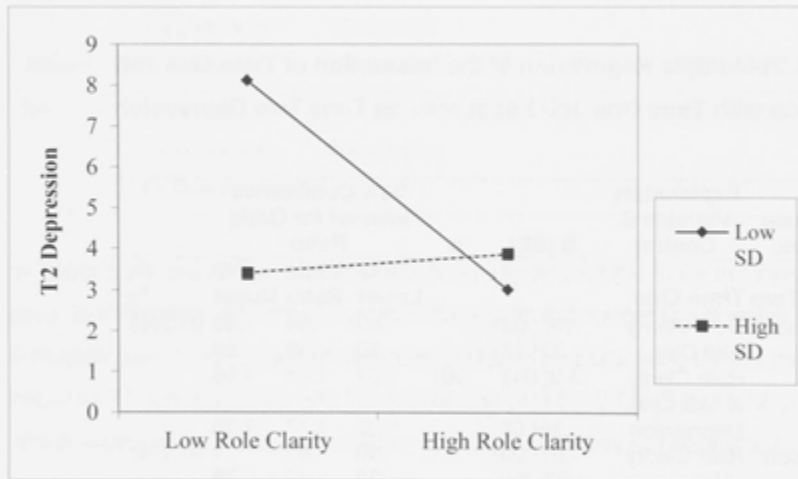
IPD=Interpersonal Disputes Scale, PD=Psychological Demands

*** $p < .001$, ** $p < .01$, * $p < .05$, a Omnibus Test – Is a test of model fit that is based on $-2 \log$ -likelihood values for the model under consideration and the threshold-only model. If $p < .05$ this indicates that the current model outperforms the null or threshold-only model.

Table 5.21 shows that co-worker support, skill discretion and rewards all had a significant relationship with T2 depression, when T1 depression was controlled. This contradicts the findings of the SEM model and provides support for hypothesis 3jii: Job resources at Time 1, will be negatively related to depression at Time 2, controlling for depression at Time 1.

The interactions in Table 5.21 are plotted in the following figures, and the support for hypothesis 3gii is considered.

Figure 5.4 Plot of Interaction of T1 Role Clarity with T1 Skill Discretion (SD) with T2 Depression.

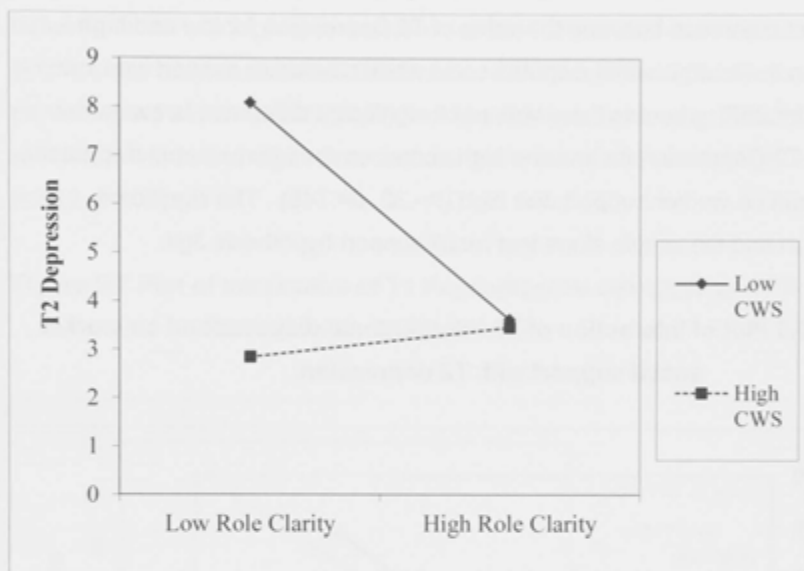


Note: SD = skill discretion

Figure 5.4 illustrates that as demands moved from low (high role clarity) to high (low role clarity) the depression score increased significantly for those with low resources (low skill discretion), whereas there was no significant increase for those with high resources (high skill discretion). The simple slopes test for Figure 5.4 found that the difference in T2 depression from low role clarity to high role clarity was significant for those with low skill discretion ($t=-4.30, p=.000$) and not significant for those with high skill discretion ($t=0.35, p=0.73$). This confirms the significant interaction that the effect of demands on T2 depression is

significantly different at different levels of resources. Figure 5.4 and the simple slope test confirm that Time 1 skill discretion buffered the effect of Time 1 role clarity on Time 2 depression.

Figure 5.5 Plot of Interaction of T1 Role Clarity and T1 Co-Worker Support (CWS) with T2 Depression



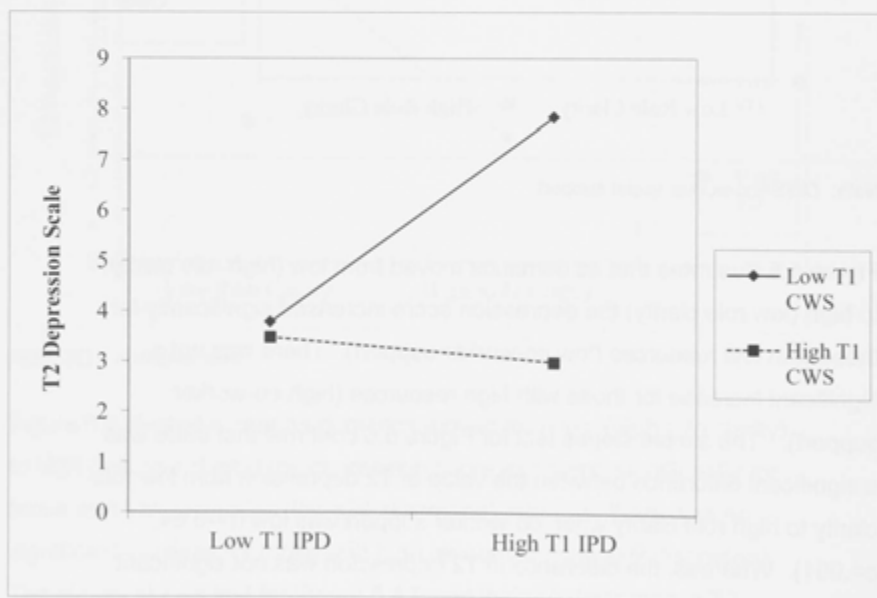
Note: CWS=co-worker social support

Figure 5.5 illustrates that as demands moved from low (high role clarity) to high (low role clarity) the depression score increased significantly for those with low resources (low co-worker support). There was not a significant increase for those with high resources (high co-worker support). The simple slopes test for Figure 5.5 confirms that there was a significant difference between the value of T2 depression from low role clarity to high role clarity when co-worker support was low ($t=-3.64$, $p=.001$). Whereas, the difference in T2 depression was not significant from low role clarity to high role clarity for those with high co-worker support ($t=0.46$, $p=.65$). This confirms the significant interaction that the effect of demands on T2 depression is significantly different at different levels of resources. Figure 5.5 and the simple slope test confirm that

Time 1 co-worker support buffered the effect of Time 1 role clarity on Time 2 depression.

This buffering effect was also demonstrated in Figure 5.6 with Time 1 co-worker support buffering the effect of increasing Time 1 interpersonal disputes (higher scores) on Time 2 depression. The simple slope test indicates that there was a significant difference between the value of T2 Depression for low and high scores on the interpersonal disputes scale when co-worker support was low ($t=2.77, p=.007$), whereas there was not a significant difference between the value of T2 Depression for low and high scores on the interpersonal disputes scale when co-worker support was high ($t=-.32, p=.748$). The significant interaction and the simple slope test result support hypothesis 3gii.

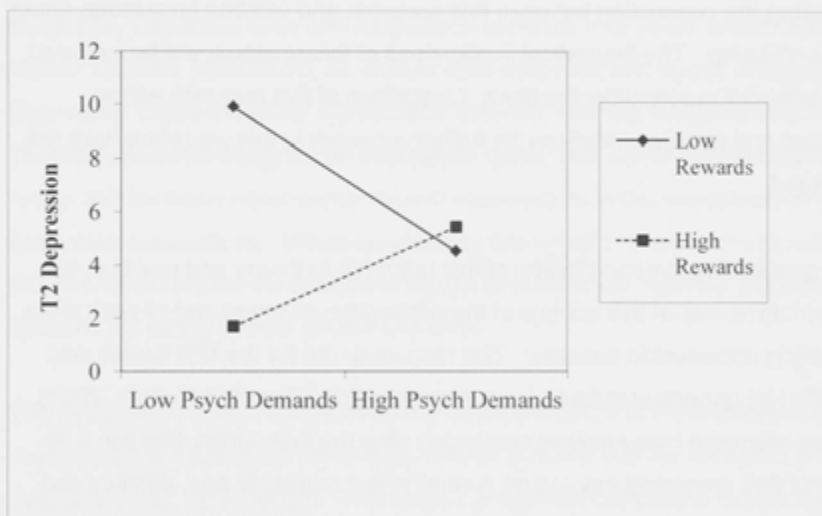
Figure 5.6 Plot of Interaction of T1 interpersonal disputes and co-worker social support with T2 depression.



Note: T1 IPD = time one interpersonal disputes scale, T1 CWS=time one co-worker social support

The buffering effect of resources did not occur for all the interactions as Figure 5.7 illustrates. The significant interaction shows the difference in effect of an increase in demands on those with low rewards and those with high rewards. An increase in psychological demands led to a decrease in the depression symptoms for those with low rewards and an increase for those with high rewards. When psychological demands were high there was little difference between those with high or low rewards on the Time 2 depression scale. The simple slope tests confirm the difference in the T2 depression scale from low psychological demands to high psychological demands was significant for those with low rewards and high rewards (Low Rewards $t=-2.38$, $p=.02$, High rewards $t=2.12$, $p=.04$).

Figure 5.7 Plot of Interaction of T1 Psychological Demands and T1 Rewards with T2 Depression.



Conclusion

The results of the moderation analysis shows limited support for the buffering of the effect of Time 1 job demands on Time 2 depression by Time 1 job resources as predicted by hypothesis 3gii.

Chapter Six: Discussion

In the introduction the Job Demands-Resources (JDR) model was put forward as a promising approach to understanding clergy well-being. The surveys evaluated the effectiveness of this model to describe clergy well-being with general and occupationally specific job demands and job resources contributed by previous research. Survey one provided cross-sectional support for many of the hypotheses generated from the JDR model, and the two distinct pathways, the *health impairment pathway* and *motivational enhancement pathway*. However, the results from Survey two did not support any of the JDR model hypotheses.

In this discussion the findings of the study will be discussed in detail, considering the connection between this research and existing knowledge about clergy well-being. The theoretical implications of this research will be explored as will potential practical applications. Limitations of this research will be discussed and recommendations for further research in this important area will be outlined.

When considering the contribution of this research to theory and practice, the representativeness of this sample of the occupation of clergy and of work more generally is important to consider. The response rate for the first survey was low (26%) by general standards for survey research (Baruch & Holtom, 2008). The non-response bias analysis conducted after the first survey (section 4.3) indicated that there may have been a small effect related to age, efficacy and psychological demands but this did not appear to be reflected when scales were benchmarked against other samples. Therefore, although caution should still be exercised, this provides some confidence in the relevance of these findings for theory and practice.

Aim One Assessment of the extent of Occupational Stress in Clergy

Aim one of this research was to provide a recent assessment of the demands, resources, burnout, engagement, health problems and work outcomes experienced by clergy and where possible compare this assessment with other clergy and occupations. This comparison with other occupations provides an indication of the extent of work stress amongst clergy.

The job characteristics scales used in this research have shown variation between occupations, organisations, and cultures (Karasek et al., 1998). Where possible, comparison with clergy samples or Australian samples were sought to minimise this variation. Of the six scales that were compared for demands, three of these were significantly worse than the other samples: role clarity, work home interference, and display of positive emotions. There were five resource scales compared with other samples, only one of these, skill discretion, was lower than the comparison samples, four of the scales were higher: rewards (combined), co-worker social support, and decision authority. Supervisor support was not significantly different from the comparison samples. This indicates that clergy as an occupation does have some more demanding areas, but for many other demands and resources is at the same level or better than other occupations. When considering this result it is important to note that this is a result across the sample of clergy, and does not describe the individual situation for clergy in their church or parish.

The results for burnout in this sample provide evidence of Work stress in clergy. Burnout scale means and levels vary across cultures and occupational groups (Maslach et al., 1996, p. 23). The means of the MBI-GS scales for this sample of clergy were not as high as some occupational comparisons but were still sufficiently high to warrant investigation and intervention. For example, the mean score was equivalent to Australian oncology workers for each of the burnout scales. In comparison to other clergy samples, the cynicism scale mean for the clergy in this study was significantly lower than the comparative samples of United States (U.S.) clergy and the Australian Salvation Army officers. However, there was variation between the Australian Clergy, U.S.

Clergy and Australian Salvation Army Officers for the exhaustion and efficacy scales. The Australian Salvation Army Officers (Cotton, 2006) reported higher levels of exhaustion and cynicism, but this denomination has been found to experience higher burnout levels than other denominations in previous research (Francis, Kaldor, et al., 2004; Kaldor & Bullpitt, 2001).

Depression symptoms in the clergy sample, as measured by the DASS scale, were significantly higher than an occupational comparison and a recent Australian population sample (Table 4.28-4.30). This result was consistent for the pattern of responses across the levels of depression of this scale, as well as when the means for the samples were compared. This indicates that depression is a particular health concern for clergy. There was less differentiation with the comparison samples for the anxiety and stress scales, yet the clergy stress scale mean was significantly higher than the Australian population sample (J. Crawford et al., 2011). This suggests that clergy experience higher levels of physiological arousal (stress) than those in the general Australian population.

The responses to self-rated general health showed that clergy rated their health higher than the population estimate from the Australian Health Survey 2011-2012, and the pattern of responding was significantly different (Table 4.31). The number of hospital stays was significantly higher for clergy than the age matched Australian population (Table 4.33). These differences may be due to demographic differences such as education, employment or socio-economic status (Australian Bureau of Statistics, 2013a). The rating of general health was significantly predicted by the number of medications, doctor visits, sick days and physical activity. Therefore, the general health rating was a reflection of these health service usage and health related behaviour indicators which provides further confidence that the rating reflects the actual health of clergy.

As well as examining work stress this research was also interested in the positive aspects of work as reflected by work engagement. The comparison with the international norms for the UWES for the mean scores showed significantly less vigour, but no significant difference for the dedication or

absorption scale (Table 4.35). In comparison with other clergy, this sample of clergy showed less vigour and absorption than the Australian Salvation Army Officers. This lower work engagement was not reflected in the responses of the clergy for turnover intention which were lower than the Australian Salvation Army Officers, nor for performance rating which was similar between the two samples.

The results of the assessment of clergy burnout, depression, health, and work engagement show that there are problems of work stress and well-being in the occupation of clergy. In this sample there are aspects of the work environment that are more positive than other occupations, yet there are other areas that are at lower levels that may explain the relatively high burnout, depression and lower work engagement. This suggests that there is a need for improvement in the work environment to lead to better health outcomes and positive work outcomes.

Interpretation of results with regard to Hypotheses - Study One (First Survey)

The analysis of the first survey provided support for the JDR model. Figure 6.1 illustrates the results for the major hypotheses of the JDR model tested in Study One (and Study Two).

In support of the health impairment pathway correlational data (Table 4.5) indicated significant positive relationships between job demands and burnout (hyp. 1a), depression and health (hyp. 1c). This was the case for all but 2 demands of the 17 measured. There were also positive correlations between all the MBI-GS scales with the depression scale and general health (hyp 1bi and ii).

As predicted by the JDR model, there were many job demands that had significant relationships with burnout, health and depression. These included role clarity, role conflict, interpersonal disputes, work home interference, psychological demands, emotional dissonance, financial concerns (church) and financial concerns (personal). These findings confirm previous research that has documented the relevance of each of these demands to this profession (Cotton, 2006; Cotton, Dollard, De Jonge, & Whetham, 2003). The qualitative comments by clergy also supported the relevance of these demands (Table 4.13). For example, clergy indicated that the high expectations they experience, especially conflicting expectations, are a major demand. This is reflected in the significant relationship of role clarity and role conflict with burnout and health.

The approach used to analyse the mediation hypotheses in study one is that recommended by Baron and Kenny (1986). The use of this well-respected approach to mediation is not sufficient for confirming the causal hypotheses of the JDR model. In particular as the measurement of all the variables was taken at once in study one there is no temporal separation of the causal pathway. The separation of the causal elements of the model, and the control of prior levels of the dependant variable are essential to make firm conclusions about the causal

(mediation) relationships in the JDR model (D. A. Cole & Maxwell, 2003; LeBreton et al., 2009). In support of testing mediation analyses on cross-sectional data, the influence of demands, and resources, are expected to be continuous thus their effect on health through burnout is ongoing rather than in response to an intervention. Thus the results of the analysis can be reflecting a mediation process that commenced prior to measurement in study one. This process is supported by a causal model that has been confirmed in previous cross-sectional and longitudinal research.

Another identified issue in this analysis is the role of moderators on the mediation pathway (LeBreton et al., 2009). The JDR model proposes moderation interactions that impact on the extent of the mediation. For example, if the mediation occurs from demands to depression via burnout, and resources moderate the demand to burnout path, then the indirect effect of demands to depression is more evident in some conditions such as when resources are low. The moderation analysis did show some moderation of the effect of demands on burnout, depression and general health by a few resources. Although not comprehensive these moderation results are important to consider in conjunction with the mediation results.

