Why Do People Participate in Health and Well-being Programs?

An intensive triangulated case study

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Declaration

I declare that this thesis is my own account of my research and contains as its main content work which has not previously been submitted for a degree at any tertiary education institution.

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Alice Nora Burston
Abstract

Since the early 1990s the implementation of organisational wellness programs has become an accepted part of the workplace (Grawitch, Gottschalk & Munz, 2006). Health and well-being programs aim to actively encourage employees to participate in fitness, education and well-being initiatives in an effort to reduce workplace-related illnesses and improve job satisfaction, organisational commitment and employee engagement. However, given that participation in health and well-being programs among employees is generally less than 50% (Robroek, van Lenthe, van Empelen & Burdoff, 2009), further research is required to examine the inherent and psychological predictors associated with participation in health and well-being programs.

Detailed analysis of the literature shows that no previous single study has attempted to determine the best predictors of participation in health and well-being programs using the full range of possible predictors. This thesis presents a triangulated case study examining employee participation in a health and well-being program in a focal organisation. The term ‘triangulated’ refers to a multi-method study and the associated benefits of this study on participation in health and well-being programs. In this thesis, Study 1 reported on whether a health and well-being program had an effect on absenteeism, which led to Study 2 which investigated the focal question of why people participate in health and well-being programs and finally Study 3 was conducted to investigate nuances in data found in Study 2.

This research began with a survey questionnaire administered to 154 ‘white-collar’ employees of a large construction management organisation (‘LCMO’) in 2009-2010, examining predictors of participation in a health and well-being program. Inconsistencies were found in the qualitative and quantitative analysis that
provided the rationale for developing an intensive triangulated case study the following year in 2010-2011.

Participation in health and well-being programs has been found to reduce employee absenteeism, possibly as a result of creating a healthier workforce (Parks & Steelman, 2008). Study 1 was conducted to examine whether a structured health and well-being program had an effect on absenteeism over a two-year period. The analysis of Study 1 shows that the average reduction in employee absenteeism for staff was $M=4.28$ hours per person, which provided a savings-to-cost ratio of AUD$4.00:$1.00.

Study 2 re-examines the survey questionnaire in 2010-2011 to address some limitations and provides the rationale for conducting a further series of open-ended telephone interviews with a sample of employees (Study 3). Study 2 found, with 152 employees drawn from the focal organisation, that it was possible to reliably predict participation in a health and well-being program. The factors found to be predictive of participation were: *Interest In General Health and Well-Being*, *Interest and Enjoyment*, *Recruitment and Attraction*, *Timing and Convenience*, *Job Satisfaction and Socialising*. Combining these factors, discriminant function analysis was 78.7% accurate in predicting membership of the group of people who did participate and 80.0% accurate in predicting whether people did not participate. Study 3 found, with 10 employees drawn from the focal organisation, that people participated in health and well-being programs to improve and/or benefit their health and wellness knowledge. Study 3 also found that intrinsic motivation and perceived organisational support contributed to individual participation. Further research on whether mediators explain why the factor of *Workload Pressure* was not a direct predictor of participation in the discriminant function analysis needs to be addressed.
Findings from this research suggest that health and well-being programs are associated with lower absenteeism, and that they can foster perceived organisational support. With active promotion, visible leadership and routine evaluation, health and well-being programs can be very effective in creating a healthier workforce, reducing absenteeism and creating a positive organisational culture.
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Chapter 1: General Introduction
1.1 Overview of section

The purpose of this thesis is three-fold: (1) to determine if the presence of a health and well-being program has an effect on employee absenteeism for the period; (2) to investigate factors associated with participation in health and well-being programs using a large construction management organisation (‘LCMO’) over a two-year period; and 3) to seek clarification on whether Workload Pressure may be a negative predictor of participation in health and well-being programs due to inconsistencies in the 2009-2010 and 2010-2011 survey questionnaire qualitative and quantitative data. This thesis is an intensive triangulated case study examining participation in health and well-being programs.

The first section of this chapter will illustrate the importance of health and well-being programs in the workplace, including identifying the benefits for organisations, such as improved employee engagement, job satisfaction and reduced absenteeism. The following section of this chapter will also examine the impact of stress-related illness on the workforce and the recent cost of employee absenteeism to the Australian economy.

Section two of this chapter identifies the different types of health and well-being programs and the interventions used by organisations to increase participation, such as promotional initiatives, gymnasium membership discounts and sponsorship packs given to personnel for participation in community sporting events. The difficulties of evaluating a health and well-being program will also be presented, following a section outlining the positive effects of fostering a health and wellness culture, such as enhanced perceived organisational support.
A detailed review of the factors possibly associated with participation in health and well-being programs are presented in the third section. This includes a literature review of all eleven factors possibly associated with participation and their relevance to this thesis. The section will conclude with a final synopsis for the rationale of the three-part study.

1.2 The cost of employee absenteeism to the Australian economy and the workplace

The estimated cost to the Australian economy in 2004-2005 in lost productivity, due to illness, was AUD$34.8 billion per annum (Health and Well-being Institute of Australia). Furthermore, total health expenditure in Australia in 2004–05 was AUD$81 billion or 9.0% of GDP, which equates to AUD$4,001 per person (Health and Well-being Institute of Australia). The alarming costs associated with absenteeism are a fundamental reason that organisations have traditionally resorted to investing in health and well-being programs (Parks & Steelman, 2008) in an effort to improve employee health and to reduce the number of sick leave days taken.

Recent figures suggest that the average Australian takes 9.4 days of sick leave per year, compared with seven days in the United Kingdom (Australian Human Resources Institute, 2012). Frequent instances of airborne medical diseases such as influenza-like illness, viral respiratory infections and other respiratory disorders are responsible for many work-related sick days. These types of illnesses significantly impair an employee’s ability to work, more so in large office environments where airborne diseases are highly contagious (Yu At’kov, Azarov, Zhukov, Nicoloyannis & Durand, 2011). A report commissioned by a private-sector consultancy suggests
that 36% of businesses have reported an average 8% increase in absenteeism in the period 2009-2010 with the highest increases of 11-22% experienced in the banking, finance and infrastructure, and call/cost centre sectors (Direct Health Solutions, 2010). According to the report, companies consider poor mental health (for example anxiety, depression and stress) a leading contributor to absenteeism, where one in two companies stated that mental health was a significant issue for their business (Direct Health Solutions, 2010).

1.3 The importance of addressing health and well-being in the workplace

As suggested by Nohammer, Stummer and Schusterschitz (2011) there is still no widely accepted definition of “well-being”, with many researchers explaining the concept by using varying approaches. For the purpose of this thesis, the World Health Organisation defines health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity” (World Health Organisation, 1948, p.100); and “well-being” as being a state of mental health where “every individual realises his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to make a contribution to her or his community” (World Health Organisation, 2011).

Given that many employees spend the majority of their waking hours in the workplace, it makes sense for it to be a venue for health investment (Baicker, Cutler & Song, 2010; Dishman, Oldenburg, O’Neal, & Shephard, 1998; Person, Colby, Bulova & Whitehurst-Eubanks, 2010). Health and well-being program initiatives aim to both educate and promote health initiatives, which include pursuing work-life alignment for employees to aid in work-related stress illnesses. Program initiatives pertinent to the promotion of work-life alignment aim to buffer the negative effects
of stress and may lie in fitness-related programs, as many people believe that exercise can produce feelings of health and well-being (Griffiths, 1996). Some examples of organisation-sponsored fitness-related programs may include subsidised gymnasium memberships, pilates/yoga classes or group personal training sessions.

Many health and well-being initiatives are conducted during work hours; however, the most common practice is in the use of non-work time (Kerr, 1993). For employees, this may present participation difficulties due to interference with personal or family commitments that may already be included in an individual’s health and wellness regime. When measuring the effectiveness of health and well-being initiatives, organisations must consider effective and timely scheduling when implementing program initiatives to raise participation (Person et al., 2010) and engagement in work-life alignment initiatives sponsored by the organisation.

Employee health and well-being programs can be defined as organisation-sponsored activities aimed at improving employee health by promoting and embracing positive and sustainable health behaviours (Wolfe, Parker & Napier, 1994). Health and well-being programs aim to actively encourage employees to participate in fitness, education and well-being initiatives in an effort to reduce workplace-related illnesses.

Since the early 1990s the implementation of organisational wellness programs has become an accepted part of the workplace (Grawitch, Gottschalk & Munz, 2006). Organisations frequently adopt wellness programs, or health and well-being programs, to generate improvements in employee productivity, organisational culture and employee engagement (Parks & Steelman, 2008). An increasing number of organisations are committing to sponsor organisational wellness programs to
improve employee health, lower illness-related absenteeism and provide additional benefits to employees to aid in job satisfaction (Bly, Jones, & Richardson 1986).

From a corporate perspective, health and well-being programs are comprehensive, strategically-designed investments in employees’ social, mental and physical health (Berry, Mirabito & Baun, 2010). From a monetary perspective, the return on investment ratios suggests that comprehensive, well-managed health and well-being programs can return as high as 6:1 (Berry et al., 2010), implying that health and well-being programs can be financially justifiable investments; that is, for every one dollar spent on health and well-being the organisation can save six dollars in health care savings.

Berry et al. (2010) defines workplace wellness as a structured, employer-sponsored system that is intended to support employees (and, in some instances, their families). Workplace wellness programs adopt and sustain “behaviours that reduce health risks, improve quality of life, enhance personal effectiveness and benefit the organisation’s bottom line” (Berry et al., 2010, p. 4). Strategically, workplace wellness appears increasingly to be lending itself to a multi-level approach involving organisational pillars such as leadership, accessibility and alignment to achieve successful implementation and cost benefits for the organisation (Berry et al., 2010).

With respect to promoting the benefits of being actively engaged in health and wellness, well-being programs are strategically designed to influence employee behaviours (Donaldson, 1993). Ischaemic heart disease, cerebrovascular disease and type II diabetes are now the leading causes of death in Australia (Australian Bureau of Statistics, 2009). The increasing prevalence of these diseases suggests that there is
much to do in an effort to influence healthy behaviours and raise awareness of healthy diet and exercise to improve the Australian mortality rate.

Work-related stress is considered a leading contributor to illness, anxiety and depression in Australia, with 32 percent of people identifying workplace stressors as a contributor to their illness (Casey, 2012). A recent study that examined the stress and well-being of the Australian population found that 12 percent of Australians reported experiencing levels of stress in the severe range, while almost one in three Australians (32%) reported experiencing depressive symptoms, with ten percent of these symptoms in the severe or extremely severe range (Matthews & Casey, 2011). When comparing the 2011 and 2012 survey results, higher levels of psychological distress and lower levels of well-being were reported, where 22 percent of respondents reported moderate to severe levels of distress (Casey, 2012) with 13 percent of Australians reported experiencing levels of stress in the severe range (Casey, 2012).

In conjunction with the Australian Psychological Society, the above ‘State of the nation stress and well-being’ survey was launched in 2011 and repeated in 2012. This survey aimed to measure year-by-year comparisons in sources of stress, impacts of stress on mental and psychological health, strategies to manage stress and the identification of at-risk groups. The online survey was administered to 1,537 Australian adults in 2011 and 1,552 adults in 2012. The surveys used a number of questions incorporated from numerous validated measures of stress and well-being (such as the *Kessler Psychological Distress Scale (K-10; CRUFAD, 2000)*, *Perceived Stress Scale, Warwick Edinburgh Mental Well-being score, Workplace sub-scale of the United Kingdom well-being measure* and the *Depression, Anxiety
and Stress Scale [Lovibond & Lovibond, 1995]). With approximately equal number of males and females taking part in the survey, participants represented an age range and population that was representative of working-aged Australian adults (18 years old and above).

The implications of both studies generated interest across Australia, in particular the higher than expected levels of stress experienced in young Australian adults, the prevalence of work-related stress and the ineffective activities that stress sufferers engage in to reduce stress. For example, in 2011, 40% of people reported drinking alcohol and 66% of people used food as effective methods to independently manage their stress (Matthews & Casey, 2011), possibly leading to greater instances of obesity. In 2012, 18% of Australians reported that their physical health was strongly impacted by stress and 40% of respondents found that maintaining a healthy lifestyle was a source of stress (Casey, 2012). Pertinent to this thesis, in 2012 it was reported that employees who felt valued at work, and also that their employer cared about their well-being, reported “significantly lower levels of anxiety and depressive symptoms, and significantly higher levels of overall well-being” (Casey, 2012, p. 27).

Similarly, Winefield, Boyd, Saebel and Pignata (2008) conducted a wide-ranging study into work-related stress in 13 Australian universities, surveying over 6,000 staff in a two-part study using the General Health Questionnaire (GHQ-12). The General Health Questionnaire (GHQ-12) offers a fast and reliable assessment of general psychiatric status, and is represented with a GHQ-12 score. Winefield et al. (2008) found that “approximately 19% of the working population has a GHQ-12 score indicative of potential mental illness” (as cited in Meyers, 2012, p. 128). More
alarmingly, Winefield et al. (2008) found that amongst academic staff the GHQ-12 score was closer to 50%, where the issues most responsible for stress were university management, hours of work and industrial relations. Data from university academics suggest that many staff experience poor job satisfaction, are frustrated with university procedural fairness and show distrust in executive management (as cited in Meyers, 2012, p.128). These findings by Winefield et al. (2008) indicate that university “workload formulas” may be ineffective, providing little time for necessary paperwork (ethics, coursework etc.) and that there is a disconnect between hours per week required (37 hours) and actual hours (50 hours) worked, possibly leading to lower job satisfaction, inter-organisational frustration, “burnout” and increased employee absenteeism in the Australian university system (as cited in Meyers, 2012, p.128).

1.4 Types of organisational health and well-being programs and initiatives

Sponsored health and well-being programs may be classified into two groups; ‘comprehensive’ programs and ‘fitness-related’ programs (Parks & Steelman, 2008). ‘Comprehensive’ programs aim to offer educational and fitness initiatives, which may include influenza vaccinations, smoking-cession programs, ‘Lunch and Learns’, and physical intelligence programs. According to the Australian Institute of Health and Welfare (2010) it is estimated that 19% of Australians aged 18 years or over are vaccinated against the influenza virus. Increased influenza vaccination coverage is required as the vaccine can prevent influenza in approximately 70-90% of healthy adults (Tsutsui, Benzion, Shahrabani, Yom Din, 2010). Smoking-cession programs aim to raise awareness on the negative health implications of smoking; generally, organisations will provide employees with smoking-cession
packs to help them reduce their smoking habits. ‘Lunch and Learns’ are generally conducted during a standard employee lunch-break where topics range from stress management, sleep hygiene and nutrition guidance. Physical intelligence programs include a fitness element and may also provide free access to gymnasiums or swimming pools, cycle-to-work initiatives and participation sponsorship in community sporting events. Fitness-related programs aim to offer fitness-orientated activities such as group personal training sessions, pilates/yoga classes and gymnasium circuit training sessions. Generally, fitness-related programs are delivered by health professionals and specialised fitness trainers.

Gebhardt and Crump (1990) suggest a similar three-level health and well-being multi-dimensional model that aims at providing structure to the health and well-being program system. Level one implements awareness programs that include promotional health newsletters, regular lunch-room fliers and health screening sessions that aim to raise employee awareness in the specific consequences of unhealthy lifestyle habits. Level one topics included in this model may involve the importance of regular skin check-ups to reduce cancer-related diseases and raising awareness of the health risks related to obesity and unhealthy eating (Gebhardt & Crump, 1990).

The level two model employs proactive lifestyle modification techniques by implementing programs that may run for eight to 12 weeks, using behaviour modification techniques to influence employee participation so as to achieve a long-term effect through the formation of new health habits. Level one and two programs aim to complement each other by providing employees with a knowledge base to assist in changing their negative health habits. Level two strategies included in this
model may also involve replacing high-sugar vending machine content with fruit baskets or providing pedometers to all staff to monitor their daily walking habits (Gebhardt & Crump, 1990).

Level three programs aim to foster a culture where employees create sustainable habits to support their healthy lifestyle behaviours. A level three strategy ideally provides an avenue for participation in proactive and healthy lifestyle habits, such as providing free lockers at the worksite gymnasium. Level three programs may also incorporate health and wellness managers who aim to actively stimulate a healthy culture by engaging with personnel on health advice, providing physiological benefits of exercise and individual strategies to maintain health and well-being.

Figure 1.0 – Types of fitness and wellness programs (Gebhardt & Crump, 1990)
According to the model found in Figure 1.0 (Gebhardt and Crump, 1990) level one and two fitness programs can be sub-classified into two genres: the first type, ‘general fitness’ programs, uses a generic approach that strives for overall improvements in fitness and health. This type of program would suit executive level and ‘white collar personnel’, where initiatives are implemented routinely as part of a global system. The second genre is ‘job-related’ fitness programs that focus on particular physical capabilities and associated tasks that are required for successful job performance. Initiatives in this genre may include strength and conditioning activities for intense-labour workers or stretching classes for manual handlers. Job-related fitness programs would suit public safety or ‘blue collar’ personnel (Gebhardt & Crump, 1990). With numerous wellness program models available, organisations can independently develop efficient and economical health and well-being initiatives that aim to increase participation. However, by independently developing health and well-being programs organisations may face challenges when measuring their effectiveness, which may present difficulties in methodological rigor and usefulness.

1.5 Challenges in evaluating effective health and well-being programs

With an increasing number of organisations implementing health and well-being programs, there have been some methodological difficulties identified in program evaluation (Griffiths, 1996; Pelletier, 2005). Continued support has been given to evaluate health and well-being programs (Gebhardt & Crump, 1990) however, there have been various research limitations when investigating fitness-related initiatives including participant-related issues, measurement issues and common design failures (Dishman et al., 1998; Griffiths, 1996). These limitations can be described in the following paragraph:
1. Participant-related issues may reflect an organisation’s inability to implement a well-designed and large-scaled randomised controlled trial at a workplace, which possibly leads to inaccurate findings (Dishman et al., 1998). According to Griffiths (1996) this may also include participants’ lack of anonymity.

2. Measurement issues may include an organisation’s inability to measure participants’ physical fitness and to develop a consistent evaluative approach that is valid and reliable. According to Griffiths (1996) measurement issues may also include failing to report data that has not supported commonly-made organisational assumptions within ethical guidelines (such as false reporting by stakeholders and participants).

3. Common design failures may include employees withdrawing from program initiatives without warning and organisations using invalid interventions that did not utilise randomised control groups. According to Griffiths (1996) common design failures may also include organisations unwilling to compare longitudinal evaluation. In addition, methodological limitations have included an absence of baseline measures, poor program effectiveness and inadequate follow-ups.

Relevant literature indicates that efforts to evaluate health and well-being programs have been insufficient, primarily due to methodological defects and the failure to recognise such programs in their broader organisational setting (Griffiths, 1996). Further, Gebhardt and Crump (1990) suggest that a multi-disciplinary
approach should be incorporated to plan, implement and evaluate the program so as to enhance organisational factors such as commitment and engagement, and to foster a positive health and wellness culture.

### 1.6 Fostering a positive health and wellness culture in organisations

Perceived organisational support (‘POS’) is a pertinent outcome of organisation-employee interactions and a productive organisational culture. Perceived organisational support involves “an employee’s general belief that their employer values their contribution and cares about their well-being” (Rhoades & Eisenberger, 2002, p. 698). Perceived organisational support has been correlated to favourable employee psychological outcomes, such as positive job satisfaction and enhanced mood (Rhoades & Eisenberger, 2002), where organisational outcomes of staff include effective commitment, improved performance and reduced turnover (Eisenberger, Huntington, Hutchison & Dowa, 1986). It can be suggested that the implementation of health and well-being programs may aid in enhancing greater employee-employer relations; whereby employees may perceive that by their employer caring about their health, the role of reciprocity is the norm.

Perceived organisational support may also be stimulated by perceived supervisor support (‘PSS’) where, just as employees form positive value beliefs about their employer, they may also form positive beliefs about their supervisors to uphold organisational morals that “value their contributions and care about their well-being” (Eisenberger, Stinglhamber, Vandenberghe, Sucharski & Rhoades, 2002). Eisenberger et al. (2002) examined alumni (N = 314) at a Belgian university at two periods in time, three months apart, and found that perceived supervisor support was positively related to progressive change in perceived organisational
support, suggesting that perceived supervisor support leads to perceived organisational support. That is, supervisors act as advocates for the organisation who have responsibility for influencing and guiding team performance, whereby employees may interpret their supervisor’s desirable or undesirable manner toward them as suggestive of the organisation’s support, resulting in a relationship between perceived supervisor support and perceived organisational support. This may suggest that if an employee’s perception is that their supervisor values their individual health and well-being (for example, by encouraging participation in fitness initiatives), this may be reflective of the organisation’s commitment to their health, where their belief is that their employer cares about their well-being. Perceived supervisor support (in conjunction with perceived organisational support) may aid in creating a positive health and wellness culture, as well as improving employee job satisfaction.

According to literature outlined by Eisenberger et al. (2002), it may be suggested that both perceived organisational support and perceived supervisor support are highly desirable contributors when developing and sustaining a positive health and well-being culture. Merrill, Aldana, Vyhlidal, Howe, Anderson and Whitmer (2011) found in a three year study examining a small business of less than 400 staff, that participation in health and well-being programs was increased largely by integrating leadership support, effective program design and a commitment to employee wellness by senior management. The health and well-being program was implemented to enhance culture, employee satisfaction and reduce health care costs by integrating wellness into the business strategy. Employees were required to participate in quarterly screenings to measure participation in wellness initiatives and selected health indicators, such as systolic blood pressure, diastolic blood pressure,
flexibility, body fat percentage and body weight. Merrill et al. (2011) found that there were substantial health improvements in employee blood pressure, body fat indices and flexibility; however the most significant improvements were seen among “older employees and those with the highest baseline values” (Merrill et al. 2011, p.127). The highest participation rates were seen in the 40 to 49 year age group, suggesting that possibly those that starting to experience health problems associated with ageing may be more inclined to participate, whereas younger employees are in generally better health (Merrill et al., 2011). The findings by Merrill et al. (2011) may support a relationship between perceived organisational support and perceived supervisor support in a small business setting by influencing participation in health and well-being programs.

Further support for linking positive organisational culture through health and well-being programs has been found by Holzbach, Piserchia, McFadden, Hartwell, Herrmann and Fielding (1990). Research conducted in a quasi-experimental study suggests that organisations that sponsored a general health promotion program with a fitness element, when compared to organisations that only had a health screen, accomplished positive attitudinal changes among personnel. Holzbach et al. (1990) linked improvements in attitudes towards organisational commitment, working conditions, job capability and job security. Participants in the study also showed long-term improvements in physical fitness, smoking-cessation and absenteeism. In addition, the organisation sustained a reduction in healthcare costs as a result of the reported health improvements in employees’ physical and psychological health (Holzbach et al., 1990).
It is suggested that organisational improvements in psychological well-being through participation in fitness-related health and well-being programs have been correlated to improvements in commitment, inter-organisational communication and work output (Cox, Gotts, Boot & Kerr, 1988). Represented in a sample of British and Dutch organisations, Cox et al. (1988) conducted a series of qualitative interviews where interviewees suggested that the following five benefits were reasons they believed their organisation invested in fitness-related programs:

1) healthy and happy personnel are generally more productive and manageable;
2) organisations that sponsor related programs were thought to project a more positive image, implying that the organisation cared about their employees’ health;
3) team cohesiveness is increased with greater communication between departments;
4) the health of senior management requires safeguarding; and
5) program support encourages employee commitment to the organisation by aiding in staff retention, employee engagement and perceived organisational support (Cox et al., 1988).

Similar to the above findings by Cox et al. (1988), a private consultancy group (Right Management Group, 2010), conducted a global survey of 28,000 employees in 15 countries and found that when health and wellness were correctly managed, employee engagement increased nearly eight times. Respondents were largely from private corporations employing 50 people or more that ranged in revenue from US$1 million to greater than US$1 billion. Some industries surveyed included construction, agriculture, forestry and fishing, mining and quarrying, and
manufacturing. The survey aimed to link health and organisational performance and found that organisational performance increased 2.5 times compared with rival companies, when health and wellness programs were managed well (Right Management Group, 2010). These figures suggest that employee engagement and business performance can be improved by increased participation in health and well-being programs so as to possibly enhance positive organisational outcomes such as commitment, retention and performance. In the next section, the factors that are thought to be predictive of participation in health and well-being programs are investigated.

1.7 Employee characteristics that may predict participation in health and well-being programs

Australia has one of the most developed healthcare systems in the world. For example, in the United States, a universal healthcare system does not exist as it does in Australia, where Government-funded schemes such as ‘Medicare’ and private health insurance companies provide healthcare options for citizens. In 1984, fewer than ten percent of organisations in the United States offered a health or wellness program (O’Donnell, 2002). By 1994, over 80% of United States companies employing 50 or more staff offered a health or wellness program (O’Donnell, 2002). Programs were centred on workplace health promotion and were often managed by nursing staff, medical professionals and therapists.

Today, in Australia less than 50% of organisations promote health and wellness in the workplace (Right Management Group, 2010) with approximately 1,500 corporate and government employers providing health assessments and intervention programs for 400,000 employees (Health and Productivity Institute of
Australia, 2008), suggesting that there is still much to be done to encourage awareness and promotion of health and wellness in Australia.

Robroek, van Lenthe, van Empelen and Burdoff (2009) conducted a review of 23 studies that examined the characteristics of participants and non-participants in worksite health promotion programs. Robroek et al. (2009) found that female employees are more likely to participate in worksite health promotion programs as compared with male employees, and there tended to be higher participation levels for younger employees with the lowest participation levels found in the oldest age category. Robroek et al. (2009) found that providing an incentive may influence participation and that interventions with a fee provided no barrier for participation. While this review examined characteristics of participation, such as whether incentives encourage participation, it did not examine inherent predictors of participation, such as whether an individual’s interest in a health initiative will predict their participation. It would be useful to predict inherent and psychological factors associated with participation in health and well-being programs in an effort to improve employee participation, and in turn, reduce absenteeism.

Joslin, Lowe and Peterson (2006) examined employee characteristics and participation in a worksite health and wellness program to provide insight into whether employee characteristics and participation were correlated. Joslin et al. (2006) mailed surveys (including demographics and the Short Form 36 (SF-36)) to a random sample of United States government employees (N = 329) and had an overall return response rate of 44%. Joslin et al. (2006) found that females who were chronically unwell with low job satisfaction and an annual family income of less than US$60,000, were likely to have higher participation in health/medical
interventions (influenza vaccines and health screens) whereas males had lower participation in these interventions, but were free from chronic pain, had an annual family income of greater than US$60,000 and were more satisfied in their jobs. The results of this study suggest that some employee characteristics may predict participation in certain types of worksite health and wellness program offerings.

While this study examined demographic characteristics associated with participation, it did not examine inherent and psychological predictors of participation, such as whether workload pressure, mood or family commitments impede participation in health and well-being programs.

Participation in health and well-being programs among employees is generally less than 50% (Robroek et al., 2009). Given the related psychological and physiological benefits associated with participation, it is surprising that more individuals do not take part. Some employers offer financial and other incentives to participate, however the exact approach to gain maximum involvement remains unknown (Taitel, Haufle, Heck, Loepke, Fetterolf, 2008). With participation rates typically below average, the positive effects of health and well-being programs may be limited. The following section illustrates eleven possible factors that may predict participation in health and well-being programs that had previously not been covered in a single study. The eleven independent variables (factors) likely to predict participation in health and well-being programs are: 1) Recruitment and Attraction 2) Interest in General Health and Well-Being, 3) Socialising, 4) Mood State 5) Physical Fitness 6) Stress 7) Job Satisfaction, 8) Interest and Enjoyment, 9) Timing and Convenience, 10) Family Commitments and, 11) Workload Pressure.
1.7.1 Independent variable #1: Recruitment and Attraction

As mentioned in relation to general health and well-being, Parks and Steelman (2008) suggest that sponsored wellness programs can be attractive to prospective candidates if they value health and well-being. However, there is limited research to suggest that the presence of a health and well-being program will directly or indirectly have an effect on employees selecting an organisation to work with. Yet, it is plausible to assume that in relation to personal health and wellness beliefs, those who value health and wellness may be more inclined to want to work for an organisation that values similar health and wellness values to them (such as work-life alignment). This suggests that people who actively value health and well-being may be more likely to participate in program initiatives and may seek to work for organisations that provide health and well-being program benefits.

Research conducted by Lowe, Levitt and Wilson (2008) suggest that organisations have much to understand when meeting the needs of talented staff and future company leaders. Lowe et al. (2008) examined four generations of workers in a review that provided suggestions on how to retain valuable and productive employees. While workforce beliefs and attitudes have significantly changed throughout the generations, generation ‘Y’ appears to be the most “demanding” generation of their work environment, and are far more inclined to abandon an organisation should they become dissatisfied (Lowe et al., 2008). The consequences of organisational inaction may be increased turnover; therefore urgent action is required from organisations to further involve employees, provide growth and development opportunities and work-life alignment policies (for example, flexible work arrangement schemes).
Honeycutt and Rosen (1997) examined MBA alumni and students ($N = 263$) using paper surveys to collect data on three hypotheses concerning flexible career paths, job attraction, family-work balance and salary interaction effect. Honeycutt and Rosen (1997) found that people were attracted to organisations that allowed them to balance their work, outside interests and commitments. Furthermore, individuals were also attracted to workplaces that offered flexible career paths and organisational policies (such as, family friendly policies that take into account the diverse needs of personnel to remain competitive in attracting new employees).

Grawitch, et al. (2006) suggests that the need for organisations to become more involved in healthy workplaces is vital. They also suggest that healthy workplaces not only have positive effects on the physical, mental and emotional health of employees, but organisations need to meet the needs of a diverse workforce and their health and well-being requirements to link employee well-being and organisational improvements (Grawitch et al., 2006).

In the context of this study, the potential predictor of health and well-being participation of Recruitment and Attraction, was needed to ascertain whether the presence of a health and well-being program may have been an appealing driver that may have influenced their employment. Given the increasing focus on health and stress-related illness, it is plausible to consider this factor as a predictor to participation in health and well-being programs. Though some reports seem to support the notion that candidates may be attracted to organisations that offer health and well-being programs, there is a lack of multiple-predictor studies; as well as a lack of evidence to suggest that this predicts participation in health and well-being programs.
1.7.2 Independent variable #2: Interest in General Health and Well-Being

The opportunity to improve wellness knowledge and participate in sponsored fitness initiatives not only stems from individual motivation, but may also be explained using Bandura’s (1997) outcome expectancy belief theory. Bandura’s self-efficacy theory focuses on expectancies for success; however, there are two types of expectancy beliefs: outcome expectation and efficacy expectation. For the purpose of this thesis, outcome expectation theory may be defined as “beliefs that certain behaviours will lead to certain outcomes” (Eccles & Wigfield, 2002, p. 111). For example, the individual belief that attending regular personal training sessions will improve personal fitness, well-being and self-worth is indicative of motivation and outcome expectation theory. Bandura (1997) claims that people are motivated and guided by their personal beliefs, which may be determined by goal-setting, outcome expectancies and perseverance; suggesting that motivation to improve oneself according to internal beliefs may be a possible predictor to participation in health and well-being programs.

An individual’s belief that participating in health and well-being initiatives will benefit and improve their own self, may dictate to what extent an individual may prefer one activity over another. Similarly, Parks and Steelman (2008) suggest that those employees who value health and well-being, may be more likely to select an organisation that offers a wellness element, over one that does not. The participation predictor of Interest in General Health and Well-Being suggests that an employee considers health and well-being initiatives as part of their hierarchy of preferences, commonly known as a ‘value system’ (McShane & Traviglione, 2008). Each individual’s value system is created and reinforced through parents, friends,
socialisation, society and religion (McShane & Traviglione, 2008) and can be highly influential when making decisions and choices in daily life.

In the context of this study, the degree to which an individual values his/her health and well-being may be a motivator and predictor for participation, given that the individual believes that participation in a certain behavior, such as a nutrition seminar, could lead to an outcome that will improve their education and benefit their knowledge (also suggesting a link between behavior/outcome). It is evident that no single study has examined the factor of Interest and General Health and Well-being as it relates to participation in organisational health and well-being programs.

1.7.3 Independent Variable # 3: Socialising

The need to belong and create social attachments forms the fundamental basis of the possible predictor that Socialising with others may be a factor associated with participation in health and well-being programs. The “need to belong is a fundamental human motivation where belongingness appears to have multiple and strong effects on emotional patterns and on cognitive processes” (Baumeister & Leary, 1995, p. 497). Individuals who lack social attachment commonly experience behavioural pathologies (Baumeister & Leary, 1995) or they may feel ostracised (Williams, 2001). Having a sense of belongingness and social bonds with others can lead to a feeling of reciprocity and positive emotional states.

The need to belong consists of two criteria: firstly, “there is a need for frequent, affectively pleasant interactions with a few other people, and secondly, these interactions must take place in the context of a temporally stable and enduring framework of affective concern for each other’s welfare” (Baumeister & Leary, 1995, p. 497). Baumeister and Leary (1995) conducted a significant review of many
studies which showed that the need to belong aligns with motivational patterns of
satiation and substitution, and deficits in belongingness may lead to psychological
and physical health problems.

Baumeister and Leary’s (1995) theory of belongingness aligns with Cialdini
and Goldstein’s (2004) theory of the goal of affiliation. They suggest that people are
inherently motivated to seek, develop and sustain expressive, and possibly, sensitive
social relationships with others (Cialdini & Goldstein, 2004). The Cialdini and
Goldstein (2004) review considers developments in social influence literature
focusing on compliance and conformity studies in the period 1997 and 2002.
Cialdini and Goldstein (2004) suggest that others will approve of other people if
engaging in behaviours that are approved by those others, such as using approval and
liking cues to develop, sustain and measure the closeness of interactions with others.

For the purpose of this thesis, the opportunity to interact with others to either
fulfill a sense of belonging or to feel positive emotional reward through social
attachment, by sharing common interests or experiences, contributes to the
possibility that socialising may be a predictor of participation in health and well-
being programs. The opportunity to form social bonds in a workplace environment
using health and well-being as a driver, may also contribute to a positive health and
wellness culture and perceived organisational support. A review of the health and
well-being literature shows that there is no direct evidence to support the notion that
an inherent and psychological factor such as Socialising predicts participation in
health and well-being programs. The factor of Socialising, along with other variables
to predict participation in health and well-being programs, needs to be investigated.
1.7.4 Independent variable #4 and #5: Mood State and Physical Fitness

Given the health benefits of regular exercise, it is alarming that so few people, particularly adults, do not participate in regular physical fitness (Wilson, Mack & Grattan, 2008). According to the Australian Bureau of Statistics (2012) individual health and well-being is affected by lifestyle, environmental, biomedical and socio-economic factors. Regular exercise can assist in protection from ischaemic heart disease, cerebrovascular disease, type II diabetes and obesity, notwithstanding improvements in mood state and mental well-being. Millions of people world-wide suffer from chronic disease and psychological disorders which may have been minimised or prevented by doing regular physical exercise.

Yeung (1996) conducted a literature review examining research from 1976-1995 that focused on exercise and the acute effects on mood state and affective states. Yeung (1996) claimed that positive mood states can be enhanced and negative mood states can be alleviated by partaking in regular exercise. These explanations have been suggested based on fundamental biological theories associated with exercise enhancing the flow of endorphins within the central nervous system (Steinberg & Sykes, 1985; Thoren, Floras, Hoffman & Seals, 1990; Yeung, 1996) to effect mood state.

Yeung (1996) conducted a database search of peer-reviewed journals, papers and conferences to analyse the positive/negative mood outcomes by design. Yeung (1996) defines a positive outcome as “those that produce enhanced mood for at least some of the exercise conditions, with no detrimental effects for any subjects, where the reverse is true for those defined as negative outcomes” (Yeung, 1996, p. 132). Yeung (1996) suggests that literature supports the common assumption that mood is
affected by exercise, with 85% of studies reporting some degree of enhanced mood following any type of exercise (regardless of intensity or extent), despite age or gender or physical disability. In contrast, Yeung (1996) found that pregnant women may suffer from mood disturbances as a result of exercise by becoming less capable of partaking in physical activity throughout pregnancy. Negative mood states may be reduced by partaking in anaerobic exercise, such as strength training or pilates. For the purpose of this thesis, research suggests that individuals may participate in short-term exercise to alleviate psychological distress, such as the reduction of the negative effects of work-related stress (Yeung, 1996).

Similarly, Hansen, Stevens and Coast (2001) have found that exercising for ten minutes, at an aerobic level of 60%, is effective in enhancing energy, reducing fatigue and decreasing negative mood state. Hansen et al. (2001) conducted an experiment involving undergraduate students (N = 21) where each participant exercised on a bicycle ergometer in four repeated test conditions. Before and after each test, participants completed a Profile of Mood States (‘POMS’) (McNair, Lorr and Droppleman, 1971) and responded to questions on how they felt at that moment. The test conditions varied in intensity and workload was increased in increments, with adequate warm-ups provided. To monitor heart-rate, participants wore heart-rate monitors to ensure that they were exercising at 60% capacity. Each participant completed the four treatment conditions at the same time and on the same day of each week for four consecutive weeks. After the last POMS had been completed in the final testing session, participants completed a Marlowe-Crowne (‘MC-SDS’) inventory (Crowne & Marlowe, 1960) to control for socially desirable responses to the POMS. Results complemented current research on the health benefits of exercise
(even in short amounts) and recommended that individuals may participate in exercise to reduce negative mood states (Hansen et al., 2001).

For the purpose of this thesis, Mood State and Physical Fitness were found to be possible predictors of participation in health and well-being programs. In addition to the significant psychological and physical benefits of exercise (Griffiths, 1996; Thoren et al., 1990), it was predicted that employees may participate in physical fitness initiatives to enhance mood state. That is, if they are experiencing negative mood, they may partake in a sponsored physical fitness initiative to improve their mood or to maintain individual fitness. Similar to the relationship between job satisfaction and participation, it is hypothesised that the positive effects of partaking in regular exercise, including enhanced mood, are positive outcomes of participation in health and well-being programs signifying a relationship between both factors and participation. For the purpose of research associated with participation in health and well-being programs, Mood State and Physical Fitness have not been combined with other predictors to look at what is more predictive of participation in a single study. The factors of Mood State and Physical Fitness, along with other variables to predict participation in health and well-being programs, needs to be investigated.

1.7.5 Independent variable # 6: Stress

With one in four Australians experiencing anxiety (9% in the severe range), the primary causes of stress are documented as financial issues, personal health issues, family issues and the health of others (Matthews & Casey, 2011). For employees, prolonged exposure to chronic stressors contribute to increased absenteeism, negative health behaviours, poor health (increased instance of immune deficiency, emotional exhaustion and cardiovascular disease), turnover and reduced
job performance (Noblet & LaMontagne, 2006). A benefit of participating in health and well-being programs is that employees will learn improved wellness habits leading to a healthy lifestyle where they may become less susceptible to the negative effects of stress (Donaldson, 1993).

In a study of 345 employees from a range of organisations and industries ($N = 152$ manufacturing, $N = 30$ real estate, $N = 48$ savings and loan, $N = 32$ mortgage banking and $N = 83$ varied sample) researchers conducted a questionnaire to collect data on measures such as physical lifestyle, psychosocial lifestyle, social relations, occupational conditions, spiritual involvement, stress, psychological health, physical illness, job performance, attendance, healthcare costs and employee characteristics. Donaldson (1993) found that physical exercise buffered the negative effects of stress, and organisational health promotion programs can have an impact on both physical and psychosocial lifestyle factors for employees.

Subsequently, Renaud, Kishchuk, Juneau, Nigam, Tetreault and Leblanc (2008) conducted a three-year study into a worksite health promotion program at a large financial organisation consisting of 656 employees initially, and more at the end of the study ($N = 905$). The worksite health program called ‘Take care of your health!’ included six educational modules administered during a three-year period. Renaud et al. (2008) found that participation rates in the worksite health promotion program were between 39% and 76%. Employees were highly satisfied with the worksite health promotion program, which led to a reduction in smoking habits, a reduction in high stress and feelings of depression. During the period of the study, absenteeism declined by 28%, and turnover decreased by 54% (Renaud et al., 2008). Studies such as this illustrate that stress is related to participation, but not necessarily
that it will predict participation. Health and well-being programs may reduce stress, but this does not mean that people feeling stressed will see their stress as a reason to participate, thus the investigation of stress as a predictor is needed.

Given the positive effects of physical fitness on the health implications of work and life stress, the factor of reducing stress may be a predictor for participation in health and well-being programs. In the context of this study, reducing the negative effects of stress was considered a potential factor to predict participation in the health and well-being program. With increasing instances of workplace, chronic and outside stressors; this predictor was indicative of participation in either fitness, educational and/or well-being organisational initiatives. Some evidence seems to support the notion that stressed employees may participate in health and well-being programs to reduce the negative health effects of stress-related illness, however there is a lack of multiple-predictor studies and a lack of evidence to suggest that the factor of Stress predicts participation in health and well-being programs.

1.7.6 Independent variable # 7: Job Satisfaction

Participation in health and well-being programs is associated with increased job satisfaction and reduced absenteeism (Parks & Steelman, 2008). Thogersen-Ntoumani and Fox (2005) suggest that physical exercise participation is related to more positive physical self-perception, improved physical satisfaction and increased job satisfaction as determined by heightened enthusiasm at work. Because of this, Job Satisfaction may be a predictor associated with participation in health and well-being programs.

Parks and Steelman (2008) conducted a meta-analysis to identify whether participation in health and well-being programs was associated with a reduction in
absenteeism and an increase in job satisfaction. The review involved a literature search on organisational wellness programs in various databases followed by additional research in reference sections, publications and websites for articles related to absenteeism and job satisfaction. This job satisfaction search contained seven articles with a total of 2,480 participants. Characteristics included in the meta-analysis incorporated factors such as research method, type of control group, measures, methodological rigor and location of wellness program. The meta-analysis for job satisfaction examined the impact that the wellness program had on job satisfaction with a moderate mean effect size, suggesting that employees who participated in wellness programs had higher job satisfaction than those who did not participate (Parks & Steelman, 2008). Parks and Steelman (2008) suggest that those who participated in health and well-being programs were healthier and less likely to take a sick day. In their meta-analysis, they suggest that the presence of a health and well-being program may suggest to employees that "their employer values and cares about them" (Parks & Steelman, 2008, p. 65) which is consistent with perceived organisational support theory (Rhoades & Eisenberger, 2002).

Similarly, Faragher, Cass and Cooper (2005) conducted a wide-ranging meta-analysis of 485 studies with a substantial combined participant size \((N = 267,995)\) on the relationship between job satisfaction and mental well-being. They reviewed relevant literature (which included electronic searches using databases, websites and journal articles published in the previous five years) that provided evidence correlating job satisfaction to health measures and "used this evidence to collect estimates of the strengths of these statistical relationships" (Faragher et al., 2005 p. 106). For studies that met the criteria the researchers examined the relationships of
all measures, the reliability coefficients and then developed indicators to decide whether each relationship was in the predicted direction (Faragher et al., 2005). Faragher et al. (2005) found that there was a relationship between job satisfaction and employee physical and mental health. It was reported that dissatisfaction at work can be detrimental to employee health and well-being. Faragher et al. (2005) recommends that to alleviate elements of stress in the workplace, investigations are required to isolate those specific work factors that are contributing the most “dissatisfaction” for employees. Some negatively perceived organisational factors may include longer working hours, leadership styles and workload pressure. In this instance, the presence of a health and well-being program with stress management initiatives may alleviate some elements of dissatisfaction for employees (provided that reliable evaluation has been conducted and stress management is an element of concern for employees).

Further, Connolly and Myers (2003) found in a study \((N = 82)\) of employees from industry and business environments in the United States that wellness was a predictor of job satisfaction. Participants completed a series of individual psychological measures (including the Wellness Evaluation of Lifestyle [Myers, Sweeney & Witmer, 2000], the General Mattering Scale [Marcus, 1991], the Job Descriptive Index [Balzer et al., 1997] and a demographic questionnaire) that aimed at ascertaining whether wellness and “mattering” contributed to job satisfaction. The term ‘mattering’ can be defined “as a sense of belonging in relation to others, or feelings that one is important to others” (Pearlin & LeBlanc, 2001; Rosenberg & McCullough, 1981; Schlossberg, Lynch, & Chickering, 1989; Taylor & Turner, 2001 as cited in Rayle & Myers, 2004, p. 1). Statistics were calculated for each measure to
determine if the independent variables (wellness and mattering) were responsible for an increase in the variance of job satisfaction, considering that the variance was previously accounted for by block variables (age, ethnicity, job tenure, education in years, skill variety and feedback) (Connolly & Myers, 2003). Connolly and Myers also found that wellness and mattering to job satisfaction were not significant when held constant to variables such as age and job tenure. Connolly and Myers highlight the need for health and well-being professionals to conduct efficient evaluative measures that concentrate on individual psychological variables as significant foundations for improving job satisfaction.