There was strong support for the mediation by burnout of the relationship between job demands and the depression scale. All four of the job demands that had a significant regression parameter with depression when all eight job demands were entered, were fully or partially mediated by one or more of the burnout scales (hyp 1dii, see Table 4.41-4.43)

There was partial support of the process proposed by the JDR model, that burnout mediates the relationship between job demands and health. When work home interference was not included, exhaustion and cynicism mediated the relationship of both job demands that were in the best linear model for general health, role clarity and emotional dissonance (Table 4.36). Efficacy did not mediate the relationship between job demands and health. Therefore, with the exception of work home interference, the process of health impairment (hyp 1di) of high job demands through burnout to poor health outcomes was

supported for what have been described as the core dimensions of Burnout, exhaustion and cynicism (Schaufeli, Salanova, Gonzalez-Roma, & Bakker, 2002).

Work Home Interference

As described the exception for the job demands, that was not mediated by burnout was work home interference. In the review by Cotton et al. (Cotton, Dollard, De Jonge, & Whetham, 2003) they outlined research that showed that the intrusion of clergy work into family life was a major issue for clergy. A cross-sectional analysis of the relationship between work home interference, burnout and general health was conducted and the results described in Tables 4.37-4.39. This analysis supported the distinction established in previous research (Geurts, Kompier, Roxburgh, & Houtman, 2003; Janssen et al., 2004) between job demands and work home interference, particularly as work home interference fully mediated the relationship between job demands and general health. This analysis also showed that work home interference mediated the relationship of all the burnout scales with general health, whereas only cynicism partially mediated the relationship of work home interference with general health. This cross-sectional analysis does not enable the causal relationships over time to be separated, so these findings of mediation are tentative (D. A. Cole & Maxwell, 2003, p. 542; Holmbeck, 1997). Although the design of study one does not allow us to draw firm conclusions about the causal relationships, previous research and theory does suggest that this analysis is reflecting causal relationships identified in previous cross-sectional and longitudinal research.

Conservation of resources theory (Hobfoll, 2001) proposes that high levels of job demands can tax resources impacting on the worker personally (exhaustion) and as suggested by Hall et al. (2010) this also taxes personal resources relevant for the home life of the worker (work home interference). This suggests that a dual process occurs in response to high job demands, which is consistent with the findings of study one where the burnout scale, exhaustion, and work home interference both fully mediated the relationship between the job demands and general health. In my study it appears that this process occurred not just for exhaustion but also with regard to cynicism. Thus the effect of the loss of personal and family resources leads to a shift in the attitude

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and approach of clergy to their work as measured by cynicism. This distancing and withdrawal from work is consistent with the response to energy depletion described as "passive coping" in Hockey's (1997) model.

The relationship of burnout and work home interference with general health is difficult to distinguish cross-sectionally. The effect of work home interference on burnout was not symmetrical, as work home interference fully mediated the relationship of all the burnout scales with general health whereas only one scale, cynicism partially mediated work home interference. This may indicate a causal pathway where burnout contributes to work home interference which in turn leads to poor health. There is substantial support for this pathway in previous research. For example, Bakker and Geurts (2004) found longitudinal support for a job demands, exhaustion, negative work home interference pathway, with partial mediation of the relationship between Job Demands and work home Interference by exhaustion. This is consistent with a loss spiral that according to conservation of resources theory (Demerouti et al., 2004) occurs when there is a loss of resources an individual is more likely to experience further loss of resources. Thus, increased burnout may have led to increased experience of work home interference, which in turn contributed to poorer health.

The limited mediation by burnout of the relationship between work home interference and job demands indicates that a direct relationship between work home interference and general health exists. Theoretically, work home interference may have a stronger relationship with general health than burnout as in addition to measuring the effect of work stress on personal and family resources, it is a measure of off-job recovery. Daniels and De Jonge (2010) proposed that in accordance with the effort-recovery model (Meijman & Mulder, 1998), off-job recovery from work had an additional effect on the relationship between job demands, job resources and outcomes. According to effort-recovery theory if there is insufficient recovery from high job demands then this can lead to further loss of resources, which then reduces the individual's ability to respond to job demands which over time can lead to poor health.

The stronger relationship of work home interference with health may also be a reflection of the importance of work-home role conflict for clergy (Hill et al., 2003; Kaldor & Bullpitt, 2001, p. 45) and their health. There is very little research comparing the relationship of burnout and work home interference with health. However, one cross-sectional study of Chinese telecom employees (Zeng & Shi, 2008) found that the exhaustion and cynicism scales fully mediated the relationship between work home interference and health. Whereas in my research only cynicism partially mediated the relationship between work home interference and health. This may be a reflection of cultural or occupational differences, or it could be an indicator that there are reciprocal relationships as previously found between burnout, work home Interference and job demands (G.B. Hall et al., 2010).

The results from the analysis of work home interference and its relationship with job demands, burnout and health emphasises its importance to understanding work stress in general and amongst clergy. It has practical implications for the prevention and management of work home interference. Further research is needed to clarify the relationship between burnout, work home interference and health. In particular to consider cultural and occupational variation as well as whether reciprocal relationships exist, as found with job demands (Demerouti et al., 2004; G.B. Hall et al., 2010). This will require longitudinal studies but may also benefit from the use of diary studies (Butler, Grzywacz, Bass, & Linney, 2005) to provide an opportunity to explore contemporaneous relationships between job characteristics, work-home interaction and health, as these vary on a weekly or monthly basis.

Job Resources (and Personal Resources)

The relationships between resources and work engagement from the correlational data supported the hypotheses of the motivational enhancement pathway (Table 4.14). Ten of the fifteen resources measured were significantly correlated with at least one of the UWES work engagement scales (hyp. 2a), as well as at least one of the work outcomes (hyp. 2c). There were also significant correlations between all the UWES scales and self-rated performance, and between vigour and dedication with turnover intention (hyp. 2b).

The resources that contributed to work engagement were those well established in the research: co-worker social support, supervisor social support, job control (decision authority and skill discretion), and rewards (Johnson & Hall, 1988; Karasek, 1979; Siegrist, 1996). Yet, two resources that are more specific to clergy were also significantly correlated with at least one work engagement scale: relocation control and the God support scale. The social support openness scale was also a significant predictor of dedication when included in regression with co-worker support, job security and esteem. As discussed in the results section (Chapter 4) prayer and bible reading levels were very high so there may not have been sufficient variation in this sample to identify a relationship with work engagement.

The finding regarding relocation control indicates that even after the initial disruption of relocation, the control over decision making related to the relocation impacts on work engagement. This is consistent with previous findings that job control predicts work engagement (Schaufeli et al., 2009).

The connection between the God support scale and work engagement confirms previous longitudinal research that found spiritual resources predicted work engagement (Bickerton, Maureen, Dowson, & Griffin, 2014). The results at Time 1 suggest that this personal resource of God support is distinct but related to other forms of social support, such as that from co-workers. In my research there were significant correlations between the God support scale and co-worker social support (positive) and cynicism (negative) scales (Table A2.1-3 appendix two). These two correlations are consistent with findings from Whetham and Whetham (2000, p. 42) that those with impoverished personal relationships frequently reported a poor relationship with God. Fiala et al. (2002) that developed the God support scale also found a significant correlation between God support and social support. They suggested God may be experienced by participants in their survey "as one of the primary 'persons' from whom they gain support". The comments by clergy in Table 4.24 also support this conclusion, for example, "God is the person and place that I can refocus and recalibrate life when things, or I, go pear shaped." Thus, the God support

scale and similar scales provide an important indicator of clergy's relationship with God that complements measures of social support.

Mediation

The role of work engagement as a mediator in the motivational enhancement pathway in the JDR model was partially supported. The work engagement scales vigour and dedication had a significant relationship with turnover intention and self-rated performance. In this sample the absorption scale was not a significant predictor of these work outcomes.

Only one resource, co-worker support, of the four resources that were in the best linear model for turnover intention, was mediated by vigour and dedication (Table 4.44). The mediation of resources by work engagement for self-rated performance occurred for two of the four resources in the best linear model with self-rated performance. The relationship of these two resources with self-rated performance was partially or fully mediated by vigour and dedication (Table 4.45). There were direct relationships between resources with turnover intention and self-rated performance that were not mediated by work engagement (Table 4.44, 4.45).

The prominent predictor of turnover intention from the analysis was co-worker support which had a significant relationship with both the vigour and dedication scales of work engagement. The shared variance of co-worker support with the other resources appears to have reduced their relationship with work engagement. The importance of co-worker support is consistent with previous research that emphasises the role of co-worker support for motivation, as well as the role of co-worker and congregational support for clergy (Ducharme, Knudsen, & Roman, 2008; Whetham & Whetham, 2000; Xanthopoulou et al., 2008). Job security and social support openness were significant predictors of turnover intention and dedication. However, the test of the indirect effect of these resources on turnover intention via dedication was not significant (Sobel's z). Therefore, work engagement did not mediate the relationship of these resources with turnover intention.

One resource that stood out in the analysis that was not a significant predictor of work engagement, but was a significant predictor of turnover intention even when work engagement was in the model, was esteem. The lack of prediction by esteem of the work engagement scales may be related to shared variance with co-worker support, as indicated by their moderate correlation. However, esteem had a significant unique contribution with regard to turnover intention. This may reflect the social equity theory that this resource is based on, that effects consideration of turnover (Derycke et al., 2010) and is consistent with previous findings of the unique contribution of the DCS and ERI models to well-being (De Jonge, Bosma, Peter, & Siegrist, 2000).

Co-worker support and skill discretion were both significant predictors of the vigour and dedication scales of work engagement in the analysis of mediation regarding self-rated performance. The priority of these resources can be explained by the intrinsic motivational process described by Schaufeli and Bakker (2004) that resources meet basic human needs such as relatedness, competency and autonomy. Social support aligns with the human need for relatedness, and skill discretion with autonomy and competence. These resources also provide extrinsic motivation as they can directly assist in meeting the job demands (Schaufeli & Bakker, 2004).

In contrast with previous research of similar spiritual resources (Bickerton, Maureen, et al., 2014) the God support scale was not a significant predictor of work engagement. It is likely that one of the reasons for this was due to its shared variance with co-worker support. However, the God support scale did have a significant relationship with self-rated performance when the other resources and the work engagement scales were in the model (Table 4.45). This supports the relevance of spiritual resources that reflect the relationship of clergy to God. It appears that the contribution to self-worth, meaning, and anticipation of support of this personal and social resource uniquely contributes to a more positive rating of their performance by clergy, in addition to the contribution of co-worker support and skill discretion. This is consistent with Bickerton et al.'s (2014) suggestion that spiritual resources contribute to the meaningfulness of clergy's work and their perception of their ability to

accomplish the tasks related to the spiritual development of their congregants. A similar result has been found for "Spiritual relatedness" a component of the Orientation to the Demands of Ministry Scale (Miner et al., 2010). Higher scores on the God support scale may indicate an internal orientation that Miner et al. (2010) found was related to greater ministry satisfaction that is "marked by contentment with the perceived conduct and outcomes of one's ministry work." (Miner et al., 2010).

Buffering

The organisational and personal benefits of resources buffering the effects of high demands on health and productivity have been demonstrated in previous research (G.B. Hall et al., 2010; Van der Doef, Maes, & Diekstra, 2000). However, these interactions are not always consistently found (Bakker et al., 2004). The Time 1 results show six significant interactions from 42 interactions tested (1 in 7) of job demands with job resources, on burnout, depression and general health (Table 4.46). The graphs of these interactions demonstrate that all six of these interactions show buffering of job demands by job resources on burnout, depression and general health (Figures 4.2-4.7). This supports the JDR hypothesis 3f that resources will buffer the effect of job demands on burnout. As this buffering is also apparent for depression and general health providing partial support for hypotheses 3gi and 3gii.

There was only one significant interaction from 42 interactions tested of job demands with job resources on work engagement (Table 4.47). When graphed (Figure 4.9), this interaction did not show buffering of job demands on work engagement by job resources. Therefore, the JDR hypothesis 3h that resources will buffer the effect of job demands on work engagement was not supported.

The results were considered with regard to the Demand-Induced Strain Compensation (DISC) model and triple match principle (De Jonge & Dormann, 2003). The measures of demands, resources, and strains used in my research do not readily fit with the cognitive, emotional and physical qualitative dimensions of the DISC model, with the exception of the emotional dimension.

There are two interactions that are consistent with a triple match of emotional demands, emotional resources and emotional measure of strain. These are the interaction of the two demands, care frequency and emotional dissonance, with the resource, co-worker support, on depression. The interaction of care frequency and co-worker support on depression is very similar to a triple match found by De Jonge and Dormann (2006, p. 1368). They identified a significant triple match of Time 1 emotional demands by Time 1 emotional resources with Time 2 emotional exhaustion.

A further two significant interactions of care frequency and emotional dissonance with co-worker support were on burnout. Yet, burnout was a combined measure of all three scales which therefore includes physical, emotional, social and cognitive strain. These two interactions would thus be described as double matches. A further double match on general health was of interpersonal disputes and co-worker support. Once again, this demand and resource may best fit with the emotional dimension. The remaining two interactions do not fit within the DISC model dimensions as the measures do not have the specificity required to distinguish these dimensions. The importance of the emotional dimension demonstrated by these interactions was predicted by de Jonge and Dormann (2003) as they suggested that most demands elicit emotional responses, and most measures of strain include emotional components.

The resource that buffered demands for 5 out of the 6 significant interactions was co-worker support. This is clearly a highly valued resource by clergy as it has a significant role in reducing the effects of demands, particularly interpersonal and emotional demands. The focus of co-worker social support measured by the JCQ scale (Karasek, 1997) is on the relationship between co-workers, with two questions about whether co-workers are friendly and take a personal interest in the worker which relates to emotional support. The second aspect measured is the competence of co-workers and their helpfulness in getting the job done which relates to instrumental support. This reflects the multi-dimension nature of co-worker social support.

The support provided by co-workers may not just be to reduce the negative emotional state produced by interpersonal conflicts or demands (De Jonge & Dormann, 2003). The support may also assist with addressing the impact on self-worth, self-efficacy, and identity (Cohen & Wills, 1985). Assisting those experiencing grief, illness, and death can raise existential issues of meaning, life and death, as well as spiritual issues for clergy. Supportive co-workers can be invaluable with managing these effects of the work. This support can be the anticipation of support if needed or the actual opportunity of support with these issues. Clergy do work in teams, but often a large proportion of those in the leadership team are voluntary. These results reinforce the efforts that are made by clergy to develop supportive teams of paid and voluntary members. They also warrant further attention for research and evaluated interventions to consider the multi-dimensionality of co-worker support for clergy that most effectively buffers job demands. This will require greater specificity for job demands and co-worker support. Research over shorter time periods such as that done through diary studies may also yield useful insight into the role of types of co-worker support for specific job demands. Lastly, research on effective strategies for building and maintaining supportive co-workers, particularly for clergy, is warranted. This will draw on a range of research disciplines from business, management, psychology, and religious to inform the approaches that will most successfully develop this, and address the obstacles to a supportive team.

Cross-links between the pathways

The hypotheses predicting significant relationships between the elements of the health impairment pathway and the motivational enhancement pathway were supported (hypotheses 3a to 3e). The correlations indicated that there were negative relationships for job demands with job resources, for job resources with burnout, depression and health, for work engagement with burnout, and for burnout, depression and health with positive work outcomes. These relationships were in the context of strong significant relationships between the elements of the respective pathways. These relationships also support the distinction between the elements of the two pathways, such as job demands and resources, and burnout and engagement. They provide a caution to

conducting research on only one pathway of the JDR model, a recommendation also made by Schaufeli and Taris (2014) in their review of the JDR model.

Comparison of findings to DCS model

The job resources whose relationship with positive work outcomes was mediated by work engagement were co-worker social support and skill discretion. These were the two job characteristics that Karasek and Theorell (1990b) and Johnson and Hall (1988) considered were relevant for the active-learning model which in conjunction with the job strain model contributed to productivity. These findings show the relationship between these two theoretical models that recognise the importance of these resources in their contribution to worker motivation and positive work outcomes.

Using the psychological demands scale of the JCQ (Karasek, 1979) as the sole measure of job demands was not supported in this study. Firstly, the correlations show that although psychological demands was strongly related to the exhaustion scale, the correlation with cynicism was lower than other job demands, and there was not a significant correlation with efficacy. The psychological demands scale had lower correlations than other job demands (and higher p values) for the general health variable and the depression scale. These weaker relationships were reflected in the analysis of mediation by burnout of the relationship of demands with depression and health.

Psychological demands were not a significant predictor of depression or general health when included with the other job demands. Rather, qualitative demands such as role clarity and emotional demands were more relevant. There is a possibility that the work overload of psychological demands underlies these qualitative demands (Theorell & Karasek, 1990, p. 61). For example, as workload increases the competing expectations become harder to meet (role clarity), and the emotional demands of the work increase (emotional dissonance). Although these variables are moderately correlated with psychological demands, if this was the case, psychological demands would have had a stronger relationship with key variables.

As described above, work home interference is likely to be influenced by the effects of psychological demands, but it is also measuring additional aspects of the work environment such as the conflict between work and home roles, and the extent of off-job recovery. This is reflected in the importance of work home interference in the models of general health and depression. Karasek and Theorell (1990b) have recognised the importance of other aspects of the work environment, and have added other job demands from the initial conceptualisation of the demand-control model (Karasek, 1979). They incorporated the findings of Johnson and Hall (1988) regarding social support, and in proposed the inclusion of physical demands, and job insecurity. Researchers have continued to find value in the simplicity of the DCS model, but increasingly there have been calls for greater specificity with regard to the operationalization of demands, and resources (De Jonge & Dormann, 2003; De Jonge et al., 1999). The results of Time 1 support the use of the JDR model as it provides a structure for incorporating these additional demands and resources and examining their relationship with health and organisational outcomes.