For the purpose of this thesis, the factor of Job Satisfaction was used as a possible predictor of participation in health and well-being programs. That is, the factor of Job Satisfaction aimed to ascertain if the positive outcomes of health and well-being program initiatives (for example, enhanced wellness and mental well-being) assisted in enhancing the job satisfaction of individuals. It is plausible to assume that for employees who value health and well-being, partaking in wellness initiatives would improve their individual job satisfaction. This suggests that the predictor of Job Satisfaction is a positive outcome of participation in health and well-being programs, signifying the nature of the relationship between job satisfaction and participation in health and well-being programs. Some evidence supports the notion that health and well-being programs improve employee job satisfaction, however there is a lack of multiple-predictor studies and a lack of evidence to suggest that job satisfaction predicts participation in health and well-being programs. Thus, for the purpose of this thesis job satisfaction is considered as a likely statistical predictor (or correlate) of participation in health and well-being
programs while it is acknowledged that in the strictest sense of the term prediction
the relationship may be the other way around.

1.7.7 Independent variable # 8: Interest and Enjoyment

Often treated as a singular construct, motivation concerns “energy, direction, persistence and equifinality and it is a central and perennial issue in the field of psychology, for it is at the core of biological, cognitive and social regulation” (Deci & Ryan, 2000, p. 69). People can be motivated by an activity because they are interested, that is, they hold value in the activity or they do so for reasons external to the self; motivation can be authentic or endorsed, with the former providing greater excitement, intrinsic reward and enhanced performance (Deci & Ryan, 2000).

Intrinsic motivation refers to motivation founded by engaging in an activity solely for the sake of the activity itself (Deci & Ryan, 1985; Lepper, Greene & Nisbett, 1973 as cited in Csikszentmihalyi & Abuhamdeh, 2012, p. 257). In the context of this study, the degree to what intrinsically motivates someone to take an interest in an activity, or by experiencing enjoyment in partaking, can be represented by the factor of Interest and Enjoyment. Interest and enjoyment can potentially predict participation in health and well-being programs. Interest and enjoyment provides an avenue to support intrinsic motivational tendencies that exercise one’s capability to seek interest and provide self-enjoyment as a reward in the act of partaking in health and well-being initiatives valued by the employee. That is, an employee who values individual health and well-being may be more intrinsically motivated to participate in initiatives if they find interest and enjoyment in doing so.

In supporting this theory, it is fundamental that organisations provide an environment where intrinsic motivation towards wellness can be authentic and not
disrupted. This may come in the form of seeking routine feedback on initiatives and fostering a positive health and wellness culture, but refraining from implementing initiatives on an ad-hoc basis. Field studies suggest that extrinsic motivation, that is the motivation referring to the “performance of an activity in order to attain some separable outcome” (Deci & Ryan, 2000, p. 71), contrasts with intrinsic motivation for the satisfaction of doing an activity for the sake of inherent satisfaction (Cox, 2002; Deci & Ryan, 2000).

Given that evidence suggests that people partake in an activity to provide self-enjoyment and to fulfill intrinsic motivational tendencies, it may be suggested that financial incentives or external rewards offered by organisations to participate in health and well-being program initiatives may counteract the motivation to participate in initiatives by individuals, and may be ineffective (Deci & Ryan, 1985). As mentioned in the previous section, this is in contrast to Robroek et al. (2009) who found that providing an incentive to participate may influence participation in health and well-being programs. In an effort to increase participation, and assuming that the factor of Interest and Enjoyment predicts participation in health and well-being programs, employees may be provided with opportunities to provide regular feedback on program success to ensure that initiatives are actively sustainable and interesting for personnel. A review of the health and well-being literature shows that there is no direct evidence to support the notion that an inherent and psychological factor of Interest and Enjoyment predicts participation in health and well-being programs. The factor of Interest and Enjoyment, along with other variables to predict participation in health and well-being programs, needs to be investigated.
1.7.8 Independent variable # 9: Timing and Convenience

In order to increase participation in health and well-being programs, organisations need to recognise that using effective timing and convenience measures may improve program utilisation. Logistical considerations, such as; ensuring that program initiatives are easily accessible for employees, are scheduled at convenient facilities, and are within appropriate timetables, may influence an employee’s motivation to participate in the initiative.

Watson and Gauthier (2003) conducted two studies of participant and program characteristics in two organisations that offered well-being initiatives over two to three years. In study one, data was collected from a large service company of employees that supported a positive health and wellness culture and offered a variety of wellness program initiatives (N = 193). The program was promoted using newsletters, and company management were visibly engaged with program participation. The program had been in operation for ten years with the study spanning three years.

In the other study, a large city government group developed a wellness program that offered physical initiatives and educational seminars which were promoted using newsletters and irregular communications (Watson & Gauthier, 2003). The program was managed by wellness specialists and initiatives were held at work and in nearby venues during lunch-breaks and after work. After eighteen months, the researchers conducted an engagement survey to evaluate the program’s effectiveness, in particular to gather feedback on reasons for poor participation. The survey data suggested that for study two, many managers did not participate, primarily due to timing constraints concerning job demands. Further, more than 50%
of managers surveyed responded that they would not allow employees time off to participate in program initiatives or that they were unsure about supporting initiatives during work time. Watson and Gauthier (2003) found that inadequate program promotion, poor employee motivation, the absence of incentives and inappropriate/inconvenient timing were crucial factors associated with non-participation in the wellness program for managers of the organisation. In contrast, the managers reported that they felt their employees would be more productive as a result of participating in wellness program initiatives.

Conversely, for study one, Watson and Gauthier (2003) reported that employees took fewer sick days as a result of frequently participating in the wellness program. In addition, study one findings also revealed that more females participated than males, and participants who increased their cardiovascular activity reported taking fewer sick days. This may suggest that organisations consider effective and timely scheduling when implementing program initiatives, as shown in the positive feedback from study one conducted by Watson and Gauthier (2003).

Further, Person et al. (2010) found in their study which aimed at determining barriers to participation in wellness programs, that employers need to use a variety of creative approaches to encourage participation, including incorporating effective timing and scheduling of initiatives. Person et al. (2010) conducted a ‘Wellness Wednesdays Eat & Meet’ wellness program at a university of 1,782 employees. A total of 50 employees attended various classes scheduled during the ten week wellness program. It was found that participation levels were inconsistent throughout the study where class sizes ranged weekly from four to 20 people, with an average of 11 attendees per class. Upon reviewing questions presented at the end of each class,
attendees scored between 71-100% on assessments. As a result of data collected from program participants after the ten week program, the main barriers to participation were “inconvenient locations”, “time limitations” and “insufficient incentives” (Person et al., 2010, p. 152). Data from their study suggested that employees were ill-informed and not aware of the timing and scheduling of some classes, and this was a leading barrier to participation in the program.

Similarly Milkman, Beshears, Choi, Laibson and Madrian (2011) found that using specific psychological interventions, such as emailing frequent prompts to ask employees to list preferable dates, times and locations for relevant vaccination clinics, was a useful method to increase influenza vaccination rates by 4.2%. Using two treatment conditions and a control condition, Milkman et al. (2011) found that when employees are encouraged to establish a plan to coordinate a desired outcome, the likelihood of follow-through is greatly increased. In a triangulated randomized controlled field study of employees ($N = 3,272$) at a large utility firm, employees received reminder emails that listed the times and venues of available vaccination clinics. They were prompted to write down, either a) the date they planned to be vaccinated or b) the date plus time they planned to be vaccinated. This study shows that it is possible to develop creative approaches with the scheduling and timing of initiatives, to encourage participation in health and well-being program activities.

Research by Milkman et al. (2011) may support research by Srivastava (2012) outlining that behavioural strategies such as ‘Nudge theory’ are successfully encouraging employees to make better health choices. According to Thaler and Sunstein (2008) ‘Nudge theory’ suggests that people may be more inclined to do things if the choice to do them is made more convenient. In the present study,
‘Nudge theory’ can be demonstrated by employers scheduling program initiatives that are easy and convenient for employees to attend, with the intention that by making program participation more convenient, employees may be more influenced or committed to participate. For the purpose of this thesis, the factor of *Timing and Convenience* was used as a possible predictor of participation in health and well-being programs. Some evidence seems to support the notion that by implementing health and well-being initiatives in convenient locations with attractive schedules that more employees may participate in health and well-being programs, however there is a lack of multiple-predictor studies and a lack of evidence to suggest that *Timing and Convenience* predicts participation in health and well-being programs.

1.7.9 **Independent variable # 10: Family Commitments**

The factor of *Family Commitments* is the first of two factors possibly negatively associated with participation in health and well-being programs. That is, family commitments may be viewed by employees as a possible factor in non-participation, more so for initiatives scheduled outside of work time, due to personal obligations regarding family life.

According to Johnson (1973) the term ‘commitment’ has two distinct meanings, wherein each concept provides fundamental differences in association: behavioural and personal. Johnson (1973) defines behavioural commitment as “those consequences of the initial pursuit of a line of action which constrain the actor to continue that line of action… the connotation is one of constraint” (Johnson, 1973, p. 397). Personal commitment may be defined as “the extent to which an actor is dedicated to the completion of a line of action” (Johnson, 1973, p. 396). For the purpose of this thesis, noting Johnson’s (1973) definition, family commitments, in
relative terms, can be associated with an individual’s behavioural approach to their perception of what family commitments mean to them.

In a review of the interrelationship between work and family commitment, Bielby (1992) suggests that commitment is a process where particular attachments influence minute-to-minute behaviour. Self-motivation and self-meaning act as moderators to characterise internal drivers to different actions of an individual’s behaviour. Bielby (1992) suggests that family responsibilities may be affected by an individual’s changing work pattern of employment. This may suggest that when faced with changing work engagements, there are individual differences in behaviour with subjective attachments to family.

Bielby and Bielby (1989) suggest that sex discrepancies in work identity, cultural contexts and gender-based structures may influence the conceptualisation of commitment. When establishing how males and females balance work and family roles, there are important differences (Bielby & Bielby, 1989). In the process of identity formation, Bielby and Bielby suggest that wives and husbands develop differing types of attachment to the family position. For example, in traditional families, wives may take responsibility for house duties that require them to undertake specific actions to carry out related tasks which take priority over work duties. In contrast, husbands in traditional families may be seen as “providers” where they have limited house duties, as they are obligated to provide for the family, where work-related tasks take priority over house duties (Bielby & Bielby, 1989). Herein, lies the differing roles that gender, culture, tradition and family-based obligations have in the workplace; which may provide a disconnection between family commitments and work balance. For some in married/defacto/cohabiting
relationships, the obligation of family commitments may prevent participation in organisational health and well-being initiatives, however for others, this may not.

Further, Livingston and Judge (2008) examined the effect of work-family conflict on emotions, such as guilt and the moderating effect of gender role orientation using a two-part study. Their study recruited participants working in varied roles in a small organisation (13% of participants) and online management classes that consisted primarily of full-time non-traditional students that worked full-time (87% of participants) \((N = 196)\). After conducting an initial survey to establish gender role orientation and demographic data, daily surveys were administered over 5 consecutive days measuring the amount of “work-interfering-with-family and family-interfering-with-work on each specific day and then measured their level of guilt” (Livingston and Judge, 2008, p. 210). They found that individuals who followed the accepted traditional norms of gender were more likely to feel guilty when their family commitments interfered with their work duties but were less likely to feel guilty when their work duties interfered with their family commitments (Livingston & Judge, 2008); suggesting that family-interfering-with work responsibilities was positively correlated to feelings of guilt.

Overall, supported by evidence (Bielby, 1992; Bielby & Bielby, 1989) the factor of *Family Commitments* may be a possible negative predictor for participation in health and well-being programs. For the purpose of this thesis, some evidence seems to support the notion that *Family Commitments* may be affected by work routines, however, in relation to participation in health and well-being programs, there is a lack of multiple-predictor studies and a lack of evidence to suggest that
individual family commitments may or may not predict participation in health and well-being programs, which requires investigation.

1.7.10 Independent variable # 11: Workload Pressure

The factor of Workload Pressure is the second of two factors possibly negatively associated with participation in health and well-being programs. Workload pressure may involve a self-perception that individual work tasks/demands outweigh an internal perceived ability to cope with pressures/deadlines. Workload pressure can contribute to work-related stress and may produce negative health effects such as an increased instance of immune deficiency, emotional exhaustion and cardiovascular disease (Martin, Sanderson, & Cocker, 2009; Noblet & LaMontagne, 2006; Terry, Neilson & Perchard, 1993). For the purpose of this thesis, it is plausible to assume that those employees who have many work-related pressures, may not find time to participate in health and well-being program initiatives.

In a study examining attitudes toward work-life balance in employees at an Australian university (N = 292) Webber, Sarris and Bessell (2010) found that, consistent with previous research, organisational support may determine the extent to which employees participate in work-life alignment strategies. Webber et al. (2010) found that “employees who perceived higher levels of managerial support reported a greater use of work-life balance initiatives than employees who perceived lower levels of support” (Webber et al., 2010, p. 62), which implies that a supportive organisational culture can be correlated to participation in work-life balance in employees. Webber et al. (2010) distributed a self-administered survey to staff examining 19 inter-correlations of variables (including initiative use, managerial
support, career consequences, organisation time demands, work-life conflict, affective commitment and employee control). Webber et al. (2010) also collected data on the frequencies and percentages for use of work-life balance initiatives in the 12 months before the study, with annual/recreation leave, working from home, flexi-time, part-time work and carers’ leave making up the top five initiatives most frequently used for the period. Webber et al. (2010) found that managerial support affected employee participation in work-life initiatives and that a supportive work-life culture was positively correlated to organisational attachment and negatively correlated to work-life conflict. Research by Webber et al. (2010) may imply that perceived supervisor support is critical in creating and sustaining a positive wellness culture where employees feel supported in participating in health and well-being initiatives, and, that as a result of employees feeling that support, it is plausible to assume that organisational commitment may be enhanced, thereby possibly assisting in employee retention and job satisfaction.

Similarly, in a three-phase study conducted in 1997, 1998 and 2000, De Cieri, Holmes, Abbott and Pettit (2005) surveyed approximately 1,500 Australian organisations exploring the barriers associated with implementation and maintenance of work-life alignment approaches and whether these approaches had shifted in the period 1997-2000. Using mail-out surveys, sample sizes ranged throughout the study period (1997: \( N = 111 \), 1998: \( N = 456 \), 2000: \( N = 358 \)), with a fairly low return response rate in 1997 (1997: 7.4\%, 1998: 30.4\%, 2000: 23.9\%). Literature reviewed by Di Cieri et al. (2005) found that barriers to work-life balance approaches were associated with organisational environment. Organisations that neglected a wellness culture (for example, reinforced longer working hours) were not conducive to work-
life balance (Di Cieri et al., 2005). Further, remote and unfriendly working environments were unproductive work-life balance environments, and a lack of support from senior and middle management was also found to be a barrier to work-life balance implementation (Di Cieri et al., 2005). De Cieri (2005) found that the most frequently used work-life balance initiatives included part-time work, flexible working hours, working from home, study leave and job sharing; which findings were consistent with Webber et al. (2010).

De Cieri (2005) also found that half of the reviewed organisations had less than 20% of their employees utilising sponsored work-life balance initiatives. Research by De Cieri et al. (2005) suggests that employee usage of work-life balance initiatives may be lagging, perhaps as a result of a delay in organisational efforts to implement work-life balance initiatives, resulting in a slow uptake in employee participation in these initiatives. De Cieri et al. (2005) found that some barriers associated with implementation and maintenance of work-life balance strategies included increased work demands, ineffective implementation and lack of communication.

Findings from De Cieri et al. (2005) suggest that increased communication is required from management to uphold work-life balance initiatives in an effort to keep staff engaged and well-informed. Organisations need to structure and manage work-life balance initiatives more productively where increased work demands can overshadow personal needs, with many respondents experiencing pressure in their roles that prevent them from initiating work-life balance techniques. The former factor was consistent across the three-year survey, suggesting that Workload
Pressure may be a predictor of non-participation in health and well-being programs as supported by research (De Cieri et al., 2005; Webber et al., 2010).

1.8 Conclusion

Employee health and well-being programs are organisation-sponsored activities aimed at improving employee health by promoting and embracing positive and sustainable health behaviours (Wolfe, Parker & Napier, 1994). Organisations are increasingly electing to implement health and well-being programs due to the financial, economic and social benefits associated with a healthier and more productive workforce (Health and Productivity Institute of Australia, 2008). There are numerous advantages to implementing health and well-being programs, including improved job satisfaction, enhanced organisational commitment and engagement (Faragher et al., 2003; Grawitch et al., 2007; Watson & Gauthier, 2003).

Participation in health and well-being programs has been found to reduce employee absenteeism, possibly as a result of creating a healthier workforce (Parks & Steelman, 2008). Reducing the costs associated with employee absenteeism is a leading factor associated with the implementation of health and well-being programs. The estimated cost to the Australian economy in 2004-2005 in lost productivity, due to illness, was AUD$34.8 billion per annum (Health and Well-being Institute of Australia).

The purpose of this thesis is three-fold: (1) to determine if the presence of a health and well-being program has an effect on employee absenteeism for the period; (2) to investigate factors associated with participation in health and well-being programs using a large construction management organisation (‘LCMO’) over a two year period and; 3) to seek clarification on whether workload pressure may be a
negative predictor of participation in health and well-being programs, due to inconsistencies in the 2009-2010 and 2010-2011 survey questionnaire qualitative and quantitative data. Detailed analysis of the literature identified eleven possible predictors of participation in health and well-being programs. Those eleven factors likely to predict participation are: 1) Interest and Enjoyment, 2) Interest in General Health and Well-Being, 3) Recruitment and Attraction, 4) Stress, 5) Socialising, 6) Timing and Convenience, 7) Job Satisfaction, 8) Mood State, 9) Physical Fitness, 10) Family Commitments and, 11) Workload Pressure. No single study has looked at all 11 factors together to examine which factor is the best inherent predictor of participation in health and well-being programs.

An investigation into whether implementing a health and well-being program can affect absenteeism, was the first study in the intensive triangulated case study presented in this thesis (which aimed to investigate factors associated with health and well-being programs). This investigation was conducted by obtaining employee absenteeism data from the LCMO to determine whether there was an effect on absenteeism before and after a structured health and well-being program was implemented.

When designing health and well-being programs, organisations have available many differing methods and approaches to encourage participation. Some of the methods to encourage participation include implementing an engagement survey to gauge employee topic preferences, providing incentives and convenient timing of activities (Person et al. 2010). Multi-tiered levels and fitness-only programs offer incentives, on-site and off-site initiatives and educational seminars in an effort to create a healthier workforce. Gebhardt and Crump (1990) suggest that
implementing a three level approach incorporating two genres, which aims at raising engagement and encourage job-related fitness initiatives in an effort to target specific roles and physical demands associated with ‘blue-collar’ and ‘white-collar’ personnel. More importantly, research has found that supporting a positive health and wellness culture by engaging senior management and leadership is imperative in improving low participation rates evident in health and well-being programs (Merrill et al., 2011); which may also lead to perceived organisation support.

To investigate factors associated with participation in health and well-being programs, a second and third study was implemented to create the final stages in the triangulated case study. The case studies were conducted over a two-year period (2009-2010 and 2010-2011) using survey questionnaires administered to the LCMO. As outlined in this study, there were eleven factors as previously listed that may predict participation or non-participation in health and well-being programs. These factors were presented in a survey questionnaire administered in 2009-2010 and 2010-2011, and the data was subject to discriminant function analysis, descriptive statistics and thematic analysis upon both administrations. The study was initially designed in 2009-2010 by Burston, (2010) and re-administered in 2010-2011 to compare results and findings. Upon analysis of the survey questionnaires, consistent nuances in the data were found and to explore these inconsistencies, a series of standardised open-ended telephone interviews were conducted on the LCMO to conclude the study.

Having confirmed that health and well-being programs are associated with a reduction in absenteeism (Bly, Jones, & Richardson 1986; Parks & Steelman, 2008; Renaud et al., 2008; Watson and Gauthier, 2003), this triangulated case study began
with examining whether the LCMO’s health and well-being program had an effect on absenteeism before and after a structured program was in place. Following this study, it will be pertinent to focus on the central question of why people participate in health and well-being programs by examining and comparing results from the 2010-2011 survey questionnaire and thirdly, conducting a series of standardised open-ended telephone interviews to explore inconsistencies in the quantitative and qualitative data found in the 2009-2010 and 2010-2011 survey questionnaires. As noted, although the 11 factors reviewed are likely to predict participation in health and well-being programs, it is unclear as to what would be the strongest predictors.
Chapter 2: Study 1
2.1 Overview

As was stated throughout the General Introduction, participation in health and well-being programs is associated with increased job satisfaction and reduced absenteeism (Parks & Steelman, 2008; Renaud et al., 2008). For the purpose of this thesis, it is useful to examine whether the implementation of a health and well-being program has an effect on absenteeism before and after a structured health and well-being program is implemented.

The next section will review the Australian definition of ‘sick leave’, which is used to operationalise absenteeism, and identify how health and well-being programs aim to reduce mean employee absenteeism. This chapter will conclude with a final synopsis for the rationale of the quantitative study.

2.2 Sick leave in Australia – a theoretical perspective

In Australia, sick leave was first introduced into the Federal industrial awards by trade union campaigns in 1922 (Fair Work Ombudsmen, 2012). Before that time, under common law, “employees hired by the week were entitled to be paid for unlimited absences due to sickness or injury” (as cited in Deery & Plowman, 1991, p. 346). A paid sick leave entitlement limited to one week was introduced to the Engineers’ Award to protect employers from potential costs arising from exploitation of this common law entitlement by employees. The relevant clause was “no employee shall be entitled to payment for non-attendance on the grounds of personal ill-health for more than six days in one year” (as cited in Deery & Plowman, 1991, p. 346). The establishment of formal paid sick leave into awards was proposed not as a benefit for employees, but rather to protect employers (Mulvey & Kelly, 2001). Paid
sick leave clauses were then introduced immediately in almost all awards at the standard rate in the Engineers’ Award (Mulvey & Kelly, 2001).

‘Sick leave’ is leave that employees are eligible to take when they cannot attend work because they are sick or injured. According to the Workplace Relations Act 1996 (2008), sick leave accrues on a pro-rata basis, it is cumulative and should be credited to an employee monthly. For every completed four weeks of service a full-time employee is entitled to be paid sick leave amounting to 1/26 of the number of nominal hours worked by the employee in that period (Workplace Relations Act 1996, 2008, Section 246 (3), (4), (5)). Based on a 38 hour week over a 12 month period, an employee would be entitled to 76 hours, or ten days, paid personal sick leave. Recent figures suggest that the average Australian takes 9.4 days of sick leave per year, where the norm is 6.5 days of sick leave per year (Australian Human Resources Institute, 2012), when compared to other countries.

Evidence from previous studies that have examined reasons for sick leave, suggest that there is a positive relationship between job strain and the amount of sick leave taken (Bourbonnais & Mondor, 2001; Kristensen, 1991; Virtanen et al., 2007). Job strain is associated with a number of health-related illnesses, such as cardiovascular disease and mental health problems, which are likely contributors to absenteeism (Magee et al., 2011). In a study conducted on a sample of full-time Australian employees ($N=2,861$), Magee et al. (2011) found that there were several work-related factors associated with sick leave. Magee et al. (2011) conducted a longitudinal study over a four year period, using a household, income and labour dynamics survey titled HILDA that was used to gather information on demographics, psychosocial work environments, health behaviours and paid sick leave for the
Australian workforce. Magee et al. (2011) found that excessive job strain, active/busy professions and longer travelling times were positively correlated with lengthier sick leave over a three year period. Magee et al. also suggest that administration/retail industries are more susceptible to lengthier sick leave entitlements being taken.

Karasek (1979, p. 285) predicts that “mental strain results from the interaction of job demands and job decision latitude” where job decision latitude is a measure of an individual’s perception of control, which can be affected by role authority and an individual’s job skills (Schnall & Landsbergis, 1994). Karasek also defines job demands as “work load demands present in the work environment” (Karasek, 1979, p. 287) and that job strain occurs when “job demands are high and job decision latitude is low” (Karasek, 1979, p. 287). These definitions may suggest that a combination of low job autonomy and substantial role demands can lead to increased mental or psychological strain, which may contribute to higher absenteeism. Karasek (1979) suggests that job dissatisfaction and role demands have implications on organisational factors, which may lead to increased absenteeism. Karasek suggests that work processes need to be restructured to allow greater individual decision latitude to possibly reduce mental strain, which may contribute to a reduction in absenteeism.

According to researchers (Bourbonnais & Mondor, 2001; Kristensen, 1991; Virtanen et al., 2007), the prevalence of workplace stress and job strain has a negative effect on employee absenteeism. Workplace issues contribute to stress in males (34%) and females (28%), however the incidence of workplace stress has been found to decrease with increased age (Matthews & Casey, 2011), perhaps due to
greater health and well-being participation rates by people in their 40s (Merrill et al., 2011). Martin et al. (2009) suggest that the most common forms of mental disorder are depression and anxiety, where the workplace is becoming a more accepted venue to address mental health disorders. Workplace strategies to reduce stress-related illnesses may include raising awareness of mental health (in areas such as depression, suicide and anxiety), providing stress management training (for example, educating employees on how to cope with stress) and promoting work-life balance (for example, promoting the health benefits of physical exercise and a balanced diet).

An increase in the prevalence of chronic disease, as a consequence of ageing and lifestyle behaviours, may also be a contributing factor to employee absenteeism. According to the Australian Bureau of Statistics (2010) obesity, binge-drinking and smoking are lifestyle factors that negatively impact on an individual’s health. The negative outcomes of practicing these behaviours may lead to increased absenteeism and a reduced ability to partake in family or community activities. For example, a negative behavior attributed to obesity may include over-eating and consuming high levels of sugar. From a monetary perspective, the cost of obesity to the Australian economy in 2008 was AUD$58.2 billion per annum (Access Economics, 2008).

The National Health Survey of 2004-2005 recognised numerous unsatisfactory health elements in Australians. The report found that 23% of adults smoked, 52% of people aged 15 years and over were classified as overweight or obese (based on their calculated Body Mass Index where self-reported height and weight measurements were known) and 70% of people aged 15 years and over reported sedentary or low exercise levels in the two weeks prior to interview (Australian Bureau of Statistics, 2006). This suggests that the health and well-being
of Australians requires improvement to prevent disease associated with unhealthy lifestyle habits.

Compared with the results of the Australian National Health Survey 1995, the 2004-05 survey showed that more adults are drinking alcohol at high-risk levels (8% in 1995 and 13% in 2004-05) and more people are overweight or obese (45% in 1995 and 53% in 2004-05), after adjusting for age differences (Australian Bureau of Statistics, 2006). It appears that an increase in poor health-related behaviours may be contributing to a greater incidence of chronic health conditions where employees require sick leave, hence contributing to greater employee absenteeism and higher health-related expenses for organisations.

2.3 Health and well-being programs aim to reduce employee absenteeism

One of the most common reasons that organisations implement health and well-being programs is to reduce healthcare costs (Aldana, Merrill, Price, Hardy & Hager, 2004; Pelletier, 2000). Healthcare costs can be managed by investing in health and well-being programs to increase awareness, promote healthy lifestyle behaviours and increase employee physical activity. Generally, much of the research suggests that the greatest health benefits are achieved by participating in moderate and regular exercise (Thoren et al., 1990; Wilson, Mack & Grattan, 2008; Yeung, 1996), and in order to maximise gains in psychological health, organisations should aim to increase overall participation in health and well-being programs, rather than just fitness initiatives (Griffiths, 1996) where positive program outcomes may be limited.

In addition, healthier workers may be more productive as a result of taking fewer sick days (Baicker, Cutler & Song, 2010). Baicker, et al. (2010) conducted a
meta-analysis of 100 peer-reviewed studies on organisational wellness programs over a 30 year period. The review suggests that obesity and smoking are the main focus of many organisational health and well-being programs, which evidently are some of the leading causes of death in the United States (Baicker et al., 2010). As smoking and obesity are the main focus of programs, many organisations invest in weight-loss interventions and smoking-cessation programs to reduce the negative health effects of preventable diseases. Major characteristics of health and well-being programs include implementing health risk assessments, self-help education materials and the provision of individual counselling (Baicker et al., 2010). Baicker et al. (2010) suggests that participation in many programs was almost always voluntary, with the use of incentives to motivate participation seen in 30% of wellness programs. Many wellness programs also offered initiatives focused on stress management, back-care and nutrition. Results indicate that all but one of the studies showed some reduction in absentee days (Baicker et al., 2010). The average number of absenteeism days saved was 1.7 per employee per year for nine studies with random control or matched comparison groups (Baicker et al., 2010). The following 11 studies had average program savings of 1.9 absentee days saved (Baicker et al., 2010).

Further, when converting absenteeism results into dollar cost units, the return on investment for organisations is noteworthy. According to the meta-analysis findings by Baicker et al. (2010), on average, employee medical costs fell by US$3.27 for every one dollar spent on employee wellness programs and absenteeism costs fell by approximately US$2.73 for every dollar spent. Berry et al. (2010) suggests that well-managed health and well-being programs can return as high as 6:1
(returning six dollars for every one dollar spent on health and well-being programs). In addition, Aldana et al. (2004) reported a cost-saving of US$15.60 for every dollar spent on health and well-being programs in their study examining employee healthcare costs and absenteeism over a two year period on a sample of employees and retirees of a United States school district for the period 1997-2002.

Importantly, the meta-analysis conducted by Baicker et al. (2010) did not account for some industries, including the construction industry, or the impact that health and well-being programs have on absenteeism for shift-work employees. The meta-analysis conducted by Baicker et al. (2010) represented large firms (greater than 1,000 workers) and sampled employees in the following industries: 25% in financial services, 22% in manufacturing and 16% in school districts, universities and municipalities. Other industries sampled were telecommunications, utilities, pharmaceuticals, energy, and makers of consumer products.

A review of the health and well-being literature showed that no direct research has been conducted into absenteeism cost-saving amounts for the construction industry, which warrants further investigation. In 2002-2003, the construction industry employed almost 78,000 workers and contributed an estimated AUD$6.7 billion (8.1%) to the gross state product in Western Australia (Australian Bureau of Statistics, 2003). Furthermore, over the five years to 2002-2003, the value of construction increased by 40.5 percent, with increases mainly driven by engineering construction (Australian Bureau of Statistics, 2003); suggesting that, with an important presence in Western Australia, absenteeism in this industry needs to be investigated.
Having confirmed that health and well-being programs are associated with a reduction in absenteeism (Bly, Jones, & Richardson 1986; Parks & Steelman, 2008; Renaud et al., 2008; Watson and Gauthier, 2003), this triangulated case study began with examining whether a health and well-being program had an effect on absenteeism before and after a structured program was in place at the LCMO. The LCMO central to this intensive triangulated case study has operational sites in Karratha and offshore rigs (including four assets: North A, North B, South A and South B platforms) and three corporate offices in Perth. Employees of the LCMO work at these sites located in the North West of Western Australia on Fly in/Fly out rosters, with some employees living in local housing and commuting to work, with almost all employees employed on rotating shift-work rosters. The Perth offices are occupied by executive and white-collar staff managing the operation centre for the sites and assets. Fly in/Fly out (‘FIFO’) work is defined as “circumstances of work where the place of work is sufficiently isolated from the worker's place of residence to make daily commute impractical” (Watts, 2004, p. 26).

2.4 The health impacts of shift work and mine site-based employment on employee absenteeism

In Western Australia, the construction industry is one of the largest employing industries, employing 8.1% of the total workforce (Australian Bureau of Statistics, 2003). According to the Australian Bureau of Statistics (2010), in 2009 there were 8.6 million employees aged 15 years and over working in Australia. Of these, 1.4 million employees usually work shift-work, making up 16% of the total employed workforce. Further, 68% of shift-workers were employed full-time, and 55% were males. The term ‘shift-work’ can be fairly subjective, but generally refers
to rotating, evening, afternoon, morning or split shifts where specific hours or 12-hour shifts are required that are usually consistent and revolve around effective business operations (Australian Bureau of Statistics, 2010). More specifically, the Australian mining industry has seen an increase in condensed rosters, involving 12-hour shifts (Baker, Heiler, & Ferguson, 2003). The increased utilisation of these rosters in the mining industry may lead to an increase in absenteeism, due to the health impacts of shift-working.

According to the Australasian Centre for Rural and Remote Health, the average annualised employee turnover in mine-site based employees is 21%, where the highest rates of turnover are among professionals and mine operators. A report commissioned by Keown and the Department of Health Western Australia (2005) investigated the health impacts of males working in the Goldfields mining industry in Western Australia and found significant concerns associated with the relationship between work practices and the health of male workers. In particular, this report focused on the health impacts of shift working and the rising occurrences of psychological distress, chronic fatigue, sleep disruptions and the social impacts of working 12-hour shift days in mine-site locations. This report identified that mine-site based workers experienced higher levels of disruption in social and domestic life, than local-based workers (Keown & Department of Health Western Australia, 2005). This is consistent with previous studies that found social and domestic disruptions experienced by long-distance commuting workers was increased by intensive work schedules and long working hours (Beach, 1999; Heiler, 2002; Story & Shrimpton, 1989). Given that construction workers appear to face concerning
health impacts, this sector may be more susceptible to higher absenteeism that other sectors, such as agriculture or retail.

Further, mine-site based evening workers showed poor sleeping habits (due in part to shift rosters and disrupted biological circadian rhythm patterns), greater health issues (including increased anxiety, depression, increased evidence of adverse cardiovascular effects), fatigue, a greater prevalence of gastrointestinal disorders and stress-related illnesses (Harrington, 2001). Reports of greater acute emotional, pathological, cognitive and behavioural changes, when compared to mine-site based day workers, lead to an increase in employee absenteeism for evening shift workers (Harrington, 2001; Knutsson, 2003). In contrast, the health impacts of working in mine-based environments appear to be dramatically different for day-workers.

Whilst the Department of Health Western Australia (2005) report was conducted specifically in the Western Australian Goldfields, there are extensive publications outlining the health and social effects of shift work with growing research into the general health effects of shift work and mine-site related behaviours of workers, and the impact that this form of employment has on individual health and well-being and absenteeism (Akerstedt, 1990; Choobineh, Soltanzadeh, Tabatabaee, Jahanirgir & Khavaji, 2010; Costa, 1996; Hughes & Stone, 2004; Knutsson, 2003; Poole, Evans, Spurgeon & Bridges, 1992; Shen, Botly, Chung, Gibbs, Sabanadzovic & Shapiro, 2006; Sparks, Cooper, Fried & Shirom, 1997; Vogel, Braungardt, Meyer, Schneider, 2012).

Additionally, a large majority of shift workers are engaged in non-standard working hours, which may affect levels of fatigue and biological recovery mechanisms (Costa, 2003; Shen et al., 2006). Findings presented by Baker et al.
(2003) indicate that when excessive overtime and unregulated hours were introduced to a sample of mine-based workers, as part of a 12-hour/5-day roster, absenteeism rates increased in the maintenance sector. Their research also found shift-workers in mine-site based environments may compromise safety conditions as a result of operating machinery in a ‘non-alert’ state due to working rostered shift hours for long periods of time (Baker et al., 2003).

Findings discussed in this section suggest that the health-related costs associated with absenteeism are reduced, both in the short-term and over a long-term period when participating in health and well-being programs. Data suggests that with more time, greater financial benefits may be achieved as more costly chronic diseases are alleviated (Aldana, et al., 2005). To date, research identifying whether health and well-being programs have an effect on absenteeism, specifically in the construction industry, are unrepresented in the relevant literature.

The following section will describe the quantitative approach used to investigate the hypothesis that a health and well-being program can have an effect on mean employee absenteeism at the LCMO in the period 2009-2010 and 2010-2011. This was useful investigation because of a lack of research in this industry, as related to the topic, and for confirmation of whether or not a structured health and well-being program had an effect on employee absenteeism before and after implementation.

2.5 Method

Prior to developing a health and well-being program, the large construction management organisation (‘LCMO’) had an ad-hoc approach to organisational wellness. During this time, wellness initiatives were implemented on an employee
suggestion basis and were generally fitness-orientated. According to informal discussions with organisation representatives, fatigue, influenza-like-illness and depression were the main contributors to absenteeism and presenteeism for the LCMO. The organisation felt that with an increase in Fly-in/Fly-out related work (due to increased project demands), absenteeism may become more frequent, but it had not been investigated due to both a lack of resources and time constraints. It was hypothesized that the implementation of a health and well-being program would have an effect on mean employee absenteeism when compared with before and after implementation, that is in 2009-2010 and in 2010-2011.

2.5.1 Participants

Participants in Study 1 included all Perth, Karratha and offshore employees (including the four assets) working in all levels of the LCMO, as defined by their pay grades. Table 1 shows the employment status for all sites in 2009-2010 and 2010-2011. It was noted that there was a large increase in Enterprise Bargaining Agreements (‘EBA’) contract roles in 2010-2011, compared to 2009-2010, due to inter-organisational operations. Age, gender and role titles were unavailable as part of this study.
Table 1 - LCMO participant employment status for 2009-2010 and 2010-2011 (excluding contractor, agency and secondees)

<table>
<thead>
<tr>
<th>Employment status</th>
<th>2009-2010</th>
<th>2010-2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Perth full-time</td>
<td>290</td>
<td>278</td>
</tr>
<tr>
<td>Perth part-time</td>
<td>16</td>
<td>22</td>
</tr>
<tr>
<td>Offshore (including EBA contracts)</td>
<td>133</td>
<td>254</td>
</tr>
<tr>
<td>Karratha (including EBA contracts)</td>
<td>277</td>
<td>343</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>716</strong></td>
<td><strong>897</strong></td>
</tr>
</tbody>
</table>

2.5.2 Procedure

Employees reported sick leave days taken on their weekly timesheets. The sick leave reports generated by the organisation identified the site, employee number, year, name and total sick leave hours taken for each employee who took sick leave in 2009-2010 and 2010-2011 at LCMO workplaces and sites.

To investigate whether there had been a reduction in mean employee absenteeism for each period, a paired $t$ test was conducted on the mean employee absenteeism data for staff employed at the LCMO in both 2009-2010 and 2010-2011. An independent samples $t$ test was conducted on the mean employee absenteeism data for all staff employed at the LCMO in 2009-2010 and 2010-2011. Upon examining the data, outliers were excluded and the statistical analysis was repeated using software programs SPSS V15.0 and Microsoft Excel 2010. It was possible to match some employees from year to year using names, and where possible a paired sample $t$ test was conducted, however some employees were not in
the company for both years (in 2009-2010 and in 2010-2011) so, in addition, independent samples t tests were used to compare all employees for 2009-2010 and 2010-2011.

To investigate whether there was an interaction effect in the mean employee absenteeism data by site of employment for all staff employed at the LCMO in 2009-2010 and 2010-2011, a factorial ANOVA was performed. The statistical findings are reported in the next section.

2.6 Results

To investigate if there had been a reduction in mean employee absenteeism for the period, a paired sample t test was conducted on the mean employee absenteeism data for staff employed at the large construction management organisation (‘LCMO’) in both 2009-2010 and 2010-2011. The alpha was set at 0.05. In the initial analysis outliers were retained because the full data set may provide a truer representation of the population and the sample, however, statistically outliers can create false positive results. An outlier may occur within the absenteeism data because of a long-term or significant injury, which may be unrelated to the health and well-being program. In order to assess both the data in total as well as the more statistically robust approach to analysis, the analysis was conducted including and excluding outliers. Outliers were defined as scores over 3.29 standard deviations from the sample mean as recommended by Tabachnick and Fidell (1996). With outliers retained, the result indicated a statistically significant difference in employee absenteeism for the period 2009-2010 and 2010-2011, \( t(363) = 2.54, p < .011, 95\% \) confidence interval of the difference, 1.66 – 12.98. The mean absenteeism 2009-2010 of 58.39 (SD = 50.26) was greater than the mean absenteeism 2010-2011 of
51.07 ($SD = 38.29$). The average reduction in employee absenteeism for staff employed at the LCMO between 2009-2010 and 2010-2011 was $M = 7.32$ hours per person.

An independent samples $t$ test was conducted on the mean employee absenteeism data for all staff employed, with outliers retained in the sample, at the LCMO in 2009-2010 and 2010-2011. Because of violation of the assumption of homogeneity of variance, the $t$ test for unequal variances was computed, and was found to be significant, $t (1026.06) = 2.94$, $p = 0.003$, 95% confidence interval of the difference, 3.14 to 15.73. The average reduction in employee absenteeism for staff employed at the LCMO in 2009-2010 and 2010-2011 was $M = 9.44$ hours per person.

With outliers excluded, a paired $t$ test was conducted on the mean employee absenteeism data for staff employed at the LCMO in both 2009-2010 and 2010-2011. The alpha was set at 0.05 and assumptions of normality were met. The result indicated a marginally significant difference in employee absenteeism for the period 2009-2010 and 2010-2011, $t (349) = 1.89$, $p<.058$, 95% confidence interval of the difference, -.15 to 8.69. The mean employee absenteeism 2009-2010 of 53.08 ($SD = 35.74$) was greater than the mean employee absenteeism 2010-2011 of 48.84 ($SD = 29.92$). The average reduction in employee absenteeism for staff employed at the LCMO in both 2009-2010 and 2010-2011 with outliers removed was $M = 4.28$ hours per person.

With outliers excluded, an independent samples $t$ test was conducted on the mean employee absenteeism data for all staff employed at the LCMO in 2009-2010 and 2010-2011. Assumptions of normality and homogeneity of variances were met,
and the $t$ test result indicated a statistically significant difference between the mean employee absenteeism data for the periods, $t(1034) = 2.35$, $p = .019$, 95% confidence interval of the difference, .89 to 9.89. The average reduction in employee absenteeism for staff employed at the LCMO in 2009-2010 and 2010-2011 with outliers removed was $M = 5.40$ hours per person.

Again, using the data with outliers excluded, a 2 (year: 2009-2010 vs 2010-2011) x 3 (site: Perth, offshore and Karratha) factorial ANOVA was conducted on the mean employee absenteeism hours for staff employed at the LCMO. The data met the statistical assumptions of ANOVA. With alpha set at 0.05 both main effects and the interaction were found to be significant.

As illustrated in Figure 2.0, it was found that there was a significant difference in average absenteeism for year, with lower absenteeism in 2010-11 ($M = 46.33$, $SD = 34.96$) than 2009-10 ($M = 51.72$, $SD = 38.72$), as already reported in the independent samples $t$ test, $F(1, 1030) = 9.43$, $p = .002$. 
Figure 2.0 Estimated marginal means for absenteeism of hours for Perth, Karratha and offshore at ‘LCMO’ workplaces and sites

There was a significant difference in average and total absenteeism between sites where offshore workers took more hours of sick leave ($M = 75.13, SD = 58.73$) than Karratha workers ($M = 47.12, SD = 33.13$) or Perth workers ($M = 44.69, SD = 30.45$), $F (1, 1030) = 31.74, p < .001$. Karratha and Perth did not differ significantly from each other ($p = .31$), $F (2, 1030) = 15.05, p < 0.001$. The significant interaction reflects a pattern in the data that absenteeism was similar in 2009-2010 and 2010-2011 in Perth (2009-2010: $M = 48.71, SD = 30.97$; 2010-2011: $M = 40.85, SD = 29.48$) and Karratha (2009-2010: $M = 41.77, SD = 33.14$; 2010-2011: $M = 52.71, SD = 32.28$), however, absenteeism was significantly lower offshore between 2009-2010 ($M = 86.70, SD = 56.56$) and 2010-2011 ($M = 58.80, SD = 59.06$). The findings from
Study 1 suggest that the hypothesis was supported as there was a positive effect on absenteeism for the period at the LCMO.