Work Engagement

The role of work engagement in the mediation of the relationship between resources and positive work outcomes received partial support from this research. Previous research on clergy with this model failed to find mediation, due to a lack of relationship between job resources and positive work outcomes (Cotton, 2006). Despite the evidence of mediation one of the subscales of work engagement, absorption was not involved in this mediation (Table 4.44 and 4.45). Absorption was significantly correlated with only two job resources (Table 4.14). Absorption did not have a linear relationship with the self-rating of performance, and its correlation with turnover intention although significant was lower than the other engagement subscales, vigour and dedication (Table 4.25). These results suggest that absorption, unlike vigour and dedication was not as relevant to the motivational enhancement process with less relationship to the job resources and positive work outcomes.

Some researchers have advocated for vigour and dedication as the core dimensions of work engagement and excluded absorption in their studies (Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2006; Llorens, Schaufeli, Bakker, & Salanova, 2007). This is related to their close relationship with the exhaustion and cynicism scales of the MBI (Schaufeli & Bakker, 2004). Gonzalez-Roma et al. (2006) found evidence for two dimensions for burnout and work engagement. The *energy* dimension represented by the exhaustion and vigour scales, and the *identification* dimension represented by the cynicism and dedication scales. These findings are somewhat supported in this research as the correlation between vigour and dedication is larger than the moderate significant correlations of absorption with vigour and dedication (Table 4.25). Yet, these correlations still suggest that in this study these scales shared the construct of work engagement as demonstrated by factor analysis in other studies (Schaufeli, 2012).

Absorption is clearly distinct from vigour and dedication with its connection to Flow (Csikszentmihalyi, 1990), yet many studies support its incorporation in work engagement. Psychometrically, absorption has been found to be part of a three factor model of work engagement with separate but strong relationships with the other two scales (Schaufeli & Bakker, 2004). There is substantial support as for vigour and dedication for job resources as the antecedents for absorption (Hakanen et al., 2006; Mauno et al., 2007). Absorption in combination with the other scales has mediated the relationship of job resources with turnover intention in previous research (Schaufeli & Bakker, 2004).

A finding of interest in this research is that absorption was positively related to some of the job demands to a much greater extent than vigour and dedication. In particular, psychological demands which largely measures time demands was significantly positively correlated with absorption. Mauno et al. (2007, p. 167) had a similar finding of a positive relationship between time demands and absorption. Crawford, LePine and Rich (2010) found that time demands and other demands perceived as challenges are related positively with engagement. In conclusion, despite the limited contribution of absorption to the motivational

enhancement process in this study, the patterns of correlations with vigour, dedication, and job demands suggest it remains a useful component of work engagement as has been demonstrated in previous research. Certainly further research about the contribution of absorption is necessary, including further testing of its role in the occupation of clergy.

Burnout

In this research burnout functioned as a mediator of the relationship between job demands and health problems as predicted by the JDR model. Burnout is a three-dimensional construct consisting of exhaustion, cynicism and efficacy. A review of the relationship of the demands and resources with these scales provides useful information about the relative importance of these scales to the overall burnout construct. The correlations between job demands and the exhaustion, cynicism, and efficacy scales show consistently that the largest correlation is with the exhaustion scale, followed by the cynicism scale and then the efficacy scale (Table 4.5). Therefore, it appears that although job demands impact on each component of burnout they particularly affect the energy levels reflected in the exhaustion scale. This reflects the definition of job demands as those aspects of the work environment that require sustained physical and/or psychological effort and are therefore associated with physiological and/or psychological costs (Schaufeli & Bakker, 2004). This is consistent with Hockey's model (1997) that describes the energy depletion that occurs when responding actively to high demands. The exception was role clarity, where cynicism and efficacy had larger correlations with this scale than the exhaustion scale. The negative correlation with cynicism may indicate the distancing and withdrawal from work that occurs when the expectations and responsibility of the role are unclear. The correlation with efficacy is sensible as when the objectives and expectations are clear, it is easier to achieve these and determine your effectiveness in your work.

The pattern of correlations for the exhaustion, cynicism and efficacy scales with resources was different (Table A2.1-3 appendix two). Cynicism was the scale with the largest negative correlation with most of the resources, followed by exhaustion and then efficacy. Cynicism was initially identified in the JDR model as a measure of disengagement, with resources inversely related to cynicism,

leading to poor work outcomes (Halbesleben & Buckley, 2004). The only exception to the pattern of correlations favouring cynicism, was for social support and decision latitude where efficacy had a larger or equivalent correlation to that of cynicism. This reflects the importance of these resources for actual and perceived performance.

Age, Burnout and Depression

In my research age had a significant relationship with burnout and the DASS scale scores at Time 1. A trend of declining burnout and DASS scale scores with age has been demonstrated in previous research of clergy and other occupations (Francis et al., 2005; Francis, Loudon, et al., 2004; Lovibond & Lovibond, 1995; Maslach et al., 1996). With regard to burnout Schaufeli and Enzman (1998) indicate that burnout is negatively related to work experience with burnout occurring at early stages of career. This may be due to "reality shock" (Kunzel & Schulte, 1986 as cited in Schaufeli & Enzmann, 1998)) or an "identity crisis due to unsuccessful occupational socialisation" (Cherniss, 1980). Francis et al. (2005) suggested that as clergy continue in their career they learn how to deal more effectively with the demands of ministry and experience less burnout. However, this result may also be due to a selection effect, of survival bias, that those who experienced burnout early in their career are no longer working as Clergy (Schaufeli & Enzman, 1998). As with other mental distress this effect may be related to cohort factors.

The results at Time 1 provide some support for the influence of cohort factors on the relationship of age with burnout and mental distress. Age was correlated with children, indicating that younger Clergy have dependent children. This is consistent with other research that describes the additional demands of parenting, and family life. For example, in the 2006 Longitudinal Study of Australia's Children (Australian Bureau of Statistics, 2010b) over 60% of mothers and fathers reported always or often feeling rushed or pressed for time. In comparison for partners in a couple with no children, less than 40% of men and women reported feeling always or often pressed for time. This is an example of one of the potential risk factors or cohort factors that may impact on the relationship between age and mental health measures, along with family separation, financial strain and illness (Casey, 2011).

Research regarding ageing and mental health is not conclusive with regard to the decline in prevalence of mental health problems with ageing. The national survey on mental health and well-being (Australian Bureau of Statistics, 2008), and a recent survey by Casey (2011) found a decline in mental health problems with age (anxiety and depression). Also, in his review of epidemiological studies of anxiety and depression across the lifespan Jorm (2000; Jorm et al., 2005) found that there was a decrease in anxiety, depression and distress with age when psychosocial risk factors were controlled. However, firm conclusions about the true prevalence are difficult as these findings may be due to differences in cohorts, measurement or sampling bias. For example, Beekman, Copeland and Prince (1999) reported that depression was prevalent in later life. Jorm (2000) suggested that if this decline is real, possible mechanisms for this occurrence may be "decreased emotional responsiveness with age, increased emotional control and psychological immunization to stressful experiences."

Depression

The cross-sectional findings at Time 1 provide relevant information for theoretical and practical implications. The relationship of the burnout scales with the depression scale showed that cynicism accounted for 47% of the variance, while exhaustion accounted for 37% and efficacy 16% (Table 4.25). When the scales were regressed on depression with job demands, the largest R^2 change for the addition of a burnout scale was for cynicism, the lowest was for efficacy (Table 4.41-4.43). Although each scale individually mediated the relationship between at least two job demands and depression, cynicism mediated all four job demands in the linear model with depression. Although this is a cross-sectional result this suggests an important causal path between job demands, cynicism and depression. The questions of the cynicism scale relate closely to symptoms of depression assessed in the DASS depression scale. For example, two of the cynicism scale questions refer to being "less interested" and "less enthusiastic" which are two core symptoms for the diagnosis of Major Depression (American Psychiatric Association, 2013). This result may be relevant to particular occupations, as other researchers have

found exhaustion was more strongly related to depression (Ahola et al., 2005; Bakker et al., 2000)

The priority of cynicism and exhaustion in their relationship with depression does not support the suggestion by Maslach (1982) that depression occurred as a consequence of reduced self-esteem and efficacy as the individual perceives their reduced personal accomplishment. It is more likely that the symptoms of depression measured by the DASS Depression scale, relate more closely to the loss of interest and worth of the cynicism scale, and the fatigue and strain of the exhaustion scale. In particular the protection of resources (Hockey, 1997) characterised by cynicism as the person moves from seeking to maintain performance to a withdrawal from performance expectations as personal resources are depleted, appears to be most closely related to depression in this research.

The results were consistent with previous research that has found that depression and burnout are distinct but strongly related constructs (Glass & McKnight, 1996). Although there was a strong relationship between the depression Scale and the burnout scales there was also substantial unexplained variance. For example, cynicism explained only 47% of the variance. The high significant correlations indicate that the relationship of the depression scale with the burnout scales was linear. This does not support a quantitative distinction between mild and moderate burnout with severe burnout as suggested by Bianchi, Boffy, Hingray, Truchot and Laurent (2013). Rather, the strong relationship with depression symptoms when burnout is severe is consistent with previous research that suggests that Burnout is a phase in the development of work-related depression (Ahola & Hakanen, 2007).

Most of the job demands measured at Time 1 had significant correlations with the depression scale, and of these, four formed the best linear regression model with depression (Table 4.5, Table 4.42). These were work home interference, role clarity, positive emotional expression and emotional dissonance. The burnout scales mediated the relationship of different demands with depression, depending on the burnout scale. Analysis of these differences provides information about the potential process through which these demands impact

on depression. Cynicism mediated the relationship of all the job demands with depression reflecting the contribution of these demands to the development of cynicism, and the strong relationship of cynicism with depression. The exhaustion scale did not mediate the relationship of emotional demands with depression, instead mediating role clarity and work home interference. With respect to work home interference the mediation of this demand suggests that the relationship of exhaustion on depression may be due to the mental and emotional exhaustion that this produces. This may relate to the lack of off-job recovery discussed earlier (Meijman & Mulder, 1998). Efficacy mediated the relationship of role clarity and work home interference with depression, but also mediated positive emotional expression. This appears to indicate that being able to behave in a valued way, such as expressing positive emotions contributes to efficacy which in turn predicts lower depression.

The results at Time 1 identified cynicism as an important dimension of burnout in its relationship with depression. The results supported the distinctive characteristics of burnout and depression, with the three dimensions of burnout providing insight into the potential impact of specific job demands on work-related depression. Further research should include the three dimensions of burnout to measure the impact of job demands, and the development of work-related depression.

General Health

This research showed that global self-rated health was predicted by health related behaviours including medication use, doctor visits, sickness absence and physical activity. Although there is some evidence that clergy health is worse than indicated by general self-rated health (GSRH, Proeschold-Bell & LeGrand, 2010) the relationship with these health indicators provides evidence that it is a reflection of health related behaviours and use of medical services which are a closer approximation of objective indicators of health status than self-report of psychosomatic symptoms (Schaufeli & Enzmann, 1998). This is beneficial for further research with clergy as well as for the incorporation in routine assessment of clergy because the use of a single question (GSRH)

reduces the time and cost of administration of longer subjective health assessment approaches (DeSalvo et al., 2005).

Job demands were strongly related to general health, those with the largest significant correlations were work home interference, role conflict, role clarity, emotional dissonance, and psychological demands. All of these except for role conflict, due to shared variance particularly with role clarity, and psychological demands were significant predictors when included in a regression model for general health. As role clarity and emotional dissonance were mediated by the exhaustion and cynicism scales this supports the JDR health impairment pathway as a model for work-related health problems. Efficacy did have a significant correlation with general health, but it did not mediate the relationship between job demands and health.

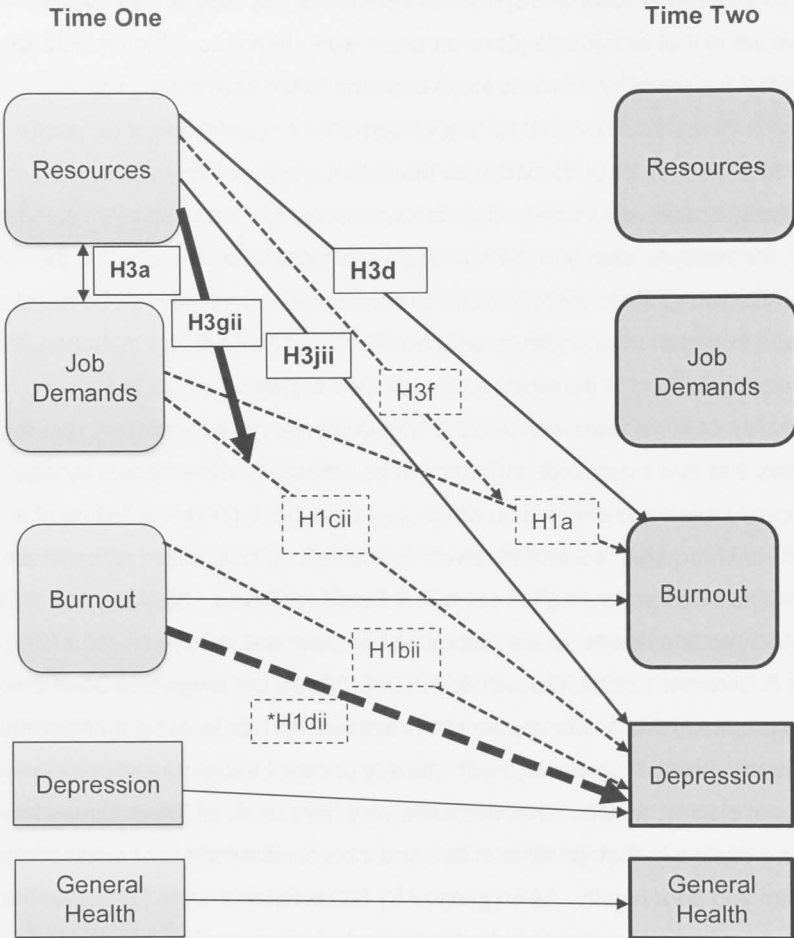
The strong connection between work home interference and general health discussed earlier demonstrates the importance of off-job recovery in responding to job demands (Demerouti et al., 2004). Yet this is an ongoing struggle for clergy with requirements to work in the evenings, weekends, interruptions during time at home, and unpredictability of the role. There has been some research on work-role boundaries for clergy (Hills et al., 2004; Wells, Probst, McKeown, Mitchem, & Whiejong, 2012) but further research incorporating research on work home interference from other occupations, as well as intervention studies are needed.

Demands and Resources

There was some evidence in the results of demands that had a counter-intuitive effect on burnout and health. Two examples of this were positive emotional display and care frequency. Care frequency was positively related to exhaustion, indicating that higher care for those that are ill, or family who had lost someone due to death was related to higher exhaustion scores (Table 4.5). Yet, care frequency was also positively related to efficacy, indicated that as this care increased, clergy rated themselves as more effective in their work. This has some similarity to the classification of demands as "challenges" and "hindrances" by Crawford et al. (2010) depending on their relationship with work

engagement. Schaufeli and Taris (2014, p. 56) suggested that the type of result found for positive emotional display and care frequency may be due to the positive value that individuals place on some work demands, which is actually a key part of the definition of resources according to the conservation of resources theory (Hobfoll, 2001). They suggested a redefinition of demands and resources to refer to demands as those that are negatively valued, and resources as positively valued. Both of these demands are positively valued by clergy, for example, clergy in their qualitative comments both described the strain that visiting those that were sick produced as well as the experience of fulfilment from performing this valued role (Table 4.13 and 4.23). Although, this re-conceptualisation of demands and resources explains the positive contribution of some demands to work engagement evidence from my research indicates that these demands still function as demands. Care frequency was significantly related to exhaustion which suggests that it fits the definition of a demand that requires "sustained psychological effort...associated with certain physiological and psychological costs." (Schaufeli & Bakker, 2004). In the DCS and DISC models demands are recognised as contributing to motivation (De Jonge & Dormann, 2003; Theorell & Karasek, 1990). De Jonge and Dormann (2003) proposed that *moderate* demands are required for learning and growth. Despite the positive relationship with efficacy of care frequency and positive emotional display, as with other demands very high levels of these demands will lead to a decline in their positive effect, and increased evidence of exhaustion, cynicism and poor health. As suggested by Schaufeli and Taris (2014) further research needs to investigate both the amount of effort and the appraisal of demands.

Figure 6.2 Results from Time Two



Note: Hypotheses in bold next to a solid arrow indicate support for the hypothesis. Larger arrows indicate a mediation or interaction hypothesis. Double arrows show a correlation. A broken line indicates an unsupported hypothesis. None of the hypotheses related to General Health were supported.

* See Figure 5.2 for illustration of the analysis for his hypothesis.

Interpretation of results with regard to Hypotheses - Study Two

Time 2 of this study was designed to provide a longitudinal test of the JDR model with a focus on the health impairment pathway. An important consideration was the development of depression, as it relates to work.