**2.6.1 Converting absenteeism results into dollar unit costs for the period 2009-2010 and 2010-2011**

One of the most common reasons organisations implement health and well-being programs is to reduce healthcare costs (Aldana, Merrill, Price, Hardy & Hager, 2004; Pelletier, 2000). According to the average Australian weekly earnings of a private sector employee (Australian Bureau of Statistics, May 2012) (using seasonally adjusted estimates), the reduction in absenteeism for staff employed at the LCMO in 2009-2010 and in 2010-2011 may represent a cost-saving of approximately AUD$199,875. With the estimated health and well-being program expenditure of AUD$50,000 per annum, this saving continues to represent a clear reduction in fiscal costs for mean employee absenteeism for the period 2009-2010 to 2010-2011, leading to a return on investment ratio of 4:1.

In other words, for every one dollar spent on the health and well-being program, the LCMO saved four dollars in absenteeism costs. These findings are consistent with the comprehensive meta-analysis conducted by Baicker et al. (2010) that illustrated for every one dollar spent on wellness programs, employee health care costs fell by US$3.27 and Berry et al. (2010) that suggest health and well-being programs can provide return on investment ratios as high as 6:1.

**2.7 Discussion**

In Western Australia, the construction industry is one of the largest employment industries, employing 8.1% of the total workforce (Australian Bureau of
Statistics, 2003) and contributing an estimated AUD$6.7 billion (8.1%) to the gross state product in Western Australia (Australian Bureau of Statistics, 2003). With such an important presence in Western Australia, absenteeism in this sector required investigation.

The aim of Study 1 was to determine if a structured health and well-being program had an effect on employee absenteeism before and after implementation at a large construction management organisation (‘LCMO’) operating in Western Australia. In 2009-2010 the LCMO had an ad-hoc approach to health and well-being when compared with 2010-2011 where a structured health and well-being program was implemented across the business.

Examining whether mean employee absenteeism was reduced for the period is beneficial to the present thesis as it shows whether the health and well-being program had achieved its aim to reduce absenteeism. A plausible reduction in mean employee absenteeism is also an effective business case for the future funding of the health and well-being program.

2.7.1 Interpretation and implications of findings

Firstly, as discussed in the Results section, it was found that overall mean employee absenteeism was reduced in 2010-2011 ($M = 46.33$), when compared to 2009-2010 ($M = 51.72$), suggesting that the implementation of a structured health and well-being program seemed to have a positive effect on reducing absenteeism at the LCMO. It is important to note that although the specific difference between 2010-11 and 2009-2010 is different among the four t-tests the pattern in all four analyses is that there was a significant, or nearly significant, reduction in absenteeism as measured by utilization of sick leave. This finding suggests that the
health of employees may have improved for the period, resulting in a possible reduction in employee absenteeism at the LCMO under the implementation of a structured health and well-being program. This finding is supported by research outlining that participation in health and well-being programs contributes to a reduction in employee absenteeism (Aldana et al., 2005; Baicker et al., 2010; Cooper & Dewe, 2008; Danna & Griffin, 1999; Griffiths, 1996; Lechner & De Vries, 1997; Parks & Steelman, 2008; Stave et al., 2003; Swarbrick et al., 2011; Watson & Gauthier, 2003). These findings support the hypothesis that a reduction in mean employee absenteeism hours for employees who worked at the LCMO for the period of the study can be confirmed. This is reassuring, as it may be anticipated that the long-term health of employees is improving, leading to possible further reductions in absenteeism in the future as greater financial benefits may be achieved if more costly chronic diseases are prevented (Aldana, et al., 2005).

The associated reduction in overall mean employee absenteeism for the period may also suggest that employee engagement and job satisfaction may have improved as a result of engaging personnel on program initiatives as part of the structured nature of the health and well-being program. This notion is consistent with research that suggests health and well-being programs aim to improve job satisfaction (Midha & Sullivan, 1999; Parks & Steelman, 2008).

Subjectively, it is a plausible assumption that the LCMO workforce is becoming healthier with the implementation of a structured health and well-being program, as represented by an overall reduction in mean employee absenteeism for the period. However in contrast with this assumption, the 2010-2011 survey questionnaire (conducted on Perth ‘executive’ and ‘white-collar’ staff only) suggests
that only half of employees reported participating in the health and well-being program, limiting positive health and well-being outcomes. It would be advantageous to implement a similar survey questionnaire to the Karratha and Offshore sites to gauge participation levels and specific feedback on the different motivators for participation at each site so as to tailor program initiatives for maximum impact.

This recommendation is pertinent, as research presented in Chapter 2 suggests that there are many health and social effects of shift work that may be reduced by increasing participation in health and well-being programs. In addition, specific sites may have experienced varying injuries, health-related problems and unique working environments that may indicate that distinctive measures are required to increase participation in health and well-being programs with an aim to reduce absenteeism. By implementing health screens at each site (as part of a ‘comprehensive’ health and well-being program framework), more information can be gathered to identify specific areas of focus and efficient methods of expenditure. Some psychological and physiological improvements experienced as a result of increasing participation in health and well-being programs in shift work and mine site-based work may include: improved cognitive function by sustaining better quality sleep, improved biological recovery mechanisms, improved mood state, and improved muscle strength (as a result of delivering oxygen and nutrients to lungs and increasing cardiovascular system function) with possible reductions in obesity, cardiovascular disease, anxiety, fatigue and stress-related illnesses associated with working in labour-intense, isolated and extreme working conditions.
Secondly, as discussed in the previous section it was found that overall mean employee absenteeism at the offshore sites was significantly reduced in 2010-2011 ($M = 58.80$) when compared to 2009-2010 ($M = 86.70$), suggesting that the implementation of a structured health and well-being program had a positive effect on reducing absenteeism at the offshore sites. The associated reduction in overall mean employee absenteeism at the offshore sites for the period suggests that structured health and well-being programs can be effective in reducing absenteeism in shift work and mine-site based operations in the construction industry. As stated in Chapter 2, further research into whether health and well-being programs reduced absenteeism in this industry was required, and it is encouraging to find that reductions in absenteeism can be realised by implementing structured health and well-being programs on operational mine site-based workplaces.

A plausible factor possibly associated with higher absenteeism worth mentioning at the offshore sites is one of logistics. Given the nature of working in very isolated environments, it may also be possible that taking sick days at the offshore sites is more difficult due to location and roster. If an employee is unwell, it is likely that they will be confined to separate living quarters on the platform, rather than depart from the site for rest and recovery. The remote working nature of the offshore sites lends itself to specific Fly-in/Fly-out rosters where employees are transported by helicopter to and from site, making it very difficult for employees to depart site when they are unwell. This factor of logistics may also represent a unique participation motivator for offshore mine site-based employees that would not exist at a site such as Karratha, where unwell employees can depart site to rest and recover at the village/camp or their own residence.
2.8 Limitations

A limitation of Study 1 is that it did not specifically record which employees participated in the health and well-being program, and those that did not. The absenteeism data illustrated organisation-wide changes in mean employee absenteeism. If a key driver of the reduction in mean employee absenteeism is the presence of a structured health and well-being program, then it is likely that this average has been reduced by the employees who participated in the health and well-being program, whereas the absenteeism data for employees who did not participate would likely have been relatively stable.

A limitation of the study was that absenteeism data had not been generated previously for the large construction management organisation (‘LCMO’). Consequently, it was not known whether a structured health and well-being program had had an effect on mean employee absenteeism for the period 2009-2010 and 2010-2011. It was important to recognise the contribution that the health and well-being program had made to the organisation, both from a cost-savings and a health improvement perspective.

It is also noteworthy to mention that the present findings do not relate to presenteeism and are only related to employees who recorded sick leave for medical reasons. This issue presents a limitation because it is unknown how presenteeism affected sick leave data in the current study, which may provide other related avenues for future research such as productivity.
2.9 Review of this study

Study 1 may have been further validated by continuing to analyse any further effects the health and well-being program had on mean employee absenteeism, as research suggests that the longer the follow-up time, the more substantial the savings (Aldana et al., 2005). However, in May 2012, the LCMO implemented a new sick leave recording system that included the addition of carers’ leave being recorded as sick leave. That is, the same internal cost-code is used for sick leave and carers’ leave. For the purpose of the present study, this would have affected the mean employee absenteeism data as people would be recorded as absent when their child/partner is unwell; however, this has no bearing on overall employee absenteeism for the organisation.

2.10 Summary

The objective of the present study was to examine a health and well-being program effect on absenteeism before and after a structured program was in place at the LCMO (2009-2010 to 2010-2011). The mean employee absenteeism data was subject to descriptive statistics and factorial ANOVA to examine individual site changes in absenteeism for Perth, Karratha and offshore sites. The mean employee absenteeism data was compared between sites, across a 2 year period and for all staff employed at the LCMO in 2009-2010 and 2010-2011.

The present study found that there was an associated reduction in overall mean employee absenteeism for the period upon implementation of a structured health and well-being program, supporting research indicating that the programs reduce absenteeism (Aldana et al., 2005; Baicker et al., 2010; Cooper & Dewe, 2008;
Danna & Griffin, 1999; Griffiths, 1996; Lechner & De Vries, 1997; Parks & Steelman, 2008; Stave et al., 2003; Swarbrick et al., 2011; Watson & Gauthier, 2003). The present study also found that the overall mean employee absenteeism at the offshore sites was reduced in 2010-2011 when compared to 2009-2010 suggesting that the implementation of a structured health and well-being program can have a positive effect on reducing absenteeism in shift work and mine site-based environments, as illustrated in the construction industry.

The finding that the implementation of a structured health and well-being program may contribute to a plausible reduction in absenteeism is widely supported by research, and outlines the positive effects that health and well-being programs can have on improving employee health, regardless of industry and working environments. When converting absenteeism results into dollar cost units for the period 2009-2010 and 2010-2011, it was found that the health and well-being program provided a return on investment ratio of 4:1. That is, for every one dollar spent on the health and well-being program, the organisation saved four dollars in absenteeism costs.

2.11 Future research

The current study’s findings show that health and well-being programs can reduce absenteeism, which results provide support for their use in organisations. However, in some cases health and well-being programs can be costly to implement, therefore it is recommended that organisations routinely evaluate health and well-being programs to ensure that initiatives are tailored to workplaces and organisational cultures with an aim to identify specific areas of focus and efficient methods of expenditure.
A greater understanding of the health effects of shift and mine-site based work is required to reduce mean employee absenteeism in remote locations and specific industries. There is some research into the long-term health effects of mine site-based work, which includes the health impacts of shift work, however there is also increased public interest in investigating the social, economic and health impacts of mine site-based work (that is, Fly-in/Fly-out) and the effects that the nature of this work has on remote communities, relationships and mental health.

In addition, organisations need to review their psychosocial impacts and inter-organisational policies when attempting to reduce the health implications and high turnover rates of mine-based shift workers (Mclean, 2012; Torkington, Larkins and Sen Gupta, 2011). Research conducted by Bambra et al. (2008) suggests that certain organisational-level interventions can improve the health of shift workers and their work-life balance. There are three types of interventions that are beneficial to health and work-life balance for shift workers: 1) Exchanging rotation swings from slow to fast, 2) Exchanging rotations from backward to forward and, 3) Self-scheduling of shifts (Bambra et al., 2008). Bambra et al. (2008) found that these interventions were generally at little or no direct organisational cost but were useful in improving the health of shift workers, which in turn may lead to a reduction in employee absenteeism.

With the increasing prevalence of workplace stress, job strain and chronic disease (as a consequence of ageing and lifestyle behaviours) and given that many employees spend the majority of their waking hours in the workplace, it makes sense for it to be a venue for health investment (Baicker, Cutler & Song, 2010; Dishman, Oldenburg, O’Neal, & Shephard, 1998; Person, Colby, Bulova & Whitehurst-
Eubanks, 2010). There are an increasing number of organisations committing to sponsor organisational wellness programs to improve employee health, lower illness-related absenteeism and provide additional benefits to employees to aid job satisfaction (Bly, Jones, & Richardson 1986), as depicted in the General Introduction. With a greater focus on designing tailored health and well-being program initiatives, employee participation in these programs may improve leading to a healthier workforce, improved job satisfaction and engagement, and a reduction in mean employee absenteeism (as evident in the present study).

Having confirmed that the implementation of a structured health and well-being program is associated with an associated reduction in absenteeism, this triangulated case study will proceed to focus on the central question of why people participate in health and well-being programs, by examining results from the 2010-2011 survey questionnaire at the LCMO to form Study 2 of this thesis.
Chapter 3 – Study 2
3.1 Overview

As stated in Chapter 2, employee health and well-being programs can be defined as organisation-sponsored activities aimed at improving employee health by promoting and embracing positive and sustainable health behaviours (Wolfe, Parker & Napier, 1994). However, given the associated individual health and organisational benefits associated with the implementation of health and well-being programs, participation among employees is still generally less than 50% (Robroek et al., 2009). For the purpose of this thesis, detailed analysis of the literature found 11 possible factors associated with participation in health and well-being programs. Analysis of the literature shows that no previous single study has attempted to determine the best predictors of participation using the full range of possible inherent and psychological predictors.

This study was initially conducted in 2009-2010 using an online survey questionnaire administered to a large construction management organisation (‘LCMO’) sampling white-collar employees (Burston, (2010) Why do employees participate in health and well-being programs and why do employees not participate? A LCMO case study (Unpublished Masters thesis), Murdoch University, Murdoch). Both studies in 2009-2010 and 2010-2011 were conducted in identical conditions, that is implemented on the same organisation, for the same period of time and using precisely the same inventory.

The analysis from the 2009-2010 study found nine of 11 factors positively correlated to participation in health and well-being programs. These factors were General Health and Well-Being, Interest and Enjoyment, Recruitment and Attraction, Timing and Convenience, Job Satisfaction, Socialisation, Mood State,
Stress, and Physical Fitness. Combining these factors, discriminant function analysis was 89.3% accurate in predicting membership of the group of people who would participate and 80.9% accurate in predicting whether people would not participate.

The 2009-2010 study analysis showed that it was possible to reliably predict participation in the health and well-being program, based on responses to various items in the questionnaire; however, there were some limitations that provided the rationale for re-administration of the survey questionnaire in 2010-2011. The following sections will describe the positive effects that health and well-being programs have on organisational elements such as culture, engagement and absenteeism. This chapter will conclude with a final synopsis for the rationale of the quantitative and qualitative study.

3.2 Positive organisational effects of increasing participation in health and well-being programs

Participation, in the context of the present study, can be defined along a continuum of effort or commitment (Glasgow, McCaul & Fisher, 1993). Measuring and increasing participation in health and well-being programs is essential for both practice and research to reduce employee absenteeism (Glasgow et al., 1993). Lechner and De Vries (1997) found that participation in fitness programs reduces absenteeism by improving the health of employees and thus reducing organisational costs, such as absenteeism. Lechner and De Vries (1997) examined three different worksites in a longitudinal pre-test/post-test design. Absenteeism data was collected from 844 participants who were divided into three groups: high participation, low participation and no participation in employee fitness programs. Results indicated that the “high participation group had a significant decline in sick days (4.8 days),
while the low and no participation groups showed no change in sick days” (Lechner & De Vries, 1997, p. 827). This may suggest that those who participate in fitness programs are those who least need to exercise, as they may already maintain good fitness levels and secondly, that participants in fitness programs are more healthy, have fewer sick days and may not benefit from organisational fitness programs (Lynch et al., 1990; Baun et al., 1986).

Similarly, Aldana et al. (2005) found that participation in wellness programs contributed to a reduction in absenteeism. Aldana et al. (2005) examined school staff in a longitudinal study measuring costs and absenteeism values between employees and non-participants who participated for one and two years. Absenteeism data was collected from 6,246 participants over a six year period and included obtaining healthcare expenditure data to investigate the financial impact of the wellness program. Program participation involved enrolment in one or more of the 11 different wellness initiatives during the two year period. Some initiatives included: 1) *Holiday weight challenge* (encouraged employees to take health responsibility during the holiday season), 2) *Tame the TV* (focused on substituting television with healthier activities), and 3) *Brighten your smile* (participants committed to brushing and flossing their teeth twice a day) (Aldana et al., 2005).

Results indicated that program participants averaged three fewer sick days than those who did not participate in any wellness initiatives (Aldana et al., 2005). Aldana et al. (2005) suggest that when compared with non-participants, individuals who participated in wellness programs in both years of the study, had a 20% difference in absenteeism. The decrease in absenteeism represented a cost saving ratio of US$1:15.60, that is for every US$1 spent on the wellness program for the
period it saved the organisation US$15.60 (Aldana et al., 2005). Encouragingly, organisations may further benefit financially with time, as more costly long-lasting diseases are prevented as a result of participation in health and well-being programs (Aldana et al., 2005).

Some research findings have reported that only a small number of employees participate in fitness-related programs and many of these eventually abandon the program (Griffiths, 1998). Supporting this, Gebhardt and Crump (1990) found that participation in health and well-being programs for white-collar workers was approximately 15-30%, with an occasional elevated participation rate of 50%. This was compared to blue-collar workers where participation in health and well-being program activities was considerably lower at 3-5% (Gebhardt and Crump, 1990). This discrepancy may be attributed to the physical demands of blue-collar workers that may prevent participation in health and well-being programs (Schreuder, Roelena, Koopman & Groothoff, 2008), shift work limitations associated with roster impracticalities (Zhao & Turner, 2008) and differences in education and cultural backgrounds that may contribute to a difference in rates of participation (Gebhardt & Crump; Wandel & Roos, 2005). This indicates that methods to encourage participation within the blue-collar sector are required (Sorensen et al., 2004), where compared to white-collar workers, blue-collar workers are more susceptible to chronic illness due to physical inactivity or exercise (Blue, Black, Conrad & Gretebeck, 2003).

For health and well-being programs to be successful, organisations must make a concentrated effort to promote increased participation among non-participants (Gebhardt & Crump, 1990). Organisational programs may be promoted
using organisational newsletters and advertising activities on pay-slips, and by senior management participating in initiatives (Watson & Gauthier, 2003). Promotional strategies should be aimed at increasing program participation by raising employee awareness that a structured health and well-being program is provided to employees; such as illustrating schedules and dates of initiatives.

### 3.3 Possible inherent and psychological factors associated with participation in health and well-being programs

As mentioned earlier a detailed review of the literature identified 11 factors potentially associated with participation in health and well-being programs. The factors are summarised in Table 2 (as extracted from the General Introduction).

<table>
<thead>
<tr>
<th>Possible factors associated with participation</th>
<th>Sample Relevant References</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Recruitment and attraction</td>
<td>● Grawitch et al., 2006</td>
<td>34</td>
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<td></td>
<td>● Lowe et al., 2008</td>
<td></td>
</tr>
<tr>
<td>2. Interest in general health and well-being</td>
<td>● Bandura, 1997</td>
<td>36</td>
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<tr>
<td></td>
<td>● Eccles and Wigfield, 2002</td>
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<tr>
<td>3. Socialising</td>
<td>● Beaumeister and Leary, 1995</td>
<td>37</td>
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<td></td>
<td>● Cialdini and Goldstein,</td>
<td></td>
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<td></td>
<td></td>
<td>2004</td>
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<tr>
<td>4.</td>
<td>Mood state</td>
<td>Griffiths, 1996</td>
</tr>
<tr>
<td>5.</td>
<td>Physical fitness</td>
<td>Hansen et al., 2001</td>
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<td></td>
<td></td>
<td>Yeung, 1996</td>
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<td></td>
<td></td>
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</tr>
<tr>
<td>7.</td>
<td>Job satisfaction</td>
<td>Connolly and Myers, 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Faragher et al., 2003</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Parks and Steelman, 2008</td>
</tr>
<tr>
<td>8.</td>
<td>Interest and enjoyment</td>
<td>Csikszentmihalyi, 1990</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Deci and Ryan, 2000</td>
</tr>
<tr>
<td>9.</td>
<td>Timing and convenience</td>
<td>Person et al., 2010</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Thaler and Sunstein, 2008</td>
</tr>
<tr>
<td>10.</td>
<td>Family commitments</td>
<td>Bielby and Bielby, 1989</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Bielby, 1992</td>
</tr>
<tr>
<td>11.</td>
<td>Workload pressure</td>
<td>De Cieri et al., 2005</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Webber et al., 2010</td>
</tr>
</tbody>
</table>
Table 2 suggests that there may be different inherent and psychological predictors associated with participation in health and well-being program initiatives. The findings of the 2009-2010 survey questionnaire (Burston, 2010) suggested that nine factors were positively associated with participation in health and well-being programs and that some factors were related. One finding of the 2009-2010 survey questionnaire suggested employees participate in health and well-being programs to maintain general health and well-being, and, in turn, increase their level of job satisfaction with the organisation, possibly through increased organisational commitment and engagement. These findings were supported by researchers who found that participation in health and well-being programs is associated with improved employee job satisfaction (Parks & Steelman, 2008; Rhoades & Eisenberger, 2002; Thogersen-Ntoumani & Fox, 2005). Health and well-being programs are a form of organisational support that has been shown to be positively related to job satisfaction, possibly because it assists in the socio-emotional needs of employees and demonstrates that the organisation cares about them (Rhoades & Eisenberger, 2002).

Furthermore, the 2009-2010 survey findings also suggested that the enhanced mood employees experience post-activity is positively related to the interest and enjoyment they receive from participating in health and well-being program activities (Burston, 2010). This finding was consistent with researchers who found that individuals who participate in healthy behaviours, such as healthy diet and regular exercise are better able to maintain a positive and stable mood (Barrow, English & Pinkerton, 1987).
Additionally, the 2009-2010 survey questionnaire findings suggest that employees may have participated in physical fitness program activities to regulate the negative effects of stress (Burston, 2010). This finding is consistent with other studies that indicated the benefits of participating in physical fitness in reducing the health-related effects of stress, providing another predictor associated with participation in health and well-being programs (Brown, 1991; Dubbert, 2002; Wilson et al., 2008). Extensive literature illustrating the benefits of physical fitness to reduce the health effects of stress can be found under independent variable headings four and five, as illustrated in the General Introduction.

Upon further analysis of the 2009-2010 survey questionnaire, various inconsistencies were found in the quantitative and qualitative data concerning the factor of Workload Pressure. More specifically, this involved inconsistent qualitative and quantitative responses provided in two similarly phrased questions presented in the survey questionnaire. This resulted in nuances found in the discriminant function analysis (quantitative) and thematic analysis (qualitative) where participants responded that workload pressure did not impede participation in health and well-being programs; however, when answering an open-ended question of a similarly phrased question, participants responded that workload pressure did impede participation in health and well-being programs. Further research was required to examine these inconsistencies, which created part of the rationale for the study in 2010-2011.

In Study 2, the 2009-2010 survey questionnaire was re-administered in 2010-2011 and was used to investigate factors associated with participation in the health and well-being program at the LCMO. The analysis from the 2010-2011 study found
six of 11 factors associated with participation in health and well-being programs. These factors were *Interest in General Health and Well-Being, Interest and Enjoyment, Recruitment and Attraction, Timing and Convenience, Job Satisfaction* and *Socialising*. Combining these factors, discriminant function analysis was 78.7% accurate in predicting membership of the group of people who did participate and 80.0% accurate in predicting whether people did not participate. The analysis showed that it was possible to reliably predict participation in the health and well-being program based on responses to various items in the questionnaire. The analysis from the 2010-2011 study also found similar inconsistencies in quantitative and qualitative responses on the topic of *Workload Pressure* when predicting participation in health and well-being programs.

Having confirmed that the health and well-being program may have contributed to an associated reduction in mean employee absenteeism for the period at the LCMO (as found in Study 1), it is now appropriate to focus on the central question of ‘Why do people participate in health and well-being programs?’ The following section will describe the quantitative and qualitative approaches used to investigate factors associated with participation in health and well-being programs for the LCMO in the period 2009-2010 and 2010-2011. This study was useful to investigate due to consistent nuances found in the previously administered 2009-2010 survey questionnaire (Burston, 2010).

**3.4 Method**

Study 2 examined participation in an organisational health and well-being program by implementing an online survey questionnaire for a large construction management organisation (‘LCMO’), that being the same ‘LCMO’ as the 2009-2010
study. A survey questionnaire was considered the most appropriate measure for Study 2, as large amounts of data could be easily collected and the data could be exported to statistical formats (such as Microsoft Excel); in addition it had the convenience of being live on the internet, it upheld stringent confidentiality guidelines and it was a familiar measure for personnel.

Based on an extensive review of the health and well-being literature (refer to the General Introduction), a range of independent variables was selected to construct a comprehensive survey questionnaire containing 22 statements and six open-ended questions. The next sections will provide a description of the LCMO and their participants. Following this, the independent variables (factors) pertaining to why employees participate in health and well-being program will be explained, followed by the procedures carried out to conduct Study 2. A copy of the university ethics outright approval letter for this research can be found in Appendix A.

Participation in the study was voluntary and confidential; this was stated clearly in the one-page cover letter emailed to personnel prior to the study commencing, and was also on the cover page of the survey questionnaire. The one-page cover letter emailed to participants detailed the scope, objectives and nature of Study 2. In addition, it also provided details on how to register for a $50 department store voucher incentive, which was sponsored by the LCMO to encourage participation in the study. The one-page cover letter email was sent on behalf of the Health, Safety and Environment (‘HSE’) Department to all LCMO personnel in the Perth corporate offices on the first day that the survey questionnaire was available online.
3.4.1 Participants

The organisation search, originally conducted in 2009-2010, involved online research into corporate organisations that offered a health and well-being/wellness framework. Various organisations were investigated for their blue-collar onsite wellness programs, in addition to in-house programs offered to white-collar workers.

The LCMO was selected as they had an ad-hoc approach to health and well-being and were aiming to develop a structured and sustainable program. Some examples of their previous initiatives can be found in Appendix B. The LCMO was a suitable choice, as their workforce was of substantial size, consisted of a range of professions and employment types, and they were open to academic feedback with a willingness to recognise academic findings. Furthermore, the HSE department was endeavoring to secure budget funding, and anticipated that the findings of the survey questionnaire may present a supportive business case. The research and invitation letter can be found in Appendix C.

As a large construction management company, the LCMO delivers services such as engineering, construction, procurement, shutdown services and project management to clients, largely in the mining and resource sector. The LCMO has operational sites in Karratha and offshore (including four rigs: North A, North B, South A and South B platforms) and three corporate offices in Perth, Western Australia. The Perth offices are occupied by corporate and white-collar staff, managing the operation bases for their Karratha and offshore sites. As at 30th June 2011, there were 1,063 personnel (including contractor, agency and secondees) distributed between the Perth offices (466 personnel), offshore sites (254 personnel) and Karratha site (343 personnel).
LCMO personnel consisted of a combination of white and blue-collar workers with many offshore and Karratha employees on contractual (largely Enterprise Bargaining Agreement) obligations who were employed in a range of trades and occupations, such as trades assistant, project supervisor and office administrator. Many of the Karratha and all offshore employees are employed on rostered shift-work and Fly-in/Fly-out employment terms. Personnel located in the Perth offices are executive and white-collar employees working standard business hours in a range of roles such as Project Manager, General Manager, Director and Advisor.

For the logistical purposes of Study 2 only executive and white-collar employees in the Perth offices were invited to participate in the 2010-2011 survey questionnaire. These participants were mostly in professional roles (for example, engineer, manager and finance advisor) consisting of 466 full-time/part-time staff and contractors employed at the time of the study. Of the 466 staff and contractors, 123 were female and 343 were male. The average age of all employees at the Perth offices was unavailable at the time of the study.

3.4.2 Procedure

The survey questionnaire required approximately 15 minutes to complete and participants were given 26 days to respond. A comprehensive description of the survey questionnaire can be found in the section titled ‘The LCMO health and well-being survey questionnaire’. A copy of the LCMO health and well-being survey questionnaire 2010-2011 can be found in Appendix D.

The Demographics section consisted of seven quantitative questions examining the demographics of each participant, including the health and well-being
initiatives that they participated in and the regularity of their participation. The main section of the survey questionnaire presented 22 quantitative questions with six open-ended questions. The quantitative and qualitative questions were created as a result of an extensive literature review of the health and well-being literature, outlining possible inherent and psychological factors predicting participation in health and well-being programs (as outlined in the General Introduction). Table 4 outlines each possible independent variable (factor) relating to participation in health and well-being programs and their associated question.

The survey questionnaire concluded with a ‘Prize Registration’ page that invited participants who completed the survey to email a specific pass-code to an email address (accessible only by the researcher) so as to be in the draw to win an incentive donated by the organisation. A reassurance of confidentiality was also provided in the final paragraph of the questionnaire.
Table 3 - Independent variables (factors) associated with the health and well-being program and their associated quantitative and qualitative questions

<table>
<thead>
<tr>
<th>Independent variables (factors) relating to participation in health and well-being programs</th>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recruitment and attraction</td>
<td>Q08 (quantitative)</td>
</tr>
<tr>
<td>2. Interest in general health and well-being</td>
<td>Q10 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q14 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q19 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q15 (qualitative)</td>
</tr>
<tr>
<td>3. Socialising</td>
<td>Q16 (quantitative)</td>
</tr>
<tr>
<td>4. Mood state</td>
<td>Q18 (quantitative)</td>
</tr>
<tr>
<td>5. Physical fitness</td>
<td>Q11 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q12 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q13 (qualitative)</td>
</tr>
<tr>
<td>6. Stress</td>
<td>Q17 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q25 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q26 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q30 (quantitative)</td>
</tr>
<tr>
<td>7. Job satisfaction</td>
<td>Q9 (quantitative)</td>
</tr>
<tr>
<td>8. Interest and enjoyment</td>
<td>Q20 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q28 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q29 (quantitative)</td>
</tr>
<tr>
<td>9. Timing and convenience</td>
<td>Q22 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q23 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q27 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q31 (quantitative)</td>
</tr>
<tr>
<td></td>
<td>Q32 (qualitative)</td>
</tr>
<tr>
<td>10. Family commitments</td>
<td>Q21 (quantitative)</td>
</tr>
<tr>
<td>11. Workload pressure</td>
<td>Q24 (quantitative)</td>
</tr>
<tr>
<td>Plus three additional questions</td>
<td>Q33 (qualitative)</td>
</tr>
<tr>
<td></td>
<td>Q34 (qualitative)</td>
</tr>
<tr>
<td></td>
<td>Q35 (qualitative)</td>
</tr>
</tbody>
</table>
3.4.3 The LCMO health and well-being questionnaire

The main section of the survey questionnaire consisted of 22 quantitative questions, most starting with “I feel that…”. The respondents were asked to indicate on a 5-point Likert scale (1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree) the extent to which they agreed or disagreed with the questions addressing why they participate in health and well-being program activities, and why they did not participate. As a result of addressing a limitation to the 2009-2010 survey questionnaire, questions 10, 11, 18, 20, and 30 required the inclusion of a sixth N/A option to ensure all employees could answer the question regardless of whether or not they participated in the health and well-being program.

There were six open-ended qualitative questions throughout the survey; two open-ended questions presented toward the beginning of the survey questionnaire, and four open-ended questions presented toward the end of the survey questionnaire to form the conclusion of the main section. The 11 independent variables pertaining to why employees participate in health and well-being programs are presented as follows (as shown in order of the survey questionnaire):

3.4.3.1 Independent variable # 1: Recruitment and Attraction

The factor of Recruitment and Attraction as a predictor of participation in the health and well-being program was measured with one quantitative item developed to ascertain if the presence of a health and well-being program will directly or indirectly have an effect on whether employees select an organisation to work with. The quantitative question was: ‘I feel that the LCMO health and well-being program influenced my decision to accept employment with LCMO’.
3.4.3.2 Independent variable # 2: Interest in General Health and Well-being

*Interest in General Health and Well-being* as a predictor of participation in health and well-being was measured with three quantitative items and one open-ended item. These items aimed to ascertain the degree to which an individual values health and well-being, as a motivator and predictor for participation, given that the individual believes that by participating in a certain behaviour this will lead to an outcome which will improve their own self and benefit their knowledge. The open-ended question invited participants to elaborate on their own personal approach to maintaining individual health and well-being. The three quantitative questions were: ‘I feel that participating in LCMO’s health and well-being program assists me in achieving work-life balance’, ‘Do you have your own methods of maintaining health and well-being?’ and ‘I feel that the nutritional topics offered by the LCMO health and well-being program are useful in implementing a healthy diet’ and the open-ended question was in response to a previous quantitative question: ‘If yes, what does this entail?’.

In the previous 2009-2010 survey questionnaire, the term ‘General health and well-being’ was used, however to be more clear on the premise of the factor, this was changed to ‘*Interest in General Health and Well-being*’ in the 2010-2011 version.

3.4.3.3 Independent variable # 3: Socialising

The factor of *Socialising* as a predictor of participation in the health and well-being program was measured with one quantitative item. This item aimed to ascertain whether the opportunity to interact with others to either fulfill a sense of
belonging or to feel positive emotional reward through social attachment (by sharing common interests or experiences) contributed to the possibility that socialising may be a predictor of participation in health and well-being programs. The quantitative question was: ‘The opportunity to socialise with my colleagues influences my decision to participate in LCMO’s health and well-being program’.

In the previous 2009-2010 survey questionnaire, the term ‘Socialisation’ was used, however to prevent any confusion with the clinical term socialisation, this was changed to ‘Socialising’ in the 2010-2011 version.

3.4.3.4 Independent variable # 4: Mood State

The factor of Mood State as a predictor of participation in the health and well-being program was measured with one quantitative item that aimed to gather feedback on whether a respondent’s general mood was elevated by participating in health and well-being program activities. The quantitative question was ‘I feel that my regular participation in the LCMO health and well-being program improves my overall mood’.

3.4.3.5 Independent variable # 5: Physical Fitness

The factor of Physical Fitness as a predictor of participation in health and well-being programs was measured with one quantitative item and two open-ended items. These items aimed at ascertaining whether employees may participate in physical fitness initiatives to enhance mood state. The quantitative question was: ‘Health experts recommend 30 minutes of physical activity daily to maintain general health. I feel that participating in LCMO’s health and well-being program assists me in achieving this goal’ and the open-ended questions were: ‘Do you have your own
fitness program?’ and ‘If yes, what does this entail?’. See the General Introduction for a synopsis of Mood State and Physical Fitness as possible predictors of participation in health and well-being programs.

3.4.3.6 Independent variable # 6: Stress

The factor of Stress as a predictor of participation in the topic’s program was measured with four quantitative items that aimed to ascertain whether reducing the negative effects of stress was considered a potential factor to predict participation in the health and well-being program. In addition, these quantitative questions aimed at investigating whether the current health and well-being program should provide more focus on stress management. As explained in the General Introduction, health and well-being programs may reduce stress but this may not mean that people who feel stressed will see their stress as a reason to participate, which provides the rationale for its inclusion in the study. The quantitative questions were: ‘I feel that the educational health and well-being topics offered by LCMO provide me with useful and practical coping skills when managing stress’, ‘I experience stress daily in my occupation at LCMO, ‘I feel that more of the LCMO health and well-being programs should be directed toward stress management’ and ‘I feel that my regular participation in the LCMO health and well-being program aids in relieving my work-life stress’.

3.4.3.7 Independent variable # 7: Job Satisfaction

The factor of Job Satisfaction as a predictor of participation in the health and well-being program was measured with one quantitative item to ascertain if the positive outcomes of health and well-being program initiatives (for example,
improved wellness and mental well-being) assisted in enhancing individual job satisfaction. The question was: ‘I feel that the health and well-being program offered by LCMO aids in my job satisfaction’. See the General Introduction for a synopsis of Job Satisfaction as a possible predictor of participation in health and well-being programs.

3.4.3.8 Independent variable # 8: Interest and Enjoyment

The factor of Interest and Enjoyment as a predictor of participation in the program under discussion was measured with three quantitative items that aimed to investigate the notion that if an employee values their individual health and wellbeing they may be more intrinsically motivated to participate in initiatives if they find interest and enjoyment in doing so. The quantitative questions were: ‘I enjoy participating in the LCMO health and well-being program’, ‘I feel that the health and well-being program offered by LCMO is interesting’ and ‘I feel that the current health and well-being program offered at LCMO is meeting my expectations’.

3.4.3.9 Independent variable # 9: Timing and Convenience

The factor of Timing and Convenience as a predictor of participation in the health and well-being program was measured with four quantitative items and one open-ended item. These items examined the notion that by implementing health and well-being initiatives in convenient locations (combined with attractive schedules), employees may participate in health and well-being programs. The quantitative questions were: ‘I feel that the LCMO health and well-being program activities are conveniently scheduled’, ‘I feel that my work-related commitments prevent or
reduce my participation in the LCMO health and well-being programs’, ‘I feel that the LCMO health and well-being program activities benefit the workplace, but I find it difficult to make a regular commitment’ and ‘I have difficulty finding time to regularly participate in LCMO’s health and well-being programs’. The open-ended question was: and ‘If yes, why?’.

**3.4.3.10 Independent variable # 10: Family Commitments**

The factor of *Family Commitments* as a negative predictor of participation in the health and well-being program was measured with one quantitative item that aimed to ascertain whether family commitments were negatively associated with an employee’s participation in health and well-being programs. The question was: ‘I feel that my family commitments prevent me from participating in the LCMO health and well-being program activities that are scheduled outside normal working hours (that is, 9am-5pm)’.

**3.4.3.11 Independent variable # 11: Workload Pressure**

The factor of *Workload Pressure* as a negative predictor of participation in the health and well-being program was measured with one quantitative item that aimed to gather information on whether employees who have many work-related pressures are able to find time to participate in health and well-being program initiatives. The quantitative question was: ‘I feel that the pressure I experience in my job makes it difficult to participate in the LCMO health and well-being programs’.
3.4.3.12 Additional questions

There were three open-ended items that followed the main quantitative items that aimed to ascertain what aspects of the program employees valued, recommendations they would make for the future and what health and well-being improvements they would like to see undertaken. The open-ended questions were: ‘What aspects do you value about the health and well-being program offered at LCMO?’, ‘What aspects do you feel do not add value to the health and well-being program offered at LCMO?’ and ‘What recommendations would you like to see improved or implemented in the health and well-being program offered at LCMO?’.

The survey questionnaire data was subject to descriptive statistics, discriminant function analysis and thematic analysis as presented in the following section.

3.5 Results

The survey questionnaire data analysis process began by investigating the demographics of the sample. Descriptive statistics were calculated, which showed the frequency and percentage measures for each demographic question. A total of 152 surveys were completed, resulting in a response rate of 32.61% (152 respondents/466 staff and contractors at the Perth corporate offices who were invited to participate in the health and well-being program in 2010-2011). Table 5 summarizes the characteristics of the participants. Table 6 summarizes the work and employment related data for participants. The mean age of respondents was 39.8 years.
Table 4 – Characteristics of participants

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>100</td>
<td>65.79</td>
</tr>
<tr>
<td>Female</td>
<td>52</td>
<td>34.21</td>
</tr>
<tr>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17-24</td>
<td>16</td>
<td>10.53</td>
</tr>
<tr>
<td>25-34</td>
<td>46</td>
<td>30.26</td>
</tr>
<tr>
<td>35-44</td>
<td>38</td>
<td>25.00</td>
</tr>
<tr>
<td>45-54</td>
<td>36</td>
<td>23.68</td>
</tr>
<tr>
<td>55-66</td>
<td>16</td>
<td>10.53</td>
</tr>
</tbody>
</table>

*Note: N= 152.*

Table 5 - Work and employment related data for participants

<table>
<thead>
<tr>
<th>Criteria</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Undergraduate degree</td>
<td>48</td>
<td>31.57</td>
</tr>
<tr>
<td>TAFE/trade cert</td>
<td>46</td>
<td>30.27</td>
</tr>
<tr>
<td>Postgraduate degree</td>
<td>37</td>
<td>24.34</td>
</tr>
<tr>
<td>Secondary</td>
<td>21</td>
<td>13.82</td>
</tr>
<tr>
<td>Employment status</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Full-time</td>
<td>135</td>
<td>88.82</td>
</tr>
<tr>
<td>Part-time</td>
<td>17</td>
<td>11.18</td>
</tr>
<tr>
<td>Work Schedule</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staff Full-time</td>
<td>108</td>
<td>71.05</td>
</tr>
<tr>
<td>Contractor Full-time Staff</td>
<td>27</td>
<td>17.76</td>
</tr>
<tr>
<td>Part-time</td>
<td>12</td>
<td>7.90</td>
</tr>
<tr>
<td>Contractor Part-time</td>
<td>5</td>
<td>3.29</td>
</tr>
</tbody>
</table>

*Note: N= 152.*
Table 6 indicates the occupations of the sample ranging from designers to managers; however, the most common occupation of participants was engineers.

Table 6 - Occupations of participants

<table>
<thead>
<tr>
<th>Occupation</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engineer</td>
<td>48</td>
<td>31.58</td>
</tr>
<tr>
<td>Coordinator</td>
<td>20</td>
<td>13.15</td>
</tr>
<tr>
<td>Designer</td>
<td>15</td>
<td>9.87</td>
</tr>
<tr>
<td>Controller</td>
<td>15</td>
<td>9.87</td>
</tr>
<tr>
<td>Administration</td>
<td>12</td>
<td>7.90</td>
</tr>
<tr>
<td>Finance and Management</td>
<td>10</td>
<td>6.58</td>
</tr>
<tr>
<td>Procurement and Logistics</td>
<td>8</td>
<td>5.26</td>
</tr>
<tr>
<td>Project Management</td>
<td>5</td>
<td>3.29</td>
</tr>
<tr>
<td>Information Technology</td>
<td>5</td>
<td>3.29</td>
</tr>
<tr>
<td>Technical</td>
<td>4</td>
<td>2.63</td>
</tr>
<tr>
<td>Manager</td>
<td>4</td>
<td>2.63</td>
</tr>
<tr>
<td>HSE</td>
<td>3</td>
<td>1.98</td>
</tr>
<tr>
<td>Other</td>
<td>3</td>
<td>1.97</td>
</tr>
</tbody>
</table>

*Note: N = 152.*
Table 7 displays participation in the health and well-being program across different program classifications with half of participants reporting that they do not participate in any categories of health and well-being programs offered by the organisation.