The correlations between the Time 1 variables with Time 2 response variables (Table 5.5) indicated preliminary support for the health impairment pathway with significant correlations of Time 1 job demands with Time 2 burnout and Time 2 depression. There were also significant correlations of Time 1 resources with Time 2 cynicism and efficacy, and Time 2 depression. With regard to the relationship between burnout and depression, there were significant correlations between Time 1 cynicism and efficacy with Time 2 depression, as well as T1 depression with the Time 2 burnout scales. Yet there were no significant correlations of job demands or resources at Time 1 with general health at Time 2. Only Time 1 depression and efficacy had significant correlations with Time 2 general health. Therefore, in terms of linear relationships there appeared to be support for the health impairment pathway with regard to the depression scale, as well as a negative relationship of resources with job demands, burnout and depression as predicted. There was no support from the correlations for the health impairment pathway with general health.

The hypotheses for Time 2 were assessed using covariance structural modelling (SEM) when the depression or burnout scales were the response variable, and ordinal logistic regression when the general health question was the response variable, except for the interaction analyses. Throughout the analysis the value of the response variable at Time 1 was controlled by including it in the model. The SEM analysis showed no support for the health impairment pathway, with no significant relationship between Time 1 job demands and Time 2 depression, Time 1 job demands and Time 2 burnout, and Time 1 burnout with Time 2 depression (Table 5.11-12). The SEM models did not show good fit, and the parameters were non-significant. The results for general health also did not support the hypotheses, with no significant parameters for Time 1 job demands with Time 2 burnout, or Time 2 general

health (Table 5.14-15). The parameter for Time 1 burnout with Time 2 general health was also non-significant. The results showed that the best predictor of Time 2 burnout and Time 2 general health, were Time 1 burnout and Time 1 general health respectively.

When Time 1 job resources were included as a latent variable in a structural equation model, they had a significant negative parameter with Time 1 job demands (Table 5.16, hypothesis 3a). This supports the theoretical distinction between job demands and job resources in the JDR model. Resources did not have a significant relationship with Time 2 depression or Time 2 general health (Table 5.18, Table 5.20). However, there was support for the hypothesis that resources would have a negative relationship over time with Time 2 burnout, but only for job resources (Table 5.17, hypothesis 3d). The latent variable of personal resources did not have a significant relationship with Time 2 burnout, when Time 1 burnout was controlled. This result indicates that those with higher job resources at Time 1 experienced less burnout at Time 2 even when the variation in burnout at Time 1 was considered. This has important practical implications that support the role of job resources in directly improving well-being. Previous research has also found this relationship but it has been weaker than the relationships between job demands and burnout (Hakanen et al., 2008).

Very little support was found for the hypotheses that resources would buffer the effect of job demands on burnout, depression and health. The interactions between job demands and resources on burnout were investigated with multiple regression. There were no significant interactions between job demands and resources on burnout. Therefore, resources at Time 1 did not have a buffering effect on the relationship between job demands at Time 1 and burnout at Time 2. The same analysis was conducted with general health using ordinal logistic regression. There were no significant interactions between Time 1 demands, Time 1 resources on Time 2 general health.

When multiple regression was used to investigate the interaction of job demands at Time 1 with job resources at Time 1 on depression at Time 2, four

out of fifteen interactions tested were significant. Only three of these interactions indicated that job resources buffered the effect of job demands at Time 1 that led to reduced depression at Time 2. Two of these interactions occurred with the job demand, role clarity and the job resources co-worker support and skill discretion. Role clarity was identified as one of the job demands that predicted depression at Time 1. Therefore, this result is an important one for practical implications of this research as it identifies two resources that have the potential to reduce the effect of this demand. The third buffering interaction occurred between interpersonal disputes and co-worker support.

Despite three of the interactions indicating that buffering occurred, the fourth interaction did not show evidence of buffering. The results of the moderation analysis shows limited support for the buffering of the effect of Time 1 job demands on Time 2 depression by Time 1 job resources as predicted by hypothesis 3gii. The buffering by resources of the effect of demands on burnout or general health was not significant so the support for this hypothesis is limited to a small number of demands and resources on depression in this sample. The multiple regression analyses conducted for the interaction of resources and demands on Time 2 depression also provided evidence that supported a significant negative relationship between resources at Time 1 and Time 2 depression, when Time 1 depression was controlled (hypothesis 3jii).

Limitations with Study Two

Review of the results reveals a number of factors that may have contributed to the lack of support at Time 2 for the majority of the hypotheses of the JDR. The sample size at Time 2 was much smaller at 64, than Time 1 at 283. It is likely that with this sample size there was insufficient power to detect effects that previous research indicates are small (eg. the T1 Burnout parameter on T2 Depression was .16 in Hakanen & Schaufeli, 2012). This was combined with a low response rate at Time 1 which by Time 2 was extremely low. Comparison of means between responders and non-responders at Time 2 showed non-significant differences for demographic and response variables. Yet, the low

number of participants contributed to a restricted range of responses on some scales, such as depression that could have had an impact on the results.

One year longitudinal studies have been sufficient to demonstrate the predicted relationships of the JDR model (Schaufeli et al., 2009), although the required time lag for measurable effects does vary between samples. There is growing evidence that a more optimal causal time lag is 2 -3 years (Dormann & Zapf, 2002), although this can be influenced by periodic events (Capel, 1991). A sufficient time lag is particularly important when there is substantial stability in the outcome variables. The stability co-efficients for the burnout scales, depression and general health were all high. Therefore, it is more difficult to identify the prediction of change in these scales by other variables (Schaufeli & Enzmann, 1998, p. 98). Lastly, the approach used to assess the impact of the work environment, on burnout and health assumes that the work environment has had a consistent effect over the one year between surveys. Yet, one quarter of the respondents had changed roles over this year. These issues of sample size, time lag, stability of measures, and change during the study are well recognised challenges of longitudinal research (Ter Doest & De Jonge, 2006). Some of these factors that have impacted on the Time 2 results can be addressed through design.

One area of design to consider is one that yields greater representation of the occupation being studied. This research sought respondents from several denominations with the aim of investigating occupational stress in clergy across these denominations. This approach can provide greater opportunity for generalisation of findings but it is difficult to maintain ongoing commitment to the research, which is necessary for effective longitudinal research. An alternative method of conducting longitudinal research (and intervention) is Participative Action Research. This is a method that provides shared ownership between researchers and participating organisations that enhances the research but also contributes to improvement in the organisation (Dollard, Le Blanc, & Cotton, 2007; Mikkelsen & Gundersen, 2003). This approach is more likely to lead to greater representativeness, and higher longitudinal responses. In this approach qualitative methods can also be used to greater inform the results of

quantitative methods leading to more robust findings that can contribute to theory and practice. These qualitative methods can assist with identifying the potential impact of organisational changes, on the outcomes of the research (Hohmann & Shear, 2002) such as the change of role of 25% of the participants in the second wave of this research.

Another approach that is particularly successful in gaining a high level of representation of clergy in the research are the surveys conducted by the National Church Life Survey (NCLS, eg. Miner et al., 2010). This is a well-respected organisation that conducts regular surveys nationally in Australian of church congregations, as well as their leaders. At this stage the NCLS have not published follow-up surveys of leaders, instead aggregating data and comparing overall findings from one survey to the next. Yet there is the potential to undertake this research if there was sufficient interest from the participating denominations.

There are many innovative ways that research is being conducted to investigate the temporal relationships of work stress and well-being. Diary studies are being used to assess the daily or weekly impact of demands and resources on work engagement and performance (eg. Xanthopoulou et al., 2008). This provides useful information about the short-term influence of these factors that impact on the medium to long term responses to the work environment. In more conventional longitudinal research longer time lags are recommended but multiple wave studies can yield more detailed information about the process of development of burnout and work-related depression. These approaches combined with statistical methods such as latent change scores (Toker & Biron, 2012), and latent growth modelling (Shin, Noh, Jang, Park, & Lee, 2013) will assist in more detailed understanding of the development and retardation of worker well-being.

A further limitation of this research is that all the measures used were based on self-report. Yet, previous research has found that variation in subjective measures of job-characteristics reflects actual changes in the organisational environment (Spector, 1992). Also, comparison of subjective and objective

measures of depression showed that both methods found the same relationships between job strain and burnout (Ahola et al., 2006). There is a potential for bias from personality characteristics such as social desirability or negative affectivity however this is unlikely to have made a noticeable difference to the results (Spector, 2006). Nonetheless, the use of multiple measures of constructs is recommended where possible (Spector, 2006).

Theoretical implications

This research provides cross-sectional support for the JDR model and its application to the occupation of clergy. This sample of clergy was cross-denominational incorporating four major denominations (Anglican, Baptist, Uniting, and Catholic). This research therefore extends on the work of Cotton (2006) that examined the JDR model in a single denomination, Salvation Army clergy. Further major contributions that add to the work of Cotton (2006) are the focus on work-related depression at Time 1 and especially Time 2, examination of the role of Work-Home Interference, and the examination of additional measures of demands and resources of relevance to Clergy well-being such as the interpersonal disputes scale, God support scale, and care frequency questions. In addition, the efficacy of a global self-rating of health was tested and an intervention on job crafting was piloted following the survey at Time 2 (Appendix One).

The main pathways of the JDR model, the health impairment pathway, and the motivational enhancement pathway were supported, as well as relationships between these pathways including the negative relationship of resources with job demands and burnout. Job resources, particularly co-worker support buffered the effect of job demands on burnout, depression and health. The majority of interactions were for the emotional dimension of demands, resources and strains. There was evidence of triple and double match interactions, consistent with the DISC model and triple match principle (De Jonge & Dormann, 2003). The relative importance of co-worker support as a buffer for demands suggests that this is a specific occupational resource that should be a focus of future research and intervention for clergy.

The longitudinal results showed significant correlations that were consistent with the hypotheses of the health impairment pathway when health effects were measured by depression. There were also significant correlations supporting the role of resources as having a negative relationship with job demands, and burnout. The role of resources in the model were the key findings of the longitudinal study. The analysis of the health impairment pathway through

structural equation modelling and ordinal logistic regression did not find evidence to support the health impairment pathway of the JDR model longitudinally. Yet, SEM modelling found longitudinal support for the negative relationship between job resources and burnout. Unlike previous research, this relationship was not weaker than that between job demands and burnout which was not significant. A negative relationship between job resources and depression at Time 2, controlling for depression at Time 1 was also identified through multiple regression analyses. Lastly, there were three significant interactions showed the buffering of job demands by job resources at Time 1 on depression at Time 2. These results confirm the importance of job resources over time, in reducing the development of burnout and depression, as well some support for the buffering of the effects of demands on depression. This provides further support for the role of resources in the JDR model.

This research also provided cross-sectional support for the JDR model as a way of understanding work-related depression. The links between job demands, exhaustion, cynicism, and efficacy with depression were explored to provide further details about the impact of job characteristics on the development of depression. Cynicism was particularly prominent in its relationship with the depression scale for this occupational sample.

This research reinforced the importance of work home interference with a stronger relationship than exhaustion with self-rated general health, as well as a strong relationship with the depression scale that was only partially mediated by exhaustion.

Self-rated general health was identified as a useful measure of health of clergy, which is predicted by health indicators. This provides a contribution to further research as a single measure of health can be incorporated more easily and cost effectively into research and health reviews for clergy.

Research Recommendations

1. The difficulties experienced in this research with the longitudinal study of well-being at work suggest that research design is particularly important to consider when conducting longitudinal research. In particular use of approaches that are more likely to obtain a representative sample such as Participatory Action Research, or engagement with existing reviews (eg. NCLS or denominational conferences). Longer time lags of 2 years plus are recommended with multiple waves. This enables the use of statistical methods that model change in health or burnout over time in response to job characteristics of interest.
2. To ensure comparison with the Australian population, consideration should be given to the use of scales from the JCQ 2.0 as used in the Australian Workplace Barometer (AWB). Direct contact with the authors of the AWB would be required as the questions used in studies from the JCQ 2.0 vary (Dollard et al., 2012).
3. Further research with Clergy would benefit from a participatory action research (PAR) approach (McVicar, Munn-Giddings, & Seebohm, 2013). Denominations are becoming increasingly sophisticated in the approaches they are using to respond to change, and already some undertake focus groups, use expert panels, as well as individual interviews to explore problems and identify localised solutions (eg. Association of Baptist Churches in NSW and ACT, 2010). There are opportunities for researchers to participate in these efforts bringing theoretical and research methodology that will benefit the organisation as well as broader understanding about occupational stress and well-being.
4. Further investigation is needed of work home interference amongst clergy considering its contributors and effective methods of job design, as well as coping strategies to manage it. A combination of PAR, or an ethnographic approach (N. C. Ware, Tugenberg, Dickey, & McHorney, 1999) combined with quantitative methodology may yield the most effective exploration of this important demand.
5. This research demonstrated evidence of the relevance of match for the buffering of job demands by job resources (De Jonge & Dormann, 2003).

If further research is considering the buffering of job demands by job resources, increased specificity with regard to qualitative dimensions is recommended to enable identification of resources that will compensate the effects of demands on work strain (De Jonge et al., 2009). A particularly important area of research is regarding co-worker social support which is an important resource for clergy. Increased specificity of demands and resources to enable closer matching of qualitative dimensions is one avenue of research that is recommended to identify what support is most useful.

6. Burnout provides useful information for understanding the development of work-related depression. This research demonstrated the relevance of the JDR model for research of work-related depression, as well as the use of all three scales of the MBI-GS in this research.
7. There was evidence that some demands positively affected burnout and work engagement. Further research about the differential effect of demands that investigates the effort of demands as well as the appraisal of demands is an important area of research needed to clarify the distinction between job demands and job resources in the JDR model (Schaufeli & Taris, 2014).

Practical Implications

One of the objectives of this research was to contribute to our understanding of occupational stress in the occupation of clergy so that efforts to improve the well-being of clergy could be informed by this new information. As this research was conducted across several denominations, and a large geographical area these findings have the potential to be applicable to clergy in a range of situations. However, as discussed earlier the response rate for this research indicates that some caution with regard to the application of the findings of this research is required.

1. Clergy and denominations should consider the work environment with its mix of demands and resources when clergy are exhibiting signs of strain such as burnout, depression or poor health. The results from this research show the job demands (and resources) that are significantly

related to burnout and poor health outcomes (Table 4.5 and section 4.4-5). Clergy, congregations, and denominational leaders could use these as part of an organisational health check, along with other locally important indicators. Unfortunately, objective measures of critical levels of job demands and resources are not available although the mean scores of the measures used in this and similar studies could be used as a guide for comparison. If used regularly organisations could be able to compare with previous information obtained within their organisation.

2. Burnout as a measure of job strain continues to be relevant for clergy. Measures that exclude cynicism are not recommended as this study found it had a strong relationship with the depression scale that was not explained by exhaustion, as well as a mediating role for core clergy job demands.
3. Job resources (and personal resources) were related to work engagement, reduced resignation intention and increased self-rated performance. Higher job resources were also related to lower burnout over time. Once again the results of this research provides information on the relationships (Table 4.14 and section 4.4-5) between job resources (and personal resources) and the other components of the motivational enhancement pathway. Clergy, congregations and denominational leaders would do well to consider how well these resources are in place and what the barriers are to these resources being used effectively.
4. Co-worker support was identified as a job resource of particular relevance for clergy as a buffer for job demands, particular those with emotional demands. This supports the efforts by clergy, congregations and denominations to support the development of well-functioning leadership teams, and avenues of support within the congregation for clergy. The resources used by denominations, and congregations to support efforts to address barriers to good relationships between co-workers are justified by this research in terms of the positive impact on the health and productivity of Clergy, but of course have a much wider benefit for congregations.

5. Work home interference was an important demand that had significant implications for burnout, health and depression. This was not just related to work-home boundary issues, but also to the effect of work on the ability of clergy to engage emotionally, physically and mentally in relationships and activities at home. Continued efforts to work on this area are needed with the evaluation of strategies to change the expectations of congregations, and address the barriers to reducing this demand on Clergy.
6. The beliefs that clergy had about God's support and attitude towards them had a strong relationship to the level of engagement and work outcomes. Although the cross-sectional findings cannot demonstrate a causal relationship between God support and work engagement or work outcomes, this relationship does indicate that the relationship clergy have with God is central to their work engagement and work outcomes. If this is wavering, action is needed to address potential contributors to this. This may include reducing the job demands, increase resources, as well as time out for renewal, and discussion with a spiritual mentor.

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Appendix One

Clergy Work Stress Intervention Report

Introduction

An aim of the thesis research was to inform intervention through investigation of the Job Demands Resources (JDR) model in a sample of clergy. Study one identified that clergy do experience comparably higher demands and lower resources in some areas. They also experience moderately high levels of burnout and depression compared to other occupations. Therefore, as identified in previous research there is a need for work stress interventions to improve health and work outcomes amongst clergy (Cotton, 2006; Cotton, Dollard, De Jonge, & Whetham, 2003).

In study one, the relationship between demands and resources with burnout, health and depression was confirmed in this occupation, and there was evidence of buffering by resources of the effect of demands on burnout and health outcomes. Through the examination of occupationally specific job characteristics facilitated by the JDR model, more accurate targets for organisational intervention were identified than would have been possible with the DCS or ERI models (Nielsen, Taris, & Cox, 2010). Those demands and resources identified from Study one and two as key determinants of the *health impairment pathway* as well as the *motivational enhancement pathway* were included in this intervention. Those resources that buffered the effects of demands were also included. When considering the design of the intervention, research on types of intervention, the target of intervention (organisational and individual), and clergy-specific interventions were reviewed.

Types of Intervention

Schaufeli and Enzmann (1998) provide a framework for understanding the stages of interventions used for occupational stress.

They describe three stages of intervention:

- **Primary (prevention):** aimed at preventing the development of work stress through eliminating or reducing stressors. Examples, of this type of intervention are job re-design and ergonomics (Dollard et al., 1998; Egan et al., 2007).
- **Secondary (prevention & reaction):** this stage of intervention aims to change the ways that individuals respond to stressors. It is often directed at those experiencing stress symptoms or where risk of stress is identified. Examples of these interventions can include relaxation training, peer support groups or organisational development.
- **Tertiary (treatment and rehabilitation):** aimed at assisting an employee that is experiencing strain. Often, the focus of this assistance from the employer is the provision of counselling (eg. Arthur, 2005) and rehabilitation.

Intervention strategies are often not confined to one stage of intervention. For example, a stress audit provides information on an organisational level to inform Primary (Prevention). These are often conducted in response to stress indicators in employees so it could also be described as a Secondary (Reaction) stage intervention.

Within these three stages the target of the intervention can be organisational, working at a broader level to identify and reduce stressors, and create a healthy organisation. Alternatively, the target can be individually focussed on the workers increasing their capacity to respond to stressors or potentially recover from more serious health effects of work stress. Some authors (Schaufeli & Enzmann, 1998) describe a third target, the individual-organisational interface, which refers to interventions with a focus on the individual within the context of the organisation. As for the stages of interventions the targets of interventions can be difficult to distinguish especially the Individual and the Individual-Organisational interface. For example, relaxation may be implemented without

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reference to the workplace with the focus on off-job recovery. Yet, consideration of relaxation activities that can be incorporated into the work setting provide an opportunity for on-job recovery (Meijman & Mulder, 1998). Including the work context as part of individual intervention is consistent with the evidence for the contribution of the work context to strain, and the desired outcomes related to the work context.

Table 1 provides examples of interventions at the three stages of intervention, for the three targets organisational, individual-organisational and individual.

Table A1:1 Levels and Targets of Interventions (Schaufeli & Enzmann, 1998)

	Organisational	Individual-Organisational	Individual
Primary	<ul style="list-style-type: none"> • Job redesign: job enrichment, job rotation. • Role clarification • Consultative management practices 	<ul style="list-style-type: none"> • Peer Support groups • OHS Consultation /working parties • Professional & Career Development planning • Time management training 	<ul style="list-style-type: none"> • Healthy lifestyle programs
Secondary	<ul style="list-style-type: none"> • Stress audit which then addresses identified stressors – management, technology, workload etc. 	<ul style="list-style-type: none"> • Problem solving/decision making training • Communication training/conflict resolution • Responding to violent or challenging behaviour training 	<ul style="list-style-type: none"> • Cognitive-behavioural techniques • Relaxation
Tertiary	<ul style="list-style-type: none"> • Organisational change to address workgroups identified as leading to time off, complaints by workers or customers. 	<ul style="list-style-type: none"> • Rehabilitation including adjustment of job to the needs of the person with burnout • Counselling that recognises the context of the work environment and uses problem solving, skill development to better manage the job demands and develop resources. 	

Interventions informed by work stress research and with a focus on work health and safety have been designed in a range of jurisdictions. The focus of these interventions are on holistic, multi-level, multi-target approaches (Blewett, Shaw, LaMontagne, & Dollard, 2006; Comcare, 2008; European Agency for Safety and Health at Work, 2002). These interventions rely on evidence that combining organizational and individual approaches to reducing work stress are more effective (Blewett et al., 2006; Van der Klink, Blonk, Schene, & van Dijk, 2001).

Effectiveness of Work Stress Interventions

Organisational Interventions

Organisational interventions have included a range of strategies to reduce demands and increase available resources. These have included improving the job content and the work environment through job redesign by enlarging, enriching, or rotating job tasks and responsibilities (Schaufeli & Enzmann, 1998; Theorell & Karasek, 1990). For example, job redesign may include rotation of tasks to ensure reduced exposure to demanding work tasks (Pines & Maslach, 1978). However, it often also involves job enlargement or enrichment providing greater variety in work tasks and potential to utilise and develop skills (Schaufeli & Enzmann, 1998). Increased job control and social support has also been an important aspect of these interventions (Le Blanc, Hox, Taris, & Peeters, 2007). A further organisational intervention has been role clarification to address role ambiguity and conflict (Maslach & Jackson, 1984).

There have been mixed results from organisational interventions. Meta-analyses by Van der Klink et al. (2001) and Richardson (2008) showed little or no effect of organisational interventions. Whereas, there are some organisational interventions that do produce significant benefits (Dollard et al., 1998; Theorell & Karasek, 1990). Nielsen and Randall (2013) argued that a focus on only the overall effect of organisational interventions does not distinguish intervention effects due to differing intervention processes. They argue for organisational intervention research to explicitly include evaluation of

the context, and the attitudes and behaviour of those targeted by interventions. This requires a multi-modal approach that gathers formative qualitative information regarding the process of intervention as well as quantitative information (Dollard & de Jonge, 2003).

As described earlier interventions that combine organisational and individual interventions have grown in popularity (LaMontagne, Keegel, Louie, Ostry, & Landsbergis, 2007). The target of organisational work stress interventions is organisational change usually measured by change in organisational outcomes such as absenteeism, retention, and performance. Whereas, individual interventions are more directly targeting individual change usually measured by psychological and health outcomes (Richardson & Rothstein, 2008). The integration of these approaches enables the achievement of both organisational and individual outcomes.

In their review van der Klink et al. (2001) found that the only organisational intervention that yielded a significant effect was a study that combined organisational approaches to increase job control with training in individual perception and coping skills. They argue that this is likely to be because these skills are required to use the increased job control productively. Thus, the combination of organisational and individual interventions is likely to enhance the effectiveness of organisational interventions (Nielsen et al., 2010).

Individual and Individual-Organisational interventions

Evaluation of stress management interventions has indicated that interventions focussed on individuals have a significant effect on a range of individual outcomes including psychological resources and responses and perceived quality of work life (Richardson & Rothstein, 2008; Van der Klink et al., 2001). These programs are designed to reduce the effect of work demands on individuals through teaching cognitive behavioural strategies, relaxation training, personal skills development or training in job-related skills. Van der Klink et al. (2001) noted that most individual stress management programs are run with

those that already have high job control. They posited that these employees have the best capacity to benefit from these programs.

There are a few studies of individual interventions that have measured organisational outcomes but there are not sufficient studies to compare organisational and individual interventions in their effect on organisational outcomes (Richardson & Rothstein, 2008). One explanation for the low effect sizes of organisational interventions may be that organisational outcomes are more difficult to measure with a range of extraneous factors that can influence results.

A recent development in individual approaches to work stress is job crafting. Job crafting describes the individual job redesign that workers undertake to adapt their job to fit their needs, abilities and preferences within their work context (Wrzesniewski & Dutton, 2001). This does not involve changing the job completely rather it involves targeting specific aspects of the job within the limits of the job requirements. This approach contrasts with traditional work stress interventions targeting individuals as these typically involve management driven processes even though some include collaboration (De Jong & Emmelkamp, 2000; Le Blanc et al., 2007). High levels of job control as described by Van der Klink et al. (2001) provides greater flexibility for job crafting, although there is evidence of the benefits of job crafting for jobs with lower job control (Tims, Bakker, & Derks, 2013). In the study by Tims et al. (2013) job crafting to increase resources lead to an overall increase in resources that in turn lead to increased work engagement and reduced burnout. There was less support for the relationship between job crafting of job demands with overall job demand levels or work engagement and burnout. Tims et al. (2013) suggest that this may be due to the difficulty of changing job demands, as well as differences between work contexts in the contribution of job demands to work engagement and burnout.

There are a range of practices that have been implemented to support clergy. These include clergy retreats, sabbaticals, time off, prayer support groups, pastoral support networks, educational mental health seminars, counselling, pastor spouse retreats, and pastoral spouse support networks. The support services available to clergy vary between denominations and churches. For example, Trihub and colleagues (2010) explored the denomination mental health supports in three Protestant denominations in America. They found that time off, prayer support groups, and clergy retreats were the most valued, adequately provided and utilized.

The research on effective work stress interventions for clergy is limited. There are a small number of papers investigating the effectiveness of existing practices such as mentoring and sabbaticals (Baugess, 2002; Fuller, 2003). Research on the introduction of an intervention has included mindfulness based stress reduction training (Davis, 2011), anger reduction training (French, 2003), and relocation support (Cotton, 2006). The evaluation of existing and new practices is critical to ensure the effectiveness of these support practices and to develop these practices further. This is demonstrated in Cotton's (2006) relocation study where analysis showed the higher levels of cynicism and lower dedication, and job satisfaction for those that relocated compared to those that did not relocate. The implementation of a number of interventions including resources and support had a short term benefit of reducing psychological distress and increasing job satisfaction for those that relocated. However, these initial benefits faded at 12 weeks and by 6 months there was little effect in relation to the interventions. Extensive quantitative evaluation of the contribution of the interventions as well as qualitative feedback from the clergy provided insight into the likely reasons for the fading of the benefits of the support interventions and avenues for improvement and development. In addition, the limited benefit of the supports suggested that further organisational change in relation to relocation was required (Cotton, 2006, p. 277). This study of relocation is an excellent example of the combination of qualitative and

quantitative approaches for organisational interventions as recommended by several researchers (Dollard & de Jonge, 2003; Nielsen et al., 2010).

Design

The research on stages and targets of interventions informed the development of an intervention that incorporated individual and organisational approaches to reduce work stress and increase well-being. As shown in study one clergy have comparably high decision authority, therefore an intervention targeting individuals with a strong focus on the organisational context (individual-organisational) was identified as appropriate as clergy are likely to have sufficient latitude to implement strategies to modify their work environment.

The Job Demands-Resources theory and the specific model of clergy work stress identified in the thesis research formed the foundation of the development of a clergy well-being workshop. The first part of the workshop included education about work stress applied to the clergy context. This included a description of the JDR model health impairment pathway and the motivational enhancement pathway and the relationships between these pathways. The findings of Study One were presented as a framework of the demands and resources identified as relevant for clergy well-being. During this presentation discussion of the specific context of the participants with regard to their job characteristics was commenced.

Following presentation of the findings of study one in relation to the health impairment pathway participants were given the opportunity to personally reflect on how these findings related to their work context. Following this reflection participants were formed into problem solving teams. In these teams they discussed a key demand identified in study one. Participants were invited to consider the specific aspects of this demand that related to their context and then identify personal and organisational strategies to address these demands. The same approach was used following the presentation of the findings regarding the motivational enhancement pathway. Personal reflection regarding resources in the participants work context preceded reforming of the teams to discuss a key resource identified in study one. The participants were

asked to consider the aspects of this resource that were relevant to their work context and then identify personal and organisational strategies to increase this resource. Following the group activities for demands and resources, the outcome of the discussion was presented to the whole workshop. The use of personal self-reflection and group activities combined the benefits of different participant learning styles.

This design includes a number of elements to support the achievement of the stated aim and objectives. The presentation of the JDR model was designed to provide a framework for clergy to consider their job characteristics, in particular encouraging a dual focus of reducing high job demands and increasing job resources. This presentation also assisted clergy in understanding how these job characteristics contribute to health and work outcomes thereby addressing the potential bias towards individual factors contributing to work stress evident in clergy research (eg. Francis & Rodger, 1994).

Collaborative problem solving regarding job demands and resources was a major component of the workshop. This approach combined the effectiveness of problem solving a key component of Cognitive-Behavioural approaches to stress, with the additional benefits of social support (Le Blanc et al., 2007). Pastors have previously indicated the benefit of this peer support (Brain, 2006, p. 169). This problem-solving discussion gave the participants the opportunity to apply the framework from the presentation of the theory and findings of the JDR model and consider actions to modify demands and resources. To inform this discussion participants were provided with information about resources available coordinated by the Association of Baptist Churches NSW and ACT.

The development of resources in this training such as denominational resources, understanding of the JDR model, and supportive identification of strategies relevant to their work context was designed to increase the confidence of clergy to implement individual job redesign. Another way of describing this confidence is work-related self-efficacy, beliefs that they are able to succeed in the task of individual job redesign to improve their well-being (Xanthopoulou et al., 2008). Previous research has indicated that training that

focuses on increasing job resources can contribute to work-related self-efficacy (Luthans, Avey, Avolio, Norman, & Combs, 2006).

The combination of providing a framework for understanding the contribution of demands and resources to well-being, and clergy identifying actions that could modify these job characteristics in their work context provided clergy with knowledge and skills to support job crafting to improve their well-being (Wrzesniewski & Dutton, 2001). Since, job crafting occurs within the limits of the job requirements to further support job redesign for clergy well-being organisational strategies were included in the workshop. It was recognised that many of the demands and resource limitations experienced by clergy are due to organisational constraints. Therefore, consideration of strategies to address these constraints as well as personal strategies was seen as essential. This is in line with previous intervention research that shows that implementing organisational and individual strategies to address work stressors is more likely to achieve enhanced organisational outcomes as well as individual psychological outcomes (LaMontagne et al., 2007).

Aim

The aim of the workshop was to improve clergy well-being by developing the knowledge and skills in a supportive environment for individual and organisational job redesign.

To achieve this aim a number of objectives were established for the workshop.

Objectives

The objectives of the Clergy Well-Being workshop were:

1. Increase the knowledge of participants about work stress theory through a presentation of the JDR model applied to clergy in the thesis research.
2. Pastors will develop practical strategies to manage job demands and increase job resources at an Individual and Organisational level.
3. Pastors will experience support from other pastors in the workshop in developing strategies through discussion and group activities.
4. Pastors will reflect on their own well-being and make a personal plan to

- address contributing factors to their well-being.
- 5. Pastors will experience increased confidence to implement strategies to manage demands and increase resources.
- 6. Pastors will implement individual and organisational job redesign strategies to improve their well-being.

As an outcome of achieving these objectives the following hypotheses were proposed:

Hypothesis 1: The burnout scores of participants will significantly improve following the workshop.

Hypothesis 2: The health of participants will significantly improve following the workshop.

Method

The Baptist denomination was one of the participating denominations in the survey conducted in study one and two of the thesis research. During initial consultation about conducting the survey, the Pastoral Development officer of the Association of Baptist Churches NSW and ACT requested that at the conclusion of the research the findings be presented to Baptist pastors. Further discussion was undertaken and it was agreed that pastors would be invited to attend a workshop to provide information on the findings of the thesis research and include in this workshop activities to improve the self-care and well-being of pastors.

The participants were those that have selected this workshop as part of the professional development calendar of the Association of Baptist Churches NSW and ACT.

The workshop was conducted on the 6 November 2012. This was after the survey at Time Two.

Organisational context

The workshop was conducted with Baptist pastors that are part of the Association of Baptist Churches in NSW and ACT. This is an association of

more than 330 congregations representing more than 50 000 people in NSW and ACT (Association of Baptist Churches in NSW and ACT, 2014). This association provides a range of supports to pastors. These include:

- Pastor support networks
- Pastor retreats
- Continuing Professional Development that includes work stress workshops
- Pastoral Development, and Ministry Support and Development Team Leader
- Pastor to Pastors – provides independent support and referral for Pastors
- Consultancy services – for pastors and churches
- Transition programs for churches between one pastor leaving and the new pastor coming, which help prepare churches for the new pastor.
- Individual and couple counselling
- Exit interviews

(Association of Baptist Churches in NSW and ACT, 2010)

These programs are evaluated and further strategies for evaluating their effectiveness are being developed.

Measures

Participants were invited to participate in the evaluation of the workshop. All 14 participants agreed to complete the evaluation questionnaires. A questionnaire titled "Health and Job Characteristics" questionnaire was given to participants midway through the workshop. The questionnaire contained the following measures of demands, resources and health outcomes.

Demands

Interpersonal Disputes

One question from the interpersonal disputes scale developed in the thesis research was used "How confident are you in your ability to resolve

interpersonal disputes satisfactorily?”. The rating scale was 1-5, from “not at all confident” (1) through to “very confident” (5).

Work Home Interference

In order to assess the effect of work home interference on the clergy that participated in the workshop the Negative Work Home Interference subscale of the SWING questionnaire (Geurts et al., 2005) was used. Items on this scale assess the impact of work on areas such as irritability at home, leisure activities, time and energy for social interaction.

Workload

The psychological job demands subscale of the Job Content Questionnaire (Karasek, 1997) was used to assess workload. This scale includes questions related to “work fast”, “work hard”, “conflicting demands”, “tasks interrupted” and “wait on others”.

Role Clarity

Role Clarity was assessed with the subscale of the Copenhagen Psycho-Social Questionnaire II (T. Kristensen, Hannerz, Høgh, & Borg, 2005). The scales from the medium size questionnaire were used in this study. Role clarity refers to the extent to which the objectives, responsibilities and expectations of the work role are clear.

Emotional Dissonance

The emotional dissonance subscale from the Frankfurt Emotion Work Scale (FEWS-15e) was used to measure the emotional demands of participants (Zapf et al., 2006). Emotional dissonance is defined as the degree of mismatch between felt emotions and displayed emotions.

Resources

Co-Worker support

The Co-worker support subscale of the Job Content Questionnaire (Karasek, 1997) was used to measure this important resource. The co-worker support scale includes emotional co-worker support and co-worker support for completing tasks.

Skill Discretion

Skill Discretion one of the aspects of job control described by Karasek and Theorell (1990b) was measured with the scale from the Job Content Questionnaire (Karasek, 1997). Skill discretion refers to the ability of workers to use their skills, and learn new skills in the job.

Health outcomes

Burnout

Burnout symptoms were assessed using the Maslach Burnout Inventory – General Scale (Maslach et al., 1996). All three scales, exhaustion, cynicism and professional efficacy were included in the survey.