Table 7 - Employee participation in categories within health and well-being programs

<table>
<thead>
<tr>
<th>Classification</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>76</td>
<td>50.00</td>
</tr>
<tr>
<td>Fitness program initiatives</td>
<td>30</td>
<td>19.74</td>
</tr>
<tr>
<td>Both</td>
<td>23</td>
<td>14.47</td>
</tr>
<tr>
<td>Education and wellness program initiatives</td>
<td>22</td>
<td>15.13</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td>0.66</td>
</tr>
</tbody>
</table>

*Note: N= 152.*

3.6 Quantitative results from the survey questionnaire

3.6.1 Descriptive statistics

Upon analysing the characteristics of participants, the means and standard deviations were analysed from the responses to the 22 quantitative questions presented in the 2010-2011 survey questionnaire. Table 8 displays the descriptive statistics as stated above. The inter-correlations are shown in Table 9.
Table 8 - Descriptive statistics for responses reported in the 2010-2011 ‘LCMO health and well-being questionnaire’

<table>
<thead>
<tr>
<th>Quantitative Question</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q8: I feel that the LCMO Health and Well-being Programs influenced my decision to accept employment with LCMO (variable: Recruitment and attraction)</td>
<td>2.41</td>
<td>.92</td>
</tr>
<tr>
<td>Q9: I feel that the Health and Well-being Programs offered by LCMO aids in my job satisfaction (variable: Job satisfaction)</td>
<td>3.27</td>
<td>1.00</td>
</tr>
<tr>
<td>Q10: I feel that participating in LCMO’s Health and Well-being Program assists me in achieving work/life balance (variable: Interest in general health and well-being)</td>
<td>3.57</td>
<td>1.11</td>
</tr>
<tr>
<td>Q11: Health experts recommend 30 minutes of physical activity daily to maintain general health. I feel that participating in LCMO’s Health and Well-being Programs assists me in achieving this goal (variable: Physical fitness)</td>
<td>3.43</td>
<td>1.18</td>
</tr>
<tr>
<td>Q12: Do you have your own fitness program? (variable: Physical fitness)</td>
<td>1.71</td>
<td>0.46</td>
</tr>
<tr>
<td>Q14: Do you have your own methods of maintaining health and well-being? (variable: Interest in general health and well-being)</td>
<td>1.75</td>
<td>0.43</td>
</tr>
<tr>
<td>Q16: The opportunity to socialize with my colleagues influences my decision to participate in LCMO’s Health and Well-being Programs (variable: Socialising)</td>
<td>2.91</td>
<td>0.98</td>
</tr>
<tr>
<td>Q17: I feel that the educational health and well-being topics offered by LCMO provide me with useful and practical coping skills when managing</td>
<td>3.49</td>
<td>0.94</td>
</tr>
</tbody>
</table>
stress (variable: Stress)
Q18: I feel that my regular participation in the LCMO health and well-being programs improves my overall mood (variable: Mood state) 3.55 1.04
Q19: I feel that the nutritional topics offered by the LCMO Health and Well-being Program are useful in implementing a healthy diet (variable: Interest in general health and well-being) 3.46 0.87
Q20: I enjoy participating in the LCMO Health and Well-being Programs (variable: Interest and enjoyment) 3.87 1.11
Q21: I feel that my family commitments prevent me from participating in the LCMO Health and Well-being Program activities that are schedule outside normal working hours (that is, 9am till 5pm) (variable: Family commitments) 3.12 1.09
Q22: I feel that the LCMO Health and Well-being activities are conveniently scheduled (variable: Timing and convenience) 3.33 0.70
Q23: I feel that my work related commitments prevent or reduce my participation in LCMO Health and Well-being Programs (variable: Timing and convenience) 3.31 1.01
Q24: I feel that the pressure I experience in my job makes it difficult to participate in LCMO Health and Well-being Programs (variable: Workload pressure) 3.04 1.03
Q25: I experience stress daily in my occupation at LCMO (variable: Stress) 3.35 1.03
Q26: I feel that more of the LCMO Health and Well-being Programs should be directed toward “Stress Management” (variable: Stress) 3.35 0.78
Q27: I feel that the LCMO Health and Well-being Program activities benefit the workplace, but I find it difficult to make a regular commitment (variable: Timing and convenience)  
3.61 0.85

Q28: I feel that the Health and Well-being Programs offered by LCMO are interesting (variable: Interest and enjoyment)  
3.69 0.69

Q29: I feel that the current Health and Well-being Programs offered at LCMO are meeting my expectations (variable: Interest and enjoyment)  
3.40 0.74

Q30: I feel that my regular participation in the LCMO Health and Well-being Programs aids in relieving my work/life stress (variable: Stress)  
3.61 1.09

Q31: I have difficulty finding time to regularly participate in LCMO’s Health and Well-being Programs (variable: Timing and convenience)  
1.56 .50
Table 9 - Question item Pearson Correlations among factors that may predict participation in the LCMO health and well-being program

<table>
<thead>
<tr>
<th>Scale</th>
<th>Q8</th>
<th>Q9</th>
<th>Q10</th>
<th>Q11</th>
<th>Q12</th>
<th>Q14</th>
<th>Q16</th>
<th>Q17</th>
<th>Q18</th>
<th>Q19</th>
<th>Q20</th>
<th>Q21</th>
<th>Q22</th>
<th>Q23</th>
<th>Q24</th>
<th>Q25</th>
<th>Q26</th>
<th>Q27</th>
<th>Q28</th>
<th>Q29</th>
<th>Q30</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q9</td>
<td>.571**</td>
<td>.445**</td>
<td>.572**</td>
<td>.379**</td>
<td>.443**</td>
<td>.734**</td>
<td>.068</td>
<td>.035</td>
<td>.062</td>
<td>-.079</td>
<td>.011</td>
<td>.038</td>
<td>-.093</td>
<td>-.137</td>
<td>.469**</td>
<td>.507**</td>
<td>.430**</td>
<td>.580**</td>
<td>.510**</td>
<td>.455**</td>
<td>.018</td>
</tr>
<tr>
<td>Q10</td>
<td>.409**</td>
<td>.496**</td>
<td>.593**</td>
<td>.648**</td>
<td>.037</td>
<td>-.008</td>
<td>.351**</td>
<td>.490**</td>
<td>.397**</td>
<td>.531**</td>
<td>.522**</td>
<td>.490**</td>
<td>-.061</td>
<td>.057</td>
<td>.390**</td>
<td>.683**</td>
<td>.421**</td>
<td>.385**</td>
<td>.453**</td>
<td>.648**</td>
<td>.588**</td>
</tr>
<tr>
<td>Q11</td>
<td>-.109</td>
<td>-.064</td>
<td>-.028</td>
<td>.017</td>
<td>-.011</td>
<td>-.003</td>
<td>.007</td>
<td>.165</td>
<td>.003</td>
<td>.073</td>
<td>-.038</td>
<td>-.067</td>
<td>-.095</td>
<td>.235**</td>
<td>.325**</td>
<td>.417**</td>
<td>.368**</td>
<td>.386**</td>
<td>-.140</td>
<td>.056</td>
<td>-.023</td>
</tr>
<tr>
<td>Q12</td>
<td>-.097</td>
<td>-.145</td>
<td>-.048</td>
<td>-.122</td>
<td>-.122</td>
<td>-.062</td>
<td>-.059</td>
<td>-.095</td>
<td>-.038</td>
<td>-.173*</td>
<td>-.040</td>
<td>-.386**</td>
<td>-.183*</td>
<td>.735**</td>
<td>.324**</td>
<td>.173*</td>
<td>.154</td>
<td>.334**</td>
<td>-.467**</td>
<td>-.173*</td>
<td>.154</td>
</tr>
<tr>
<td>Q14</td>
<td>.125</td>
<td>-.301**</td>
<td>-.140</td>
<td>-.176*</td>
<td>-.022</td>
<td>.017</td>
<td>-.174*</td>
<td>-.214*</td>
<td>-.146</td>
<td>-.231**</td>
<td>-.116</td>
<td>-.079</td>
<td>-.155</td>
<td>.317**</td>
<td>.462**</td>
<td>.220</td>
<td>.338**</td>
<td>.340**</td>
<td>-.269**</td>
<td>-.200*</td>
<td>.334**</td>
</tr>
<tr>
<td>Q16</td>
<td>-.044</td>
<td>-.150</td>
<td>-.125</td>
<td>-.137</td>
<td>-.091</td>
<td>-.109</td>
<td>-.002</td>
<td>-.093</td>
<td>-.118</td>
<td>-.089</td>
<td>-.086</td>
<td>-.033</td>
<td>-.103</td>
<td>-.188*</td>
<td>.294**</td>
<td>.329**</td>
<td>.356**</td>
<td>.334**</td>
<td>-.269**</td>
<td>-.200*</td>
<td>.334**</td>
</tr>
<tr>
<td>Q17</td>
<td>-.254**</td>
<td>-.238**</td>
<td>-.194*</td>
<td>-.150</td>
<td>-.073</td>
<td>-.116</td>
<td>-.169</td>
<td>-.213*</td>
<td>-.203*</td>
<td>-.150</td>
<td>-.118</td>
<td>-.269**</td>
<td>-.200*</td>
<td>.334**</td>
<td>-.467**</td>
<td>.173*</td>
<td>.154</td>
<td>.334**</td>
<td>-.467**</td>
<td>-.173*</td>
<td>.154</td>
</tr>
<tr>
<td>Q18</td>
<td>.369**</td>
<td>.501**</td>
<td>.477**</td>
<td>.380**</td>
<td>.018</td>
<td>.119</td>
<td>.222**</td>
<td>.384**</td>
<td>.423**</td>
<td>.503**</td>
<td>.376**</td>
<td>-.068</td>
<td>.595**</td>
<td>-.194*</td>
<td>-.297**</td>
<td>-.269**</td>
<td>-.162</td>
<td>-.322**</td>
<td>.588**</td>
<td>.324**</td>
<td>.173*</td>
</tr>
<tr>
<td>Q19</td>
<td>.230**</td>
<td>.274**</td>
<td>.492**</td>
<td>.517**</td>
<td>-.003</td>
<td>.030</td>
<td>.244</td>
<td>.351**</td>
<td>.659**</td>
<td>.370**</td>
<td>.646**</td>
<td>.062</td>
<td>.253**</td>
<td>-.011</td>
<td>.038</td>
<td>-.099</td>
<td>-.113</td>
<td>-.134</td>
<td>.236**</td>
<td>.338**</td>
<td>.182*</td>
</tr>
</tbody>
</table>

N = 231, *p < .05, **p < .01 Correlation is significant at the 0.01 level (2-tailed)

Note: The corresponding questions to Table 9 can be found in the ‘LCMO health and well-being questionnaire’ in Appendix D.
3.6.2 Discriminant function analysis statistics

Discriminant function analysis was used to investigate whether it was possible to predict participation in the health and well-being program as a way of describing what factors predicted participation in the present sample, Study 2. As explained in Chapter 3, the following independent variables were used to predict participation in the health and well-being program (as presented in order of the survey questionnaire):

1. Recruitment and Attraction
2. Interest in General Health and Well-being
3. Socialising
4. Mood State
5. Physical Fitness
6. Stress
7. Job Satisfaction
8. Interest and Enjoyment
9. Timing and Convenience
10. Family Commitments
11. Workload Pressure

Discriminant function analysis was calculated using the demographic variables and the 11 independent variables drawn from the literature and operationalised in the survey questionnaire to predict participation or non-
participation in the health and well-being program. Participation was operationalized as people ever having participated in health and well-being programs (see Table 7). Screening for outliers and assumption checking was conducted. This discriminant function analysis produced a single statistically significant discriminant function \[ \chi^2 (25) = 70.051, p < 0.001; \text{Wilks' } \Lambda = 0.518 \]. The ANOVA significance levels and canonical correlations relating to this discriminant function and their independent variables are shown in Table 10. The independent variables that met the criteria for being significant are represented with an asterix (*) in Table 10. To exercise caution with alpha, it was decided not to accept \( p < 0.05 \) as significant, where \( p < 0.001 \) to be significant was used instead.

Table 11 displays the discriminant function analysis for the 2009-2010 survey questionnaire (Burston, 2010) *Why do employees participate in health and well-being programs and why do employees not participate? A LCMO case study* (Unpublished Masters thesis, Murdoch University, Murdoch). This Discriminant function analysis produced a statistically significant discriminant function \[ \chi^2 (25) = 67.740, p < 0.001; \text{Wilks' } \Lambda = 0.533 \]. The ANOVA significance levels and canonical correlations relating to why employees participate in health and well-being programs and why they do not participate, and their independent variables are shown in Table 11. The independent variables that met the criteria for being significant are represented with an asterix (*) in Table 11. To exercise caution with alpha, it was decided not to accept \( p < 0.05 \) as significant, where \( p < 0.001 \) to be significant was used instead.

Another statistical approach available was to combine the items within the factors, for example average the four question items of Interest in General Health and Well-being to be one factor. We chose not to do this due to the exploratory nature of the item and the fact that items examine individual behaviours rather than necessarily all items combining to assess a factor in full.
used instead. As illustrated in Table 9 and Table 10, it is evident that there are some differences in ANOVA significance when comparing the periods 2010-2011 and 2009-2010.
Table 10 - ANOVA significance levels and canonical correlations of statements in ‘LCMO health and well-being questionnaire 2010-2011’ in questionnaire order

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Question</th>
<th>ANOVA Significance</th>
<th>Canonical Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recruitment and Attraction</td>
<td>Q08</td>
<td>p = 0.000</td>
<td>r = 0.348*</td>
</tr>
<tr>
<td>2. Interest in General Health and Well-being</td>
<td>Q10</td>
<td>p = 0.000</td>
<td>r = 0.500*</td>
</tr>
<tr>
<td></td>
<td>Q14</td>
<td>p = 0.959</td>
<td>r = -0.005</td>
</tr>
<tr>
<td></td>
<td>Q19</td>
<td>p = 0.040</td>
<td>r = -0.197</td>
</tr>
<tr>
<td>3. Socialising</td>
<td>Q16</td>
<td>p = 0.000</td>
<td>r = 0.345*</td>
</tr>
<tr>
<td>4. Mood State</td>
<td>Q18</td>
<td>p = 0.010</td>
<td>r = 0.250</td>
</tr>
<tr>
<td>5. Physical Fitness</td>
<td>Q11</td>
<td>p = 0.097</td>
<td>r = 0.159</td>
</tr>
<tr>
<td></td>
<td>Q12</td>
<td>p = 0.590</td>
<td>r = -0.051</td>
</tr>
<tr>
<td>6. Stress</td>
<td>Q17</td>
<td>p = 0.029</td>
<td>r = 0.210</td>
</tr>
<tr>
<td></td>
<td>Q25</td>
<td>p = 0.464</td>
<td>r = -0.070</td>
</tr>
<tr>
<td></td>
<td>Q26</td>
<td>p = 0.847</td>
<td>r = 0.018</td>
</tr>
<tr>
<td></td>
<td>Q30</td>
<td>p = 0.034</td>
<td>r = 0.204</td>
</tr>
<tr>
<td>7. Job Satisfaction</td>
<td>Q09</td>
<td>p = 0.000</td>
<td>r = 0.579*</td>
</tr>
<tr>
<td>8. Interest and Enjoyment</td>
<td>Q20</td>
<td>p = 0.000</td>
<td>r = 0.362*</td>
</tr>
<tr>
<td></td>
<td>Q28</td>
<td>p = 0.000</td>
<td>r = 0.494*</td>
</tr>
<tr>
<td></td>
<td>Q29</td>
<td>p = 0.000</td>
<td>r = 0.491*</td>
</tr>
<tr>
<td>9. Timing and Convenience</td>
<td>Q22</td>
<td>p = 0.000</td>
<td>r = 0.484*</td>
</tr>
<tr>
<td></td>
<td>Q23</td>
<td>p = 0.460</td>
<td>r = -0.071</td>
</tr>
<tr>
<td></td>
<td>Q27</td>
<td>p = 0.076</td>
<td>r = 0.170</td>
</tr>
<tr>
<td></td>
<td>Q31</td>
<td>p = 0.119</td>
<td>r = -0.149</td>
</tr>
<tr>
<td>10. Family Commitments</td>
<td>Q21</td>
<td>p = 0.131</td>
<td>r = -0.144</td>
</tr>
<tr>
<td>11. Workload Pressure</td>
<td>Q24</td>
<td>p = 0.928</td>
<td>r = -0.009</td>
</tr>
</tbody>
</table>

Note: ANOVA = p < 0.05 to be significant (as identified by *)

ANOVA = p < 0.001 to be significant (as identified by **)  
Correlation loading = \( r > 0.300 \) to be significant
Table 11 - ANOVA significance levels and canonical correlations of statements in ‘LCMO health and well-being questionnaire 2009-2010’ in questionnaire order

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Question</th>
<th>ANOVA Significance</th>
<th>Canonical Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recruitment and Attraction</td>
<td>Q08</td>
<td>p = 0.001</td>
<td>r = 0.332*</td>
</tr>
<tr>
<td>2. General health and Well-being</td>
<td>Q10</td>
<td>p = 0.000</td>
<td>r = 0.611*</td>
</tr>
<tr>
<td></td>
<td>Q14</td>
<td>p = 0.225</td>
<td>r = 0.119</td>
</tr>
<tr>
<td></td>
<td>Q19</td>
<td>p = 0.000</td>
<td>r = 0.367*</td>
</tr>
<tr>
<td>3. Socialisation</td>
<td>Q16</td>
<td>p = 0.001</td>
<td>r = 0.326*</td>
</tr>
<tr>
<td>4. Mood State</td>
<td>Q18</td>
<td>p = 0.000</td>
<td>r = 0.467*</td>
</tr>
<tr>
<td>5. Physical Fitness</td>
<td>Q11</td>
<td>p = 0.000</td>
<td>r = 0.396*</td>
</tr>
<tr>
<td></td>
<td>Q12</td>
<td>p = 0.004</td>
<td>r = 0.203</td>
</tr>
<tr>
<td>6. Stress</td>
<td>Q17</td>
<td>p = 0.000</td>
<td>r = 0.531*</td>
</tr>
<tr>
<td></td>
<td>Q25</td>
<td>p = 0.005</td>
<td>r = -0.277</td>
</tr>
<tr>
<td></td>
<td>Q26</td>
<td>p = 0.671</td>
<td>r = 0.042</td>
</tr>
<tr>
<td></td>
<td>Q30</td>
<td>p = 0.008</td>
<td>r = 0.261</td>
</tr>
<tr>
<td>7. Job Satisfaction</td>
<td>Q09</td>
<td>p = 0.000</td>
<td>r = 0.679*</td>
</tr>
<tr>
<td>8. Interest and Enjoyment</td>
<td>Q20</td>
<td>p = 0.000</td>
<td>r = 0.631*</td>
</tr>
<tr>
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<td>Q28</td>
<td>p = 0.000</td>
<td>r = 0.455*</td>
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<td>Q29</td>
<td>p = 0.000</td>
<td>r = 0.376*</td>
</tr>
<tr>
<td>9. Timing and Convenience</td>
<td>Q22</td>
<td>p = 0.001</td>
<td>r = 0.333*</td>
</tr>
<tr>
<td></td>
<td>Q23</td>
<td>p = 0.468</td>
<td>r = -0.071</td>
</tr>
<tr>
<td></td>
<td>Q27</td>
<td>p = 0.588</td>
<td>r = 0.053</td>
</tr>
<tr>
<td></td>
<td>Q31</td>
<td>p = 0.723</td>
<td>r = -0.035</td>
</tr>
<tr>
<td>10. Family Commitments</td>
<td>Q21</td>
<td>p = 0.463</td>
<td>r = -0.072</td>
</tr>
<tr>
<td>11. Workload Pressure</td>
<td>Q24</td>
<td>p = 0.049</td>
<td>r = -0.194</td>
</tr>
</tbody>
</table>

*Note: ANOVA = p < 0.05 to be significant (as identified by *)

ANOVA = p < 0.001 to be significant (as identified by **) 

Correlation loading = r > 0.300 to be significant
Combining these factors, the 2010-2011 discriminant function analysis was 78.7% accurate in predicting membership of the group of people who would participate and 80.0% accurate in predicting whether people would not participate. The analysis showed that it was possible to reliably predict participation in the health and well-being program based on responses to various items in the questionnaire. These factors were Interest in General Health and Well-being, Interest and Enjoyment, Recruitment and Attraction, Timing and Convenience, Job Satisfaction and Socialising.

However, through careful scrutiny of the phrasing of the quantitative questions, it was considered likely that four statements could only be answered positively by employees participating in the health and well-being program. Therefore, these questions may have caused a breach of the multi-collinearity assumption in the analysis.

In order to be more confident of the outcome of the discriminant function analysis, the analysis was re-run omitting the four questions identified as being phrased such that they would only be answered positively by employees participating in the health and well-being program. The statements that were omitted from the analysis were; Q10: I feel that participating in LCMO’s Health and Well-being program assists me in achieving work-life balance (variable: Interest in General Health and Well-being); Q11: Health experts recommend 30 minutes of physical activity daily to maintain general health. I feel that participating in LCMO’s Health and Well-being programs assists me in achieving this goal (variable: Physical Fitness); Q18: I feel that my regular participation in the LCMO Health and Well-being Programs improves my overall mood (variable: Mood State) and; Q20: I enjoy
participating in the LCMO Health and Well-being Programs (variable: *Interest and Enjoyment*).

The results of the second discriminant function analysis of the ANOVA significance levels and canonical correlations relating to why employees participate in health and well-being programs and their independent variables, excluding the four omitted statements, are shown in Table 12.

Discriminant function analysis produced a statistically significant discriminant function \( \chi^2 (21) = 60.564, p < 0.001; \text{Wilks' } \Lambda = 0.572 \). Discriminant function analysis shows that it correctly classified 78.7% of the ‘yes’ group and 80.0% of the ‘no’ group (‘yes’ meaning did participate, ‘no’ meaning they did not participate). The analysis shows that it was possible to reliably predict participation in the health and well-being program based on responses to various items in the survey questionnaire. The independent variables that met the criteria for being significant are represented with an asterix (*) in Table 12. To exercise caution with alpha, it was decided not to accept \( p < 0.05 \) as significant, where \( p < 0.001 \) to be significant was used instead.