Health

The health of participants was measured using the SF-8™ Health Survey (J. E. Ware, Kosinski, Dewey, & Gandek, 2001). This health survey measures eight health domains with a single question. These domains are: physical functioning, role-physical, bodily pain, general health, vitality, social functioning, role-emotional, and mental health.

Post workshop

At the conclusion of the workshop participants were asked to complete a questionnaire with the title "Workshop Feedback". This questionnaire contained 17 questions that included questions about the delivery of the workshop, the awareness and confidence to implement personal and organisational strategies, the degree of support, and whether the workshop assisted in the development

of a personal well-being plan. These questions are listed in table A1.8.

At the workshop participants that volunteered to participate in the one-month follow-up evaluation provided their email address so they can be sent a link to an online survey.

Post workshop – one month

One month after the workshop participants were sent an email requesting that they complete an online survey about the workshop they attended. This survey included questions 5-17 of the "Workshop Feedback" questionnaire. Three questions about implementation of strategies were added to this section:

"I have been able to implement some strategies from the workshop to manage demands in the past month."

"I have been able to implement some strategies from the workshop to develop resources in the past month."

"The response to these strategies from the leadership team in my church has been positive."

These questions were rated on the following scale: strongly agree, agree, neutral, disagree, and disagree strongly.

The remainder of this follow-up questionnaire contained the measures of the "Health and Job Characteristics" questionnaire given in the workshop. The three questionnaires, Health and Job characteristics, Workshop Feedback, and the follow-up questionnaire were linked using a unique identifier.

Results

Participant Information

There were 14 participants in the workshop, the participants came from Sydney and regional NSW. One of the participants was not currently the pastor of a congregation, one was the spouse of a pastor, two participants were chaplains,

the remaining were pastors of congregations. Eleven of these participants responded to the follow-up questionnaire one month after the workshop.

Table A1.2 Participant demographic Information

	Workshop Participants
Age	Mean=50 Median Age= 53 Min=33 Max=66
Gender	Male= 12 (86%) Female= 2 (14%)

Table A1.3 Number of workshop participants at each level of the burnout scales

Level	Exhaustion	Cynicism	Efficacy
Low	6	6	4
Average	5	5	0
High	3	3	10

*comparison sample North American, multiple occupations, (Maslach et al., 1996)

Table A1.3 shows there were 3-4 participants that were experiencing burnout, as shown by their score in comparison to the scale norms, on at least one of the burnout scales (Maslach et al., 1996). Burnout is represented by high exhaustion, high cynicism and low efficacy. A large proportion of participants reported a high level of efficacy.

Table A1.4 Comparison of Study 1 and Workshop (T1) means on the demands, resources and outcome scales

Variables	Study One Mean (SD) N=278-283	Workshop Mean (SD) N=14
Demands		
Work Home Interference	1.01(0.56)	0.88(0.47)
Role Clarity	71.34(18.0)	69.64(13.7)
Psychological Demands	31.04(5.82)	30.07(5.00)
Emotional Dissonance	2.64(0.79)	2.81(0.43)
Interpersonal Disputes (Confidence question)	3.83(0.83)	3.86(0.66)
Resources		
Skill Discretion	21.15(2.55)	20.86(2.51)
Co-Worker Support	12.68(1.81)	12.36(1.86)
Outcome variables		
MBI-GS Exhaustion Scale	2.30(1.37)	2.49(1.49)
MBI-GS Cynicism Scale	1.39(1.19)	1.64(1.56)
MBI-GS Efficacy Scale	4.66(0.92)	4.69(1.09)
General Health		n/a

Table A1.4 shows that the differences between the means of the demands, resources and outcome scales were small, and within one standard deviation. Therefore, the participants were broadly representative of the clergy that took part in the survey of the research thesis.

The mean of the scores for the demands, resources and health outcomes were compared from Time 1 (workshop) to Time 2 (one month). To ensure that the assumption of a normal distribution was met for the t-statistic, this was reviewed for each of the scales. The distribution for work home interference at Time 2 and interpersonal disputes was not normal, therefore a t-statistic was not conducted for these scales.

Table A1.5 Comparison of Workshop Time 1 and Time 2 means on the demands, resources and outcome scales (N=11)

Variables	Time 1	Time 2	t	df	p
	Mean (SD)	Mean (SD)			
Demands					
Work Home Interference	0.94(0.48)	0.76(0.54)	n/a		
Role Clarity	68.94(15.4)	71.21(12.5)	-0.56	10	.59
Psychological Demands	28.82(4.49)	28.09(3.56)	0.53	10	.61
Emotional Dissonance	2.76(0.39)	2.55(0.56)	1.31	10	.22
Interpersonal Disputes	3.82(0.75)	3.54(0.82)	n/a		
Resources					
Skill Discretion	20.36(2.20)	20.00(2.41)	0.67	10	.52
Co-Worker Support	11.18(1.32)	11.09(1.14)	0.27	10	.80
Outcome variables					
MBI-GS Exhaustion Scale	2.75(1.55)	2.29(1.33)	2.89	10	.02
MBI-GS Cynicism Scale	1.89(1.63)	1.81(1.82)	0.29	10	.78
MBI-GS Efficacy Scale	4.55(1.19)	4.45(1.17)	0.58	10	.57
General Health	3.09(1.45)	3.27(1.01)	-0.69	10	.51

n/a=not applicable as distribution for this scale was not normal at T1 or T2.

Table A1.5 shows that the change in means for the demands, resources and outcome scales at the one month follow-up was not significantly different, with the exception of the exhaustion scale. There was a significant decrease in the Exhaustion scale at the one month follow-up after the workshop.

Table A1.6 Comparison of general health from Time 1 to Time 2

		Time 2 General Health				T1
		Very Good	Good	Fair	Poor	General Health Total
T1 General Health	Excellent	1	0	0	0	1
	Very Good	2	1	1	0	4
	Good	0	2	0	0	2
	Fair	0	0	1	0	1
	Poor	0	0	2	1	3
	T2 General Health Total	3	3	4	1	

Table A1.6 shows small changes in the rating of General Health from the workshop to the one month follow-up. There were 6 that rated their health as Excellent to Good at the Workshop (Time 1) and 5 that rated their health as Very Good to Good at the one month follow-up (Time 2). There is no consistent pattern of improvement or decline in health.

Hypotheses

Hypothesis 1: The burnout scores of participants will significantly improve following the workshop.

Table A1.5 shows that Hypothesis 1 was partially supported. The workshop did lead to an improvement in exhaustion, but there was no significant improvement in cynicism or efficacy.

Hypothesis 2: The health of participants will significantly improve following the workshop.

Table A1.6 shows that Hypothesis 2 was not supported as there was no consistent pattern of improvement in General Health.

Table A1.7 Responses to the Workshop Feedback Questionnaire

	Question	Rating (no. of participants)				
		SA	A	N	D	DS
Q1	The aims of this workshop were clear to me.	5	6	2	1	
Q2	The workshop was presented in ways that assisted my learning and development.	5	6	3		
Q3	I had sufficient time for each of the activities (reflection, group discussion).	5	9			
Q4	The workshop manual & handouts were well-presented and assisted my learning.	7	5	2		
Q5	The workshop increased my <i>understanding</i> about the job demands and resources that impact on the well-being of Pastors.	5	5	3	1	
Q6	As a result of the workshop I am now aware of more personal strategies to help me manage the demands of my work.	2	10	1	1	
Q7	As a result of the workshop I am now aware of more church and denominational strategies to help me manage the demands of my work.		7	5	2	
Q8	As a result of the workshop I am now aware of more personal strategies to develop the resources that will contribute to my work and well-being.	4	8	1	1	
Q9	As a result of the workshop I am now aware of more church and denominational strategies to develop the resources that will contribute to my work and well-being.		6	7	1	
Q10	The workshop has increased my <i>confidence</i> to implement personal strategies to manage demands and develop resources in my work.	1	10	2	1	
Q11	The workshop has increased my <i>confidence</i> to implement church and denominational strategies to manage demands and develop resources in my work.		2	6	2	1
Q12	The strategies provided in the workshop will be <i>useful</i> in managing the demands of my work and developing the resources to support my well-being.	2	10	1	1	
Q13	I felt <i>supported</i> by the other pastors at the workshop to address the demands and develop the resources in my work.	8	5	1		
Q14	The workshop assisted me to <i>recognize</i> the skills and knowledge that I do have to manage the demands of ministry.	2	8	4		
Q15	The workshop assisted me to develop a <i>useful plan</i> to support my well-being in ministry.		7	6	1	
Q16	The workshop has helped me to <i>reflect</i> on my situation and consider how I can respond to the demands of my Pastoral work.	4	8	1	1	
Q17	The workshop has helped me be more hopeful that I can make changes that will improve my well-being.		11	2	1	

Note: SA=Strongly Agree, A= Agree, N=Neutral, D=Disagree, DS=Disagree Strongly

Table A1.7 provides feedback from the participants regarding the conduct of the workshop and its objectives. Comparison of the responses at Time 2 showed only small changes indicating that the level of agreement to the questions in Table A1.7 was sustained.

The majority of participants agreed that the workshop aims were clearly presented, that the presentation assisted their learning, there was time to engage in the activities and the manual provided assisted their learning.

Feedback on Objectives from Table A1.7

1. *Increase the knowledge of participants about occupational stress with a focus on Pastors through presentation of thesis research and findings.*

The participants responded that their general understanding of demands and resources that impact on pastor well-being increased (10/14).

2. *Pastors will develop practical strategies to manage job demands and increase job resources at an Individual and Organisational level.*

Pastors reported strong agreement (12/14) that they were aware of more personal strategies to address demands and resources. There was less agreement that they were more aware of church or denominational strategies to address demands (7/14) or resources (6/14).

3. *Pastors will experience support from other pastors in the workshop in developing strategies through discussion and group activities.*

Participants strongly endorsed that they felt supported by the other pastors in the workshop to address demands and increase resources in their work (13/14).

4. *Pastors will reflect on their own well-being and make a personal plan to address contributing factors to their well-being.*

There was agreement that participants had the opportunity to reflect on their own well-being (12/14) and consider their response to the demands of their work. However, there was less agreement that they were able to develop a useful plan (7/14).

5. *Pastors will experience increased confidence to implement strategies to manage demands and increase resources.*

The difference between individual and church strategies to address demands and resources was most evident with regard to the confidence participants reported. Participants reported a high level of agreement that the workshop had increased their confidence to implement personal strategies to manage demands and develop resources in their work (11/14). Whereas, there was only a small number (2/14) that agreed they had increased confidence to implement church and denominational strategies to manage demands and develop resources.

6. *Pastors will implement individual job redesign strategies to improve their well-being*

Table A1.7 shows the number of participants that reported implementing strategies from the workshop. There were 5 participants that implemented strategies to manage demands and/or resources (strongly agreed or agreed).

Table A1.7 Number of participants that implemented strategies from the workshop

	Questions	A	N	D
Q1	I have been able to implement some strategies from the workshop to manage demands in the past month.	4	5	2
Q2	I have been able to implement some strategies from the workshop to develop resources in the past month.	2	6	3
Q3	The response to these strategies from the leadership team in my church has been positive.	3	8	

Discussion

The results show that the Clergy Well-Being workshop was valued by participants and that part of the aim of the workshop to develop "the knowledge and skills in a supportive environment for individual and organisational job redesign", was achieved. As the number of participants in the workshop was small (14) the findings provide a means for informing further intervention in the area of individual job redesign (job crafting) and addressing organisational constraints. This further intervention will be required in order to establish empirically ways to enhance job crafting to improve clergy well-being through targeted interventions.

The objectives of the workshop were achieved particularly with regard to awareness and confidence to implement personal strategies to manage demands and increase resources. The development of confidence suggests that the self-efficacy for job crafting of participants increased in response to the workshop. This makes it more likely that they will engage in job crafting, as they have stronger beliefs in their ability to succeed and may persevere more when they experience difficulties (Xanthopoulou et al., 2008). This is a promising result as there is little research on interventions to develop self-efficacy especially for job crafting.

There was a significant decrease in exhaustion amongst participants at the one month follow-up. This is tentative support, due to the small numbers, that the design of the workshop and the achievement of its objectives contributed to a decrease in Burnout. This provides partial support for hypothesis one. However, there was no consistent change in general health at the one month follow-up. Therefore, hypothesis two was not supported.

There were only 5 participants of the 11 that responded to the follow-up survey that agreed they had implemented strategies to manage demands or resources. Due to the small numbers it was not possible to compare the effect of this implementation on overall demands and resources or health outcomes with those that did not implement strategies. However, other work stress

intervention research has found that implementation of the intervention leads to improvements in outcomes in comparison to only partial implementation (Nielsen & Randall, 2013). Unfortunately, qualitative information was not gathered about implementation, what form this took and reasons why implementation of strategies did not take place. This information would assist in explaining 'why' and 'how' the intervention worked or did not work. This is essential for development of theory for effective interventions that can be applied across work contexts (Nielsen & Randall, 2013). A further limitation with regard to the information gathered during and after the follow-up period was a lack of information about any changes that occurred during the follow-up period. This is referred to by Nielsen (2010) as the 'discrete context'.

The scales used to measure demands and resources have been demonstrated in the thesis research to effectively identify these job characteristics amongst clergy. These are useful in measuring overall demands and resources. A limitation of the measurement of implementation of strategies for job crafting was a lack of specific questions about the job crafting that took place after the workshop. A more effective measure of this would have been the job crafting scale developed by Tims, Bakker and Derks (2012) that uses 21 questions to evaluate job crafting with regard to their tasks, social relationships and perception of their work. The use of this scale would have allowed for more detailed evaluation of the type of job crafting that was implemented following the workshop.

A further improvement in the education about the JDR model would have been discussion of challenging and hindering job demands (E. R. Crawford et al., 2010). The existence of challenging demands has been identified in previous clergy research, for example forming a new congregation can substantially add to the workload of clergy, yet Kaldor and Bullpitt (2001, p. 80) found that where this had occurred clergy had lower burnout scores. The thesis research also identified that assisting those experiencing illness, trauma or loss contributed to increased efficacy. The contribution of challenging demands to work engagement would have formed a useful discussion as clergy value these types of activities and gain meaning from engaging in them. There is very little

research on challenging demands for clergy, as Tims et al. (2013) suggested the type of demand that is challenging is likely to depend on the occupation and work context. This is consistent with the revised definition of job resources by Schaufeli and Taris (2014) as "positively valued...aspects of the job...". Research suggests that these demands are experienced as challenging while they are at moderate levels (Bakker & Demerouti, 2007) therefore inclusion of this distinction between demands in the JDR model would also need to consider the point at which these demands become excessive and are no longer perceived as challenging.

Despite the importance of the organisational context for effective job crafting participants were less confident and reported less awareness of strategies at an organisational level. This is in contrast to the focus on organisational level barriers and strategies throughout the workshop (see appendix). This may indicate the difficulties that clergy experience in achieving cultural and organisational change. In particular they may recognise that organisational change is only partially influenced by them and requires extensive collaboration and motivation by members of their congregation. This result is consistent with previous intervention research that indicates individual interventions have less impact at an organisation level (LaMontagne et al., 2007).

The development of organisational interventions perhaps generated through denominational bodies, such as the Association of Baptist Churches NSW and Act, is required. This may require the framing of the demands and resources impacting on clergy as a consequence of organisational challenges for congregations for which there is a collective responsibility. For example, there may be insufficient willing and skilled members to take responsibility for the range of activities valued by a congregation. Rather than these responsibilities fall to the Pastor, thus potentially contributing to increased hours or work home interference, a collective acknowledgement of this issue and approach to addressing it is required. An intervention with a congregational leadership team may be an effective alternative to target issues facing a congregation that are impacting on the health of clergy, leaders and members. An example of a team-based intervention approach is the Take Care! program (Le Blanc et al.,

2007). This program focussed on a participatory action approach where participants worked on their own context-specific problems. This program demonstrated reductions in emotional exhaustion and depersonalisation in response to changes in demands and support compared to other work teams that did not participate in the program.

There was less agreement from participants about the development of a useful plan in managing demands and developing resources compared to their reported increased awareness and confidence to implement personal strategies. This may reflect the limitations of a single workshop to support clergy with ongoing challenges to manage demands and increase resources. The Take Care! program was conducted on a monthly basis for 6 months, while many other programs are conducted on a regular basis over a period of weeks or months (Le Blanc et al., 2007; Richardson & Rothstein, 2008). As support groups already exist for Baptist pastors, incorporating plans and review of plans for job crafting may increase the effectiveness of this type of intervention to improve clergy well-being. This also includes a potentially supportive network in which to develop strategies and prioritise the well-being of clergy for their own benefit, and that of their family and congregations.

Conclusion

The clergy well-being workshop provided a promising approach for supporting individual job redesign (job crafting) amongst clergy. The results indicate that this workshop increased the awareness and confidence of clergy to implement strategies for managing demands and increasing resources. There was also a significant reduction in the burnout scale, exhaustion, for those that attended the workshop. As this was a small workshop further research is required to identify effective methods of intervention to facilitate job crafting by clergy. Future research should consider incorporating interventions into existing support structures, as well as including more specific evaluation of job crafting efforts of participants, and qualitative evaluation of changes during and following the intervention. The workshop was much less effective in supporting clergy to engage in organisational redesign. Further research of organisational interventions to support clergy well-being is needed. Participatory team based

approaches show promise in other occupations and may be an avenue for exploration for congregational leadership teams.

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Work Stress Intervention Report: Appendix

This document was provided to the participants following the workshop. It provides notes from the group activities that were part of the workshop. These notes are included to provide an example of the activities that formed part of the workshop as well as the demands and strategies identified by the participants during these activities.

Notes from Group Activities - Pastor Well-Being Workshop 6/11/12

Introduction

These are the notes from the group activities that were part of the Pastor Well-Being workshop. As you will recall the discussion that took place in the groups was much more extensive than what actually was written down. Hopefully these notes will prompt your memory of useful discussions that you had during the workshop.

Work Home Interference

1. What are the obstacles to maintaining a good balance between work and home?
2. What practical things can be put in place to help ensure you get the balance right between work and family? Think of what you currently do or have done in the past that has helped in this area. Consider short term but especially long term ways of addressing this.

Obstacles	
Individual <ul style="list-style-type: none"> • Home as an extension of work eg. meetings, phone calls • Work pre-occupation, no time boundaries, immediacy (short time for processing between home and work) • Church v family expectations • Compromising day off 	
What works	
Individual	Church (and Denomination)
<ul style="list-style-type: none"> • Tighten up boundaries in discussion with family • Turning phone off • Family focus (eg DVD series) • Extended family, outside work • Hobby, sport, music • Time limit with pastoral care/counselling 	<ul style="list-style-type: none"> • Retreats • Regional Pastors • Encourage prayer teams

Interpersonal Disputes

1. What makes a conflict, directly with you or between members of the congregation, more difficult to resolve? Consider current or recent examples.
2. What helps you respond to conflict in your congregation whether it is directly with you or between members of the congregation? Consider in your response the following:
3. What helps prevent or allow better resolution of conflict? (You may have answered this above, but consider if there is anything else you wish to add.)

Workshop Group Notes *(in response to Q2 and 3)*

- Identify the real issues that lie behind the presenting issue
- Know when to ask for a third party to help ie. When we are in conflict and we are subjective
- Have a conflict resolution procedure so Ministry Support and Development (etc.) can be called. Why? This is so the next conflict is built on it.
- Deal with a conflict early – don't bury conflict
- Identify the power struggle underlying a conflict
- Conflict is not bad, it is natural and can be helpful to respond well
- Listen – use reflective listening skills

Emotional Demands

1. I have suggested some sources of emotional demands, discuss the aspects of ministry work that you find emotionally demanding.

Workshop Group Notes

- Switching roles (often quickly) between different emotional situations
- Situations where you are leading others but also needing to deal with your own emotions (eg. grief)
- Conflict between big picture/kingdom values and people's brokenness (selfishness etc.)
- Personal emotional needs that make it harder to respond emotionally to other's needs.

2. What makes it difficult to manage these emotional demands?
3. How can you recognise and respond to the emotional demands of ministry so that you can remain emotionally engaged with your congregation and your ministry work?
 - Individually
 - Church

Workshop Group Notes

Obstacles	
Individual	Church
<ul style="list-style-type: none"> • Personality type • History of wounds and past dealings with them • Ministry position (team leader or member) 	<ul style="list-style-type: none"> • Personalities • Expectations – traditions • Differences in expectations
What works	
Individuals	Church
<ul style="list-style-type: none"> • Prayer • Self-awareness (eg. of need for recovery time) • Sharing with others • Authenticity • Accountability (Mentor, retreat group) 	<ul style="list-style-type: none"> • Prayer • Giving the pastor space/time off • Identifying unspoken expectations

Role Conflict/Role Clarity

1. What makes it difficult to have a clear role, that is, clear areas of responsibility, authority and priorities.
2. What works to address these difficulties and make your role clearer to you, your leaders, your congregation, and community?

Workshop Group Notes

Obstacles	
Individual	Church (and Denomination)
<ul style="list-style-type: none"> • Fear of review • Not knowing how to communicate 	<ul style="list-style-type: none"> • Unchanging culture – change threatening/but embrace the idea of change (courage) • To know the limits of governance (can be abused, not theocratic) • Power brokers • External influence • How the pastor is measured (eg. KPIs)
<ul style="list-style-type: none"> ▪ Becomes personal ▪ Unclear expectations – unreal, undefined, unfulfilled 	
What works	
Individual	Church (and Denomination)
<ul style="list-style-type: none"> • Know your calling – am I threatened by disagreement?, am I failure?, am I walking with God, Faithful to God 	<ul style="list-style-type: none"> • Trusted 3rd Party • Governance when not abused “under God” • Know Pastor’s calling • Ongoing communication • Agree on role description – quarterly reviews have worked as it gets issues soon and relational • Understood channels of communication

Social Support

1. What obstacles are there to developing and maintaining friendships or other support within your congregation, and outside your congregation?
2. Share how you have overcome these obstacles to develop and maintain friendships and a support team.

Workshop Group Notes

Obstacles	Strategies
<ul style="list-style-type: none">• Time clashes• Trust and confidentiality issues• Perceived "inner circle"/favouritism• Regular moves• Lack of emotional energy• Need for downtime without people• Introvert personality• Image of "pastor" being a barrier• Fear of what happens when I leave church/retire• Insulation and isolation• Fear of having conflicting theological interests/ideas• Physical distance• Perceptions	<ul style="list-style-type: none">• Persisting with making times• Being part of other organisations (things you love)• Regular catch ups with friends• Hobbies eg. fishing to share with others• Prayer bond (confidentiality)• Activities outside the church• Reconnect with old friends

3. What needs to be done to church structures to enable pastors to experience better social support?

Workshop Group Notes

- Expectations eg being at church events
- Need for key leaders to be on this page
- Empower others to fill roles to release the pastor more often.
- Regional Pastors
- Pastoral get togethers

Skill Discretion

1. What are the obstacles to you exercising skill discretion in your work – to use your strengths, develop your skills, exercise creativity?
 - Individual
 - Church
2. What works to overcome these obstacles and enable greater variety, creativity, learning and use of your skills?
 - Individual
 - Church

Workshop Group Notes

Obstacles	Strategies to engage in Skill Discretion
<ul style="list-style-type: none">• Lack of process for skill development• Too busy with trivial items to focus on using key skills or development• Church culture, language and vocabulary can be an obstacle when use of skills clashes with these.• Expectations of people that prefer church world and tradition when seeking to respond in new ways.	<ul style="list-style-type: none">• Personal relationships where key skills can be expressed• Personal visitation where this is a key skill• Experiment with trying new skills or different ways – it is ok to fail.

Appendix Two

Study One Correlation Tables

Table A2.1 Pearson Correlations – Time one (variables 1-22 by variables 1-22), Cronbach's α () diagonal

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22
1.age																						
2.gender	-.06																					
3.children	-.43**	.31**																				
4.location	-.16**	.17**	.03																			
5.pre-ordain	-.02	-.08	-.04	-.08																		
6.cong. size	.06	-.08	-.14*	.04	-.03																	
7.income	-.11	.03	.19**	.10	-.02	.15*																
9. hours	-.01	.22**	-.02	.12*	-.09	.11	.16**															
10.TD	.61**	.15*	-.32**	.06	.00	.06	-.02	.22**														
11.APD	.22**	.14*	.12*	.14*	-.02	.03	.16**	.12*	.36**													
12.IPD	-.04	-.02	.06	-.05	-.01	-.01	.07	.12*	-.09	-.12*	(.70)											
13.PsychD	-.22**	-.05	.10	.02	.04	.17**	.09	.36**	-.12*	-.06	.35**	(.78)										
14.WHI	-.15**	-.12*	.06	-.19**	.00	.05	.04	.16**	-.17**	-.14*	.32**	.53**	(.88)									
15.RoleCl	.06	.00	-.09	.08	.00	.09	.00	.06	.09	.02	-.33**	-.21**	-.34**	(.79)								
16.RoleCo	-.08	.05	.14*	-.06	-.03	-.03	.09	.19**	-.08	-.11	.46**	.53**	.56**	-.40**	(.86)							
16.CareFreq	.16**	-.15*	-.16**	-.18**	.06	.17**	-.02	.23**	.13*	-.07	.04	.19**	.10	-.02	.14*	(.82)						
17.EmotionP	-.05	-.25**	-.08	-.13*	-.01	.04	.04	.19**	-.01	-.10	.10	.23**	.25**	.01	.20**	.31**	(.78)					
18.EmotionD	-.06	-.14*	-.01	-.13**	-.01	.03	.08	-.01	-.06	-.10	.26**	.29**	.50**	-.21**	.45**	.27**	.46**	(.85)				
19.DecAuth	-.01	.14*	.08	.14*	-.04	.08	.06	.03	.04	.15*	-.25**	-.15**	-.23**	.26**	-.29**	-.17**	-.08	-.30**	(.72)			
20.SkillDisc	-.05	-.13*	-.08	.05	-.08	.16**	.03	.10	-.08	-.07	-.08	.10	.02	.19**	-.10	.04	.13*	-.04	.24**	(.69)		
21.DecLat	-.02	.07	.05	.15*	-.06	.13*	.07	.06	.00	.10	-.23**	-.09	-.19**	.30**	-.29**	-.12*	-.02	-.26**	.94**	.55**	(.71)	
22.CowSup	-.04	-.03	-.07	.21**	-.04	.07	-.12	.03	.02	.01	-.28**	-.13*	-.27**	.43**	-.33**	-.03	.05	-.19**	.27**	.24**	.33**	(.81)

Note: pre-ordain=pre-ordained leadership (0=no, 1=yes), cong. size=congregation size, hours=work hours, TD=total ministry duration, APD=average parish duration, IPD=interpersonal disputes, PsychD=psychological demands, WHI=work home interference, RoleCl=role clarity, RoleCo=role conflict, CareFreq=care frequency, EmotionP=positive emotional expression, EmotionD=emotional dissonance, DecAuth=decision authority, SkillDisc=skill discretion, DecLat=decision latitude, CowSup=co-worker social support

Table A2.2 Pearson Correlations – Time one, Page two (Variables 1-22 by Variables 23-44)

	SS	SSO	GSS	RC	JP	Est	JS	Exh	Cyn	Eff	Vig	Abs	Ded	Dep	Stress	Anx	Meds	Hosp	Dr	SickD	Phys	Coun
1.age	-.07	-.01	-.13*	-.10	-.03	.01	-.06	-.27**	-.20**	.10	.15*	.05	.12*	-.12*	-.18**	-.14*	.26**	.16**	.20**	.03	.22**	-.11
2.gender	-.03	-.03	-.02	.04	.18**	.13*	.17**	-.08	.03	.00	.03	-.06	-.08	-.04	.06	.03	-.04	.05	-.09	-.21**	.01	-.07
3.children	-.02	.02	-.01	.15*	.05	.05	.04	.08	.12*	-.06	-.03	-.06	-.08	.05	.19**	.10	-.22**	-.07	-.19**	-.10	-.04	.05
4.location	.13	-.04	.01	.06	.08	.11	.11	-.08	-.08	.14*	.15*	.03	.08	-.11	-.02	-.08	-.12*	-.10	-.06	-.11	-.02	-.14*
5.pre-ordain	-.04	.03	-.02	-.04	-.10	.03	.05	.04	.02	-.09	-.03	-.06	-.07	.11	-.01	-.07	.02	-.04	-.07	.12	.14*	.19**
6.cong. size	-.08	-.03	.05	-.10	.10	-.05	.07	-.04	-.06	.13*	.10	.04	.13*	-.12*	-.10	-.03	.02	-.07	-.04	.07	.05	-.09
7.income	-.08	.03	-.06	.14*	.08	-.16*	-.01	.05	.01	-.01	.07	.04	-.01	-.01	.10	.03	-.11	-.09	-.06	.05	.08	.03
9. hours	.05	-.10	.12*	-.11	.08	.01	.04	.11	-.04	.06	.06	.04	.00	-.03	.06	.08	.04	.13*	-.05	-.10	.09	.00
10.TD	.04	-.05	-.12*	-.04	.05	.03	.02	-.15*	-.08	.07	.11	-.04	.00	-.11	-.10	-.14*	.12*	.08	.02	-.04	.25**	-.13*
11.APD	.02	-.06	.02	.16**	.03	.06	.11	-.12	-.02	-.03	.08	-.02	-.01	-.11	-.11	-.16**	.00	-.04	-.11	.02	.12*	-.06
12.IPD	-.43**	-.03	-.11	-.06	-.20**	-.37**	-.29**	.36**	.27**	-.26**	-.27**	-.04	-.27**	.31**	.29**	.23**	.12*	.13*	.07	.08	-.03	.20**
13.PsychD	-.21**	-.07	-.07	-.08	-.30**	-.28**	-.18**	.45**	.22**	-.11	-.04	.17**	.00	.21**	.30**	.21**	.04	.08	.05	.12*	-.03	.11
14.WHI	-.26**	-.12*	-.08	-.10	-.43**	-.42**	-.32**	.63**	.45**	-.30**	-.22**	.18**	-.20**	.50**	.56**	.48**	.16**	.14*	.08	.08	-.10	.25**
15.RoleCl	.43**	.15*	.09	.09	.36**	.38**	.25**	-.32**	-.46**	.46**	.45**	.13*	.47**	-.44**	-.38**	-.30**	-.08	-.14*	-.06	-.06	.03	-.11
16.RoleCo	-.30**	-.20**	-.07	-.17**	-.35**	-.36**	-.30**	.46**	.38**	-.23**	-.25**	.05	-.21**	.35**	.39**	.29**	.02	.06	.02	.01	-.08	.17**
16.CareFreq	-.05	.13*	.07	-.15*	-.12	-.03	-.02	.12*	.03	.14*	.09	.06	.17**	.08	.05	.13*	.10	.12	.05	.15*	.17**	.12*
17.EmotionP	.06	.03	.08	.04	-.17**	-.05	-.11	.17**	.05	.12*	.02	.13*	.14*	.04	.11	.04	.07	.10	.02	.09	.14*	.04
18.EmotionD	-.13	-.07	-.03	-.134*	-.33**	-.27**	-.26**	.42**	.34**	-.21**	-.24**	-.02	-.21**	.37**	.42**	.31**	.14**	.06	.07	.07	.07	.16*
19.DecAuth	.24**	.06	.01	.26**	.21**	.28**	.18**	-.17**	-.18**	.21**	.22**	-.08	.16**	-.21**	-.22**	-.22**	-.06	-.04	-.12*	.02	.01	-.01
20.SkillDisc	.13	.07	.09	.11	.08	.11	.10	-.07	-.26**	.16**	.21**	.14*	.33**	-.21**	-.08	-.10	.01	.02	-.05	.05	.01	.07
21.DeclLat	.25**	.07	.04	.26**	.20**	.28**	.17**	-.17**	-.24**	.24**	.26**	-.01	.25**	-.25**	-.22**	-.23**	-.05	-.03	-.12*	.03	.00	.01
22.CowSup	.49**	.11	.18**	.09	.28**	.41**	.25**	-.18**	-.37**	.40**	.39**	.19**	.38**	-.31**	-.28**	-.29**	-.13*	-.05	-.13*	-.06	-.06	-.06

Note top row: SS=supervisor support, SSO=social support openness, GSS=God support scale, RC=relocation control, JP=job promotion scale, Est=esteem scale, JS=job security scale, Exh=exhaustion scale, Cyn=cynicism scale, Eff=efficacy scale, Vig=vigor scale, Abs=absorption scale, Ded=dedication scale, Dep=depression scale, Stress= stress scale, Anx=anxiety scale, Meds=medications, Hosp=hospital stays, Dr=doctor visits, SickD=sick days, Phys=physical activity, Coun=counseling.