Table 13 displays the discriminant function analysis for the 2009-2010 survey questionnaire (Burston, 2010) *Why do employees participate in health and well-being programs and why do employees not participate? A LCMO case study* (Unpublished Masters thesis), Murdoch University, Murdoch) omitting the four questions identified as being phrased as such that they could only be answered positively by employees participating in the health and well-being program. Discriminant function analysis produced a statistically significant discriminant function \( \chi^2 (21) = 59.910, p < 0.001; \text{Wilks' } \Lambda = 0.579 \). Discriminant function
analysis shows that it correctly classified 89.3% of the ‘yes’ group and 70.2% of the ‘no’ group. The analysis shows that it is possible to reliably predict participation in the health and well-being program based on responses to various items in the questionnaire. As illustrated in Table 12 and Table 13, it is evident that there are some differences in ANOVA significance when comparing the 2010-2011 and 2009-2010 data, when omitting the associated four questions.
Table 12 - ANOVA significance levels and canonical correlations of statements in ‘the LCMO health and well-being questionnaire 2010-2011’ omitting questions 10, 11, 18 and 20 in questionnaire order

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Question</th>
<th>ANOVA Significance</th>
<th>Canonical Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recruitment and Attraction</td>
<td>Q08</td>
<td>p=0.000</td>
<td>r=0.388*</td>
</tr>
<tr>
<td>2. Interest in General Health</td>
<td>Q14</td>
<td>p=0.959</td>
<td>r=0.005</td>
</tr>
<tr>
<td></td>
<td>Q19</td>
<td>p=0.040</td>
<td>r=0.220</td>
</tr>
<tr>
<td>3. Socialising</td>
<td>Q16</td>
<td>p=0.000</td>
<td>r=0.385*</td>
</tr>
<tr>
<td>4. Physical Fitness</td>
<td>Q12</td>
<td>p=0.590</td>
<td>r=0.057</td>
</tr>
<tr>
<td>5. Stress</td>
<td>Q17</td>
<td>p=0.029</td>
<td>r=0.234</td>
</tr>
<tr>
<td></td>
<td>Q25</td>
<td>p=0.464</td>
<td>r=-0.078</td>
</tr>
<tr>
<td></td>
<td>Q26</td>
<td>p=0.847</td>
<td>r=0.021</td>
</tr>
<tr>
<td></td>
<td>Q30</td>
<td>p=0.034</td>
<td>r=0.228</td>
</tr>
<tr>
<td>6. Job Satisfaction</td>
<td>Q09</td>
<td>p=0.000</td>
<td>r=0.646*</td>
</tr>
<tr>
<td>7. Interest and Enjoyment</td>
<td>Q28</td>
<td>p=0.000</td>
<td>r=0.551*</td>
</tr>
<tr>
<td></td>
<td>Q29</td>
<td>p=0.000</td>
<td>r=0.548*</td>
</tr>
<tr>
<td>8. Timing and Convenience</td>
<td>Q22</td>
<td>p=0.000</td>
<td>r=0.540*</td>
</tr>
<tr>
<td></td>
<td>Q23</td>
<td>p=0.460</td>
<td>r=-0.079</td>
</tr>
<tr>
<td></td>
<td>Q27</td>
<td>p=0.076</td>
<td>r=-0.190</td>
</tr>
<tr>
<td></td>
<td>Q31</td>
<td>p=0.119</td>
<td>r=-0.167</td>
</tr>
<tr>
<td>9. Family Commitments</td>
<td>Q21</td>
<td>p=0.131</td>
<td>r=-0.161</td>
</tr>
<tr>
<td>10. Workload Pressure</td>
<td>Q24</td>
<td>p=0.928</td>
<td>r=-0.010</td>
</tr>
</tbody>
</table>

*Note: ANOVA = p < 0.05 to be significant (as identified by *)

ANOVA = p< 0.001 to be significant (as identified by **)

Correlation loading = r > 0.300 to be significant
Table 13 - ANOVA significance levels and canonical correlations of statements in the ‘LCMO health and well-being questionnaire 2009-2010’ omitting questions 10, 11, 18 and 20 in questionnaire order

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Question</th>
<th>ANOVA Significance</th>
<th>Canonical Correlations</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Recruitment and Attraction</td>
<td>Q08</td>
<td>p=0.001</td>
<td>r=0.364*</td>
</tr>
<tr>
<td>2. General Health and Well-being</td>
<td>Q14</td>
<td>p=0.225</td>
<td>r=0.130</td>
</tr>
<tr>
<td></td>
<td>Q19</td>
<td>p=0.000</td>
<td>r=0.403*</td>
</tr>
<tr>
<td>3. Socialisation</td>
<td>Q16</td>
<td>p=0.001</td>
<td>r=0.358*</td>
</tr>
<tr>
<td>4. Physical Fitness</td>
<td>Q12</td>
<td>p=0.004</td>
<td>r=0.223</td>
</tr>
<tr>
<td>5. Stress</td>
<td>Q17</td>
<td>p=0.000</td>
<td>r=0.583*</td>
</tr>
<tr>
<td></td>
<td>Q25</td>
<td>p=0.005</td>
<td>r=-0.304*</td>
</tr>
<tr>
<td></td>
<td>Q26</td>
<td>p=0.671</td>
<td>r=0.046</td>
</tr>
<tr>
<td></td>
<td>Q30</td>
<td>p=0.008</td>
<td>r=0.287</td>
</tr>
<tr>
<td>6. Job Satisfaction</td>
<td>Q09</td>
<td>p=0.000</td>
<td>r=0.745*</td>
</tr>
<tr>
<td>7. Interest and Enjoyment</td>
<td>Q28</td>
<td>p=0.000</td>
<td>r=0.500*</td>
</tr>
<tr>
<td></td>
<td>Q29</td>
<td>p=0.000</td>
<td>r=0.413*</td>
</tr>
<tr>
<td>8. Timing and Convenience</td>
<td>Q22</td>
<td>p=0.001</td>
<td>r=0.365*</td>
</tr>
<tr>
<td></td>
<td>Q23</td>
<td>p=0.468</td>
<td>r=-0.078</td>
</tr>
<tr>
<td></td>
<td>Q27</td>
<td>p=0.588</td>
<td>r=-0.058</td>
</tr>
<tr>
<td></td>
<td>Q31</td>
<td>p=0.723</td>
<td>r=-0.038</td>
</tr>
<tr>
<td>9. Family Commitments</td>
<td>Q21</td>
<td>p=0.463</td>
<td>r=-0.079</td>
</tr>
<tr>
<td>10. Workload Pressure</td>
<td>Q24</td>
<td>p=0.049</td>
<td>r=-0.213</td>
</tr>
</tbody>
</table>

Note: ANOVA = \( p < 0.05 \) to be significant (as identified by *)

ANOVA = \( p < 0.001 \) to be significant (as identified by **)

Correlation loading = \( r > 0.300 \) to be significant
When comparing the first and second discriminant function analyses on the same variables for 2010-2011 (omitting questions 10 (variable: Interest in General Health and Well-being), 11 (variable: Physical Fitness), 18 (variable: Mood State) and 20 (variable: Interest and Enjoyment), it was found that there were some similarities in quantitative data. The variables of Recruitment and Attraction, Socialising, Job Satisfaction, Timing and convenience and, Interest and Enjoyment were all significant in both first and second discriminant function analyses. It was found that the variable of Stress was approaching significance in the first discriminant function analysis, but not the second analysis where the four items were omitted.

3.7 Qualitative results from the survey questionnaire

3.7.1 Thematic analysis

To investigate the general perceptions of participants in relation to the health and well-being program, six open-ended qualitative questions were presented to conclude the survey questionnaire. The results were subject to content analysis and were thematically coded into construct groups with the strongest construct theme groups shown in Table 14.

Content analysis can be defined as a “systematic, replicable technique for compressing many words of text into fewer content categories based on explicit rules of coding” (Berelson, 1952; GAO, 1996; Krippendorff, 1980; Webber, 1990 as cited in Stemler, 2001).
Table 14 - Strongest themes identified from the open-ended questions in ‘LCMO health and well-being questionnaire 2010-2011’

<table>
<thead>
<tr>
<th>Open-Ended Question</th>
<th>Strongest Theme</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q13: Do you have your own fitness program? If yes, What does this entail?</td>
<td>1. Gym sessions</td>
<td>50</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Running/jogging</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Cycling</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Walking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Swimming</td>
</tr>
<tr>
<td>Some other direct responses</td>
<td>“Cardio and weights 3 times per week”, “Cycling to work every day”</td>
<td></td>
</tr>
<tr>
<td>Q15: Do you have your own methods of maintaining health and well-being? If yes, what does this entail?</td>
<td>1. Healthy diet</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Regular exercise</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Work/life balance</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Lowering alcohol intake</td>
</tr>
<tr>
<td></td>
<td></td>
<td>5. Plenty of sleep</td>
</tr>
<tr>
<td></td>
<td></td>
<td>6. Reducing smoking</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7. Relaxation</td>
</tr>
<tr>
<td>Some other direct responses</td>
<td>“Don’t work on weekends, get out of the office at lunch”, “Meditation and eating well”</td>
<td></td>
</tr>
<tr>
<td>Q32: I have difficulty finding time to regularly participate in LCMO’s Health and Well-being Programs. If yes, why?</td>
<td>1. Workload pressure</td>
<td>37</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Family Commitments</td>
</tr>
<tr>
<td></td>
<td></td>
<td>3. Location difficulties</td>
</tr>
<tr>
<td></td>
<td></td>
<td>4. Inadequate timing/convenience</td>
</tr>
<tr>
<td>Some other direct responses</td>
<td>“Schedule meetings over lunchtime”,</td>
<td></td>
</tr>
</tbody>
</table>
“Work commitments”, high workloads”

| Q33: What aspects do you value about the Health and Well-being Programs offered at LCMO? | 1. Company cares/thinks about my health | 19 |
|                                                                                       | 2. Current and relevant topics          | 14 |
|                                                                                       | 3. Newsletters                         | 9  |
|                                                                                       | 4. Stress Management seminars/workshops | 8  |
|                                                                                       | 5. Subsidized gym memberships           | 6  |
|                                                                                       | 6. Regular health check ups             | 6  |
|                                                                                       | 7. ‘Lunch and Learns’                   | 5  |
|                                                                                       | 8. Fitness programs                    | 5  |
|                                                                                       | 9. Healthy food options                 | 5  |
|                                                                                       | 10. Easy to enroll                      | 5  |

Some other direct responses
“*They are progressive*, Regular newsletters and tips”

| Q34: What aspects do you feel do not add value to the Health and Well-being Programs offered at LCMO? | 1. Lunch and Learns during lunchtime | 7  |
|                                                                                       | Some other direct responses            |     |
|                                                                                       | “Flu injections”, Corporate massages”  |     |

| Q35: What recommendations would you like to see improved and/or implemented in the Health and Well-being Programs offered at LCMO? | 1. Continued support from LCMO | 11 |
|                                                                                       | 2. Free gym memberships for everyone  | 7  |
|                                                                                       | 3. More daily fitness programs        | 6  |
|                                                                                       | 4. Yoga/pilates                       | 5  |
|                                                                                       | 5. Sponsorship at sporting events     | 5  |
|                                                                                       | 6. More marketing/promotion of initiatives | 4  |
7. Nutrition/weight loss programs  4
8. New initiatives/keep fresh  4

Some other direct responses

“More focus on fitness”, Having the gym accessible to everyone”

When comparing the qualitative open-ended responses and quantitative discriminant function analysis data, it appears that the variable of *Workload Pressure* presented inconsistent findings. That is, when asked in the quantitative analysis if the pressure in their job made it difficult to participate in health and well-being program initiatives, it was not a significant predictor. However, when asked in the qualitative open-ended question section if participants found it difficult to find time to regularly participate in health and well-being program initiatives, their most frequent response was difficulty because of workload pressure.

Further, when comparing other qualitative and quantitative elements of the survey questionnaire, some variables are similarly represented. This can be represented by consistent responses to qualitative open-ended Q15 (variable: *Interest in General Health and Well-being*), where participants responded that healthy diet was a method of maintaining their health and well-being.

Interestingly, in support of perceived organisational support theory, the qualitative open-ended question Q33 (no variable: additional question) suggests that participants acknowledge that the company cares/thinks about their health. According to qualitative data from open-ended question Q35 (no variable: additional question) participants recommend that the organisation continue to engage in their health and well-being initiatives. These results suggest that by seeking feedback and
implementing desired health and well-being initiatives, a reciprocal culture may be created where employees believe that their work organisation values their contribution and well-being, possibly encouraging employee improvements in job satisfaction, positive mood, affective commitment and lessened withdrawal behaviour (Rhoades & Eisenberger, 2002). The Discussion section which follows will describe further findings and implications of the quantitative and qualitative data when examining participation in health and well-being programs found in the 2010-2011 survey questionnaire.

3.8 Discussion

The primary aim of Study 2 was to examine the factors associated with why employees participate in health and well-being programs, by implementing a survey questionnaire in 2010-2011. As outlined in Chapter 1, analysis of the literature showed that no previous single study had attempted to determine the best predictors of participation using the full range of possible inherent and psychological predictors.

The survey questionnaire also aimed to ascertain what aspects of the health and well-being program employees valued, what aspects of the program they felt could be improved and, most importantly, identify factors associated with participation and non-participation. The 2009-2010 study analysis showed that it was possible to reliably predict health and well-being program participation based on responses to various items in the questionnaire; however, there were numerous limitations that provided part of the rationale for re-administration of the survey questionnaire in 2010-2011.
3.8.1 Interpretation and implication of findings

The section which follows presents an interpretation of the 2010-2011 results and discusses the implications of the findings found in the Chapter 3 Results section. The 11 factors associated with participation in health and well-being programs are presented as follows (in survey questionnaire order):

3.8.1.1 Independent variable # 1: Recruitment and Attraction

The results of Study 2 indicate that Recruitment and Attraction was found to be positively associated with participation in health and well-being programs. The discriminant function analysis found that the single quantitative item associated with recruitment and attraction was a clear predictor of participation in health and well-being programs. Since the presence of a health and well-being program has been found to affect employees selecting an organisation to work with, the current study provides notable findings that support the promotion of health and well-being programs as a successful recruitment enabler. The present study’s findings suggest that it was likely that as candidates they found the presence of a health and well-being program an appealing feature of the organisation.

These findings are consistent with research that indicates potential candidates who value physical fitness and living a healthy lifestyle may be more likely to be attracted to an organisation offering a health and well-being program, over one that does not (Falkenberg, 1987; Parks & Steelman, 2008).

3.8.1.2 Independent variable # 2: Interest in General Health and Well-being

The results of this study indicate that an individual who values their health and well-being as a motivator and predictor for participation, believes that by
participating in a certain behaviour, it will lead to an outcome that will improve themselves and benefit their knowledge. The discriminant function analysis found that two of the three quantitative items associated with interest in general health and well-being were clear predictors of participation in health and well-being programs.

These findings support research that found employees who participate in the studied programs tend to be healthier and more productive, possibly providing a motivation for participation (Griffiths, 1996; Parks & Steelman, 2008). Further, employees associate the presence of a health and well-being program with a more favourable culture, and those who value health and well-being may be more likely to participate in program initiatives, possibly leading to an improvement in individual general health and well-being (Falkenberg, 1987).

3.8.1.3 Independent variable # 3: Socialising

The results of Study 2 indicate that Socialising was found to be positively associated with participation in health and well-being programs. The discriminant function analysis found that the single quantitative item associated with Socialising was a clear predictor of participation in health and well-being programs. That is, the opportunity to interact with others to either fulfill a sense of belonging or to feel positive emotional reward through social attachment (by sharing common interests or experiences) is a predictor of participation in those programs. This finding is noteworthy, as it suggests that the program activities provide opportunities for employees to informally communicate and come together while partaking in the program activities. Elements that contribute to a positive organisational culture include providing initiatives that bring employees together to share common interests that they value.
These findings are consistent with research that emphasises the importance of positive reinforcement as the most effective method to encourage behaviour that fosters social engagement at work (Daniels, 2009; Ludwig & Frazier, 2012). In this instance, the intrinsic reward that employees experience whilst partaking in health and well-being program initiatives is the positive reinforcement for creating associated value-added behaviours to foster a positive and social work environment.

### 3.8.1.4 Independent variable # 4: Mood State

The results of Study 2 indicate that Mood State was not found to be positively linked to participation in health and well-being programs, however this factor was approaching significance. This current finding suggests that a respondent’s general mood was not elevated by participating in health and well-being program activities.

These findings do not support research by Scully et al. (1998) that employees may participate in health and well-being fitness initiatives that lead to a positive effect on mood state. Additionally, findings by Stewart and Barling (1996) that suggest moods mediate the association between everyday stressors and negative outcomes are not supported in the present study.

Additionally, these findings appear to be inconsistent with research by Barrow et al. (1987) who found that individuals who participate in healthy behaviours, such as regular exercise, are able to better maintain a positive and stable mood. This may suggest that employees participate in health and well-being program initiatives for factors other than generating a ‘positive mood state’, for example to raise their awareness in wellness education and healthy learning, as represented in the qualitative findings. These findings may also suggest that the relationship is
mediated by stress and thus the fact that stress is approaching significance, may alleviate any positive mood effects.

3.8.1.5 Independent variable # 5: Physical Fitness

The results of this study indicate that *Physical Fitness* was not found to be positively associated with participation in health and well-being programs. This current finding suggests that employees do not participate in physical fitness initiatives to enhance mood state.

In the current findings, it was noted in the qualitative analysis that some employees engage in their own personal fitness regime, which may explain why some employees do not participate in the sponsored fitness program initiatives.

3.8.1.6 Independent variable # 6: Stress

The results of Study 2 indicate that *Stress* was not found to be positively associated with participation in health and well-being programs; however, this factor was approaching significance. The results of the present study suggest that a small proportion of employees participate in sponsored program initiatives to reduce the negative effects of stress, which in some cases may have been a predictor of participation in health and well-being programs.

Some of these findings may lead to support long-standing research that has shown the numerous positive effects of physical fitness on stress, where, in this case, employees may be utilising the fitness programs to reduce the negative effects of stress (Dishman et al. 1998; Dubbert, 2002; Wilson et al. 2008). Additionally, as these specific findings were approaching significance, they may support research by Donaldson (1993) that health and well-being programs aim to teach employees to
lead a healthy lifestyle, and by doing so, become less susceptible to the adverse effects of life stress.

3.8.1.7 Independent variable # 7: Job Satisfaction

The results of this study indicate that *Job Satisfaction* was found to be positively associated with participation in health and well-being programs. The discriminant function analysis found that the single quantitative item associated with job satisfaction was a clear predictor of participation in those programs. That is, this finding indicates that the positive outcomes of health and well-being program initiatives (for example, improved wellness and mental well-being) assist in enhancing individual job satisfaction.

These findings are consistent with research that indicates job satisfaction levels are an important factor when influencing the health of workers (Faragher et al., 2003; Thogersen-Ntoumani & Fox, 2005). The relationship between physical activity contributing to greater physical and mental well-being found by Thogersen-Ntoumani and Fox (2005) suggests that the workplace is an ideal venue for improving mental health and job satisfaction to alleviate the negative effects of stress and work-place related illness; the findings of Study 2 support this notion.

The results of Study 2 also indicate that a positive association exists between general health and well-being and job satisfaction. This relationship suggests that by participating in specific programs to maintain general health and well-being, employees increase their level of job satisfaction. These findings are consistent with various studies that found participation in health and well-being programs improved employee job satisfaction (Dubbert, 2002; Griffiths, 1996; Parks & Steelman, 2008; Rhoades & Eisenberger, 2002). Health and well-being programs are a form of
organisational support that has been shown to be positively related to job satisfaction; possibly because these programs assist in the socio-emotional needs of employees and also demonstrates that the organisation cares about their staff (Rhoades & Eisenberger, 2002).

3.8.1.8 Independent variable # 8: Interest and Enjoyment

The results of Study 2 indicate that the factor of Interest and Enjoyment was found to be positively associated with participation in health and well-being programs. The discriminant function analysis found that all three quantitative items associated with Interest and Enjoyment were clear predictors of participation in the programs. This confirms the hypothesised notion that if employees value individual health and wellbeing they will be more intrinsically motivated to participate in initiatives because they find them interesting and enjoyable. This finding is noteworthy, as it suggests that the program initiatives are meeting the expectations of employees.

These findings are consistent with research conducted by social psychologists which associate intrinsic motivation and self-determination theory (Csikszentmihalyi, 1990; Deci & Ryan, 1971; White, 1959). According to Csikszentmihalyi (1990), when individuals are highly intrinsically motivated, they will feel a sense of enjoyment and ‘flow’ when partaking in activities that meet their psychological needs and inherent growth tendencies.

3.8.1.9 Independent variable # 9: Timing and Convenience

The results of Study 2 indicate that Timing and Convenience was found to be positively associated with participation in health and well-being programs. The
discriminant function analysis found that one of the four items associated with timing and convenience was a clear predictor of participation in those programs. That is, employees found the activity locations and attractive schedules convenient, thereby providing a predictor for participation in health and well-being initiatives.

These findings are consistent with research conducted by Thaler and Sunstein (2008) which identify Nudge Theory as a common reason why individuals do things that are easy and convenient for them so to do. Nudge Theory involves an automatic (gut instinct) and reflective system, where decisions are better made in the reflective system. According to findings in this study, employees appear to want program initiatives that are easy and convenient to attend.

3.8.1.10 Independent variable # 10: Family Commitments

The results of Study 2 indicate that Family Commitments were not found to be positively associated to participation in health and well-being programs. The discriminant function analysis found that the single quantitative item associated with family commitments was not a significant predictor of participation in health and well-being programs.

These findings do not appear to support research illustrating the effects of work hours, well-being and work-family interference (Hughes & Parkes, 2007; Mauno et al., 2006) where challenging economic realities can often keep employees very busy and overworked, which may result in increasing difficulties when attempting to balance work and family life (Mauno et al., 2006).
3.8.1.11 Independent variable # 11: Workload Pressure

The quantitative results of Study 2 indicate that Workload Pressure was not found to be positively associated with participation in health and well-being programs. The discriminant function analysis found that the single quantitative item associated with Workload Pressure was not a significant predictor of participation in health and well-being programs. That is, employees who have many work-related pressures did not indicate that these pressures contributed to non-participation in health and well-being program initiatives.

These findings do not appear to support research linking the negative effects of job strain and the lack of balance between job demands and job control (Rosenthal & Alter, 2011). Further, the quantitative findings do not appear to support research by Moen et al. (2011) illustrating that Role Strain Theory, (concentrating on the potential stressors related to conflicting role obligations) is often about lack of time, which can be a chronic stressor if not reframed or balanced with workload.

However, as described in the following section, the qualitative data suggests that Workload Pressure was found to be associated with participation in health and well-being programs. These qualitative findings support research when illustrating the outcomes of workload pressure on non-participation in health and well-being programs (Moen et al., 2011; Rosenthal & Alter, 2011).

3.9 Qualitative data and implication of findings

The six open-ended qualitative questions suggest that many employees are aware of the benefits of healthy diet on general health and well-being. The qualitative results of Study 2 indicate that employees who have their own fitness
regimen practice daily walking as their main form of fitness; and to maintain their health and well-being, employees practice healthy eating and regular exercise. An employee’s individual and personal endeavors to practice physical fitness in personal time may have had an impact on the findings of Study 2. As a result, employees may not have participated in sponsored health and well-being program initiatives because they are already engaged in their own personal wellness methods. This finding is interesting as it may indicate that efforts to promote the benefits of daily fitness and healthy eating may be influencing employees to initiate their own health and wellness regimes.

When examining the 2009-2010 and 2010-2011 discriminant function analyses and qualitative analyses for the independent variable of Workload Pressure, notable consistencies were found. In the 2009-2010 and 2010-2011 survey questionnaires, where respondents were asked why they found it difficult to find time to regularly participate in health and well-being programs, they most frequently responded with “workload pressure”. This is contradictory to the quantitative question “I feel that my work-related commitments prevent or reduce my participation in LCMO Health and Well-being programs”, where the discriminant function analysis found that Workload Pressure was a not significant predictor of participation in health and well-being programs in the 2009-2010 and 2010-2011 survey questionnaires. That is, a similarly phrased question was consistently answered differently when presented in quantitative and qualitative forms in the survey questionnaire. It is likely that this contradiction may have resulted because of the interpretation of the question by the respondent.
Contradictory findings between the quantitative and qualitative outcomes have been discussed by Nisbett and Wilson (1977), who found that people may not be able to accurately report on their mental processes and motivations. That is, their responses are based on “judgments about the extent to which a particular stimulus is a plausible cause of a given response” (Nisbett & Wilson, 1977, p. 231). This suggests that employees may inherently feel that workload pressure is associated with participation in health and well-being programs because it seems like a plausible explanation. These consistent results in 2009-2010 and 2010-2011 indicate that the independent variable of Workload Pressure remains quantitatively non-significant and qualitatively associated when examining participation in health and well-being programs