Table A2.3 Pearson Correlations – Time one, Page three (Variables 23-44 x Variables 23-43), Cronbach's α () diagonal

	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43
23.SupSup	(.88)																				
24.SSO	-.10	-																			
25.GodSS	.17	-.01	(.85)																		
26.RelCon	.08	.09	.09	(.83)																	
27.JobProm	.33	-.02	.11	.07	(.71)																
28.Esteem	.49	.03	.10	.16	.51	(.79)															
29.JobSec	.31	-.02	.05	.06	.56	.47	(.44)														
30.Exhaustion	-.16	-.04	-.06	-.08	-.28	-.36	-.24	(.90)													
31.Cynicism	-.26	-.18	-.14	-.10	-.35	-.38	-.29	.61	(.83)												
32.Efficacy	.26	.15	.05	.14	.23	.24	.18	-.26	-.40	(.82)											
33.Vigor	.26	.10	.07	.15	.18	.24	.13	-.40	-.55	.50	(.77)										
34.Absorp	.05	.00	.04	.04	.02	.00	.01	-.05	-.21	.24	.58	(.70)									
35.Dedicat	.22	.12	.13	.13	.20	.23	.18	-.33	-.62	.54	.77	.54	(.82)								
36.Depress	-.24	-.15	-.12	-.16	-.35	-.45	-.33	.61	.69	-.44	-.51	-.14	-.49	(.85)							
37.Stress	-.27	-.05	-.08	-.03	-.27	-.35	-.23	.58	.53	-.28	-.30	.09	-.31	.60	(.84)						
38.Anxiety	-.21	-.05	-.09	-.11	-.17	-.33	-.18	.45	.46	-.18	-.27	-.01	-.25	.62	.61	(.71)					
39.Meds	-.18	.00	-.01	-.09	-.19	-.16	-.10	.11	.04	-.06	-.07	.00	-.02	.20	.08	.16	-				
40.HospStay	-.02	.02	.00	-.05	-.13	-.03	-.07	.09	.04	-.03	-.03	.04	-.02	.05	.10	.06	.25	-			
41.DrVisit	-.04	.03	.05	-.09	-.21	-.12	-.17	.08	.06	-.02	-.02	.01	-.06	.19	.11	.12	.48	.28	-		
42.SickD	-.03	.19	-.04	.02	-.15	-.20	-.14	.15	.03	.00	-.03	-.02	.03	.07	-.02	-.02	.23	.22	.22	-	
43.PhysAct	.00	.06	-.09	.10	.02	.05	.00	-.05	-.03	.04	.07	-.03	.03	.01	-.01	-.10	-.02	.02	.03	.01	-
44.Couns.	.02	.07	-.03	.06	-.17	-.14	-.30	.29	.19	-.03	-.02	-.01	-.07	.27	.28	.24	.07	.15	.10	.16	-.06

Note: SupSup=supervisor support, SSO=social support openness, GodSS=God support scale, RelCon=relocation control, JobProm=job promotion, JobSec=job security,Absorp=absorption, Dedicat=dedication, Depress=depression, Meds=medications, HospStay=hospital stay, DrVisit=doctor visits, SickD=sick days, PhysAct=physical activity, Couns=counselling

Table A2.4 Kendall's tau Correlations – Time one (Variables 1-30)

	FinCh	FinPers	Interrupt	Prayer	BibleR	Acad	GHealth	TurnInt	Perform
1.age	.02	-.04	.17**	.14**	.18**	-.12**	.03	-.06	.08
2.gender	-.13*	-.05	-.12*	-.05	.02	.00	-.07	-.10	-.07
3.children	-.04	.06	-.15**	-.11*	-.07	.01	-.03	.07	-.12*
4.location	-.15**	-.15**	-.17**	-.02	.09	.12*	-.15**	-.08	.03
5.pre-ordain	.03	.14*	.15**	.01	-.07	-.02	.03	-.04	.05
6.cong. size	-.15**	-.15**	-.05	-.01	.08	.06	-.08	-.04	.13**
7.income	.05	-.04	-.10*	-.06	-.10*	-.01	-.05	.07	.00
9. hours	.03	-.07	.10*	.08	.09	.06	-.04	.04	.09
10.TD	-.01	-.11*	-.02	.08	.15**	-.03	-.08	.00	.05
11. APD	.01	-.07	-.05	.00	.08	-.04	-.10*	.00	-.06
12.IPD	.16**	.18**	.06	-.09	-.07	-.07	.08	.16**	-.10*
13.PsychD	.09	.16**	.13**	-.05	-.06	.04	.11*	.16**	-.04
14.WHI	.23**	.31**	.20**	-.16**	-.11*	-.05	.31**	.35**	-.13**
15.RoleCl	-.13**	-.14**	-.01	.06	.09	.05	-.14**	-.25**	.33**
16.RoleCo	.18**	.22**	.16**	-.11*	-.10*	.03	.19**	.26**	-.18**
16.CareFreq	.08	.03	.25**	.16**	.03	.06	.07	.00	.08
17.EmotionP	.11*	.08	.11*	.04	-.01	.04	.07	.06	.08
18.EmotionD	.08	.17**	.12**	-.07	-.10*	.00	.18*	.23	-.11
19.DecAuth	-.08	-.10*	-.21**	.00	.03	.04	-.11*	-.15**	.15**
20.SkillDisc	-.05	-.07	-.04	.00	.02	.11*	-.09	-.18**	.22**
21.DecLat	-.09	-.11*	-.18**	.01	.03	.07	-.14**	-.18**	.19**
22.CowSup	-.13**	-.14**	-.05	.10	.06	.07	-.20**	-.26**	.26**
23.SupSup	-.10	-.10	-.07	.08	.08	.12*	-.15*	-.13*	.09
24.SSO	-.01	-.01	-.06	.20**	.01	.02	-.08	-.10	.12*
25.GodSS	-.03	-.08	.02	.17**	.24**	.05	-.09	-.11*	.18**
26.RelCon	-.04	.00	-.13**	-.10	.08	-.02	-.05	-.09	.09
27.JobProm	-.16**	-.31**	-.11*	.06	.16**	.03	-.22**	-.33**	.10*
28.Esteem	-.16**	-.16**	-.11*	.08	.20**	.14*	-.19**	-.40**	.18**
29.JobSec	-.22**	-.26**	-.03	-.01	.06	.06	-.12*	-.29**	.03
30.Exhaustion	.19**	.22**	.03	-.05	-.11*	-.03	.21**	.29**	-.19**

Note: pre-ordain=pre-ordained leadership (0=no, 1=yes), cong. size=congregation size, hours=work hours, TD=total ministry duration, APD=average parish duration, IPD=interpersonal disputes, PsychD=psychological demands, WHI=work home interference, RoleCl=role clarity, RoleCo=role conflict, CareFreq=care frequency, EmotionP=positive emotional expression, EmotionD=emotional dissonance, DecAuth=decision authority, SkillDisc=skill discretion, DecLat=decision latitude, CowSup=co-worker social support, SupSup=supervisor support, SSO=social support openness, GodSS=God support scale, RelCon=relocation control, JobProm=job promotion, JobSec=job security

Top row: FinCh=Financial concerns (Church), FinPers=Financial concerns (Personal), Interrupt=interruptions to day off, BibleR=bible reading, Acad=academic qualifications, GHealth=general health, TurnInt=turnover intention, Perform=self-rated performance.

Table A2.5 Kendall's tau Correlations – Time one (Variables 31-52)

	FinCh	FinPers	Interrupt	Prayer	BibleR	Acad	GHealth	TurnInt	Perform
31.Cynicism	.16**	.14**	-.05	-.15**	-.07	-.04	.22**	.42**	-.34**
32.Efficacy	-.10*	-.07	.02	.06	.11*	.03	-.12*	-.30**	.33**
33.Vigor	-.03	-.01	.12*	.05	.09	-.01	-.18**	-.28**	.34**
34.Absorp	.01	.05	.19**	-.01	.05	.01	-.01	-.08	.10*
35.Dedicat	-.05	-.05	.12*	.05	.09	.01	-.15**	-.29**	.36**
36.Depress	.17**	.24**	.05	-.09	-.09	-.07	.26**	.40**	-.29**
37.Stress	.16**	.21**	.07	-.09	-.04	-.02	.20**	.28**	-.17*
38.Anxiety	.14**	.19**	.08	-.07	-.12*	-.01	.27**	.24**	-.11*
39.Meds	.10	.11*	.08	.03	.05	-.10	.37**	.02	.02
40.HospStay	-.01	.09	.08	.00	.04	-.01	.21**	-.05	.00
41.DrVisit	.09	.22**	.01	.05	.02	-.08	.30**	.02	.00
42.SickD	.10	.12*	.07	.10	-.01	-.08	.24**	.08	.00
43.PhysAct	-.03	-.09	.02	.14*	.18**	-.08	-.17**	.05	.11
44.Couns.	.21**	.24**	.08	-.05	-.07	.06	.05	.17**	.01
45.FinCh		.38**	.12*	-.01	-.07	-.16**	.07	.27**	.02
46.FinPers			.13*	-.13*	-.12*	-.14**	.19**	.19**	.02
47.Interrupt				.02	.02	-.07	.05	.05	.00
48.Prayer					.32**	.00	-.11*	-.01	.09
49.BibleR						.03	-.13*	-.10	.09
50.Academ							-.02	-.13*	.03
51.Ghealth								.20**	-.16**
52.TurnInt									-.25**

Note: Absorp=absorption, Dedicat=dedication, Depress=depression, Meds=medications, HospStay=hospital stay, DrVisit=doctor visits, SickD=sick days, PhysAct=physical activity, Couns=counselling

Top row: FinCh= Financial concerns (Church), FinPers=Financial concerns (Personal), Interrupt=interruptions to day off, BibleR=bible reading, Acad=academic qualifications, GHealth=general health, TurnInt=turnover intentions, Perform=self-rated performance.

Appendix Three: Study 2 Correlation Tables

Table A3.1 Kendall's tau Correlations – Time One by Time Two (N=64)

Time One Variables	T2 Trauma care	T2 Interruptions	T2 Prayer	T2 Bible Reading	T2 General Health
Psych Demands	.24 [*]	.20	-.10	.05	-.01
Work Home Interference	.11	.30 ^{**}	-.31 ^{**}	-.11	.18
Role Clarity	.00	-.15	.12	.10	.03
Interpersonal Disputes	.03	.07	-.08	.00	-.02
Emotion Positive	.17	.32 ^{**}	-.10	.05	.04
Emotional Dissonance	.12	.25 [*]	-.20	-.13	.07
Decision Authority	-.03	.03	.03	-.14	-.05
Skill Discretion	.04	.10	.04	-.08	-.10
Decision Latitude	.00	.07	.04	-.10	-.08
Co-worker Support	-.07	.12	-.13	.01	-.02
Rewards Total	-.09	-.29 [*]	.15	.08	-.16
God support scale	.11	-.05	.26 [*]	.27 [*]	-.12
Exhaustion	.03	-.02	-.09	-.24 [*]	.06
Cynicism	.03	.02	-.08	-.09	.14
Efficacy	.28 ^{**}	.00	.09	-.02	-.20 [*]
Burnout Total	-.07	.02	-.12	-.17	.17
Depression	-.11	.05	-.08	-.03	.27 [*]
Trauma care	.67 ^{**}	.03	.04	-.08	-.01
Interruptions	.15	.32 ^{**}	-.10	-.14	.04
Prayer	-.05	.07	.62 ^{**}	.30 [*]	-.10
Bible reading	-.07	.03	.25 [*]	.59 ^{**}	-.16
General health	-.01	-.01	-.19	-.05	.56 ^{**}

*correlation is significant at $p < .05$, **correlation is significant at $p < .01$

Table A3.2 Kendalls tau Correlations – Time Two by Time Two (N=64)

Time Two Variables	Trauma Care	Interruptions	Prayer	Bible reading	General Health
Psychological Demands	.18	.23 [*]	-.28 ^{**}	.00	.01
Work Home Interference	.03	.27 ^{**}	-.38 ^{**}	-.06	.20
Role Clarity	-.08	-.16	.15	.10	-.03
Interpersonal Disputes	.04	.01	-.13	-.07	.06
Emotion Positive	.37 ^{**}	.21 [*]	.05	-.03	-.02
Emotional Dissonance	.26 ^{**}	.23 [*]	-.26 [*]	-.14	-.02
Decision Authority	-.13	-.11	.05	-.06	-.12
Skill Discretion	.17	.09	.05	-.21 [*]	-.12
Decision Latitude	-.01	-.02	.09	-.12	-.15
Co-worker Support	-.01	.03	-.05	-.10	-.06
Rewards Total	-.03	-.28 ^{**}	.16	.00	-.15
God Support Scale	.11	-.05	.26 [*]	.27 [*]	-.12
Exhaustion	.00	.05	-.16	-.04	.15
Cynicism	-.03	.03	-.21	-.03	.17
Efficacy	.29 ^{**}	-.01	.14	-.03	-.10
Burnout Total	-.11	.02	-.16	.00	.19
Depression	.00	.04	-.27 [*]	.11	.27 ^{**}
Trauma care	1.00	.05	-.07	-.13	-.05
Interruptions	.05	1.00	-.20	-.12	.02
Prayer	-.07	-.20	1.00	.26 [*]	-.16
Bible reading	-.13	-.12	.26 [*]	1.00	.03
General health	-.05	.02	-.16	.03	1.00

*correlation is significant at $p<.05$, **correlation is significant at $p<.01$

Table A3.3 Pearson Correlations – Time One by Time Two (N=64)

Time One Variables	Time Two Variables																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1. PsychD	.61**	.46**	.00	.20	.21	.29*	.14	.11	.11	-.01	-.07	.00	.22	.01	-.06	.15	-.05
2. WorkHomeInt	.29*	.70**	-.45**	.44**	.15	.51**	-.11	.02	-.05	-.16	-.44**	-.23	.50**	.38**	-.38**	.54**	.35**
3. RoleClarity	-.23	-.31*	.64**	-.30*	.01	-.26*	.34**	.05	.23	.34**	.46**	.09	-.25*	-.33*	.47**	-.40**	-.36**
4. InterpersDisp	.27*	.39**	-.31*	.65**	.11	.41**	-.23	-.03	-.18	-.48**	-.32**	.01	.34**	.34**	-.23	.38**	.28*
5. EmotionPos	.38**	.19	.05	.07	.36**	.36**	-.19	.10	-.09	.07	-.11	.01	.11	-.07	.04	-.01	.00
6. EmotionDiss	.29*	.34**	-.35*	.34**	.15	.71**	-.30*	-.13	-.26*	-.15	-.45**	-.30*	.37*	.40**	-.37**	.46**	.33**
7. DecisionAuth	.00	-.05	.20	-.15	-.16	-.31*	.43**	.12	.34**	.13	.22	.04	.04	-.22	.12	-.10	-.17
8. SkillDisc	.02	-.03	.20	-.20	.13	.02	.22	.47**	.39**	.26*	.21	.07	-.12	-.24	.16	-.21	-.30*
9. DecLat	.01	-.04	.26*	-.21**	-.08	-.27*	.47**	.29*	.46**	.25	.29*	.07	.01	-.27*	.17	-.15	-.26*
10. CowSup	.04	.00	.42**	-.41**	.02	-.28*	.48**	.38**	.49**	.55**	.47**	-.02	-.21	-.43**	.21	-.35**	-.41**
11. RewardsT	-.10	-.39**	.51**	-.30*	-.14	-.50**	.20	.06	.16	.25	.55**	.18	-.29*	-.34*	.22	-.35**	-.33*
12. GodSup	-.07	-.22	.12	-.08	.16	-.17	-.01	.04	.00	-.09	.29*	1.00**	-.08	-.22	.28*	-.20	-.25*
13. Exhaust	.18	.35**	-.25*	.22	.14	.33**	-.09	.06	.00	-.20	-.25*	-.02	.63**	.26*	-.27*	.52**	.08
14. Cynicism	.11	.45**	-.37**	.30*	.07	.41**	-.23	-.20	-.26*	-.21	-.37**	-.13	.56**	.42**	-.39**	.57**	.30*
15. Efficacy	.05	-.29*	.45**	-.35**	.12	-.10	.11	.31*	.23	.29*	.24	.19	-.27*	-.39**	.64**	-.50**	-.32**
16. BurnoutT	.12	.45**	-.42**	.34**	.07	.37**	-.17	-.14	-.16	-.28*	-.35**	-.12	.64**	.42**	-.49**	.64**	.25*
17. Depression	-.04	.43**	-.43**	.44**	-.01	.39**	-.26*	-.19	-.25*	-.34**	-.43**	-.15	.46**	.40**	-.44**	.53**	.41**

*correlation is significant at $p < .05$, **correlation is significant at $p < .01$

Note: PsychD=psychological demands, WorkHomeInt=work home interference, InterpersDisp=interpersonal disputes, EmotionPos=Positive emotional expression, EmotionDiss=emotional dissonance, DecisionAuth=decision authority, SkillDisc=skill discretion, DecLat=decision latitude, CowSup=co-worker support, RewardsT=rewards total (combined scales), GodSup=God support scale, Exhaust=exhaustion, BurnoutT=Burnout total (combined scales).

Table A3.4 Pearson Correlations – Time Two by Time Two(N=64), Cronbach's α () diagonal

Time Two Variables	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1.PsychD	(.66)																
2.WorkHomeInt	.49**	(.81)															
3.RoleClarity	-.15	-.40**	(.84)														
4.InterpersDisp	.24	.40**	-.54**	(.76)													
5.EmotionPos	.23	.16	-.02	-.12	(.78)												
6.EmotionDiss	.37**	.41**	-.42**	.39**	.33**	(.64)											
7.DecisionAuth	-.02	-.03	.36**	-.33**	-.16	-.37**	(.69)										
8.SkillDisc	.10	.05	.19	-.24	.22	-.09	.36**	(.68)									
9.Declat	.02	-.02	.29*	-.32*	.00	-.31*	.88**	.77**	(.73)								
10.CowSup	-.13	-.18	.58**	-.73**	.17	-.21	.50**	.37**	.51**	(.80)							
11.RewardsT	-.14	-.40**	.65**	-.48**	-.08	-.40**	.43**	.14	.32*	.51**	(.81)						
12.GodSup	-.07	-.22	.12	-.08	.16	-.17	-.01	.04	.00	-.09	.29*	(.68)					
13.Exhaust	.27*	.50**	-.28*	.28*	.16	.32*	-.12	.00	-.08	-.19	-.43**	-.08	(.81)				
14.Cynicism	.18	.38**	-.56**	.51**	-.02	.44**	-.40**	-.25	-.36**	-.49**	-.68**	-.22	.58**	(.84)			
15.Efficacy	-.12	-.41**	.50**	-.49**	.22	-.24	.18	.35**	.30*	.37**	.37**	.28*	-.38**	-.54**	(.82)		
16.BurnoutT	.27*	.55**	-.52**	.51**	.00	.41**	-.28*	-.21	-.27*	-.41*	-.61**	-.20	.87**	.86**	-.71**	(.64)	
17.Depression	.15	.45**	-.55**	.56**	-.03	.41**	-.40**	-.32*	-.40**	-.46**	-.69**	-.25*	.44**	.75**	-.43**	.66**	(.79)

*correlation is significant at $p < .05$, **correlation is significant at $p < .01$

Note: PsychD=psychological demands, WorkHomeInt=work home interference, InterpersDisp=interpersonal disputes, EmotionPos=Positive emotional expression, EmotionDiss=emotional dissonance, DecisionAuth=decision authority, SkillDisc=skill discretion, Declat=decision latitude, CowSup=co-worker support, RewardsT=rewards total (combined scales), GodSup=God support scale, Exhaust=exhaustion, BurnoutT=Burnout total (combined scales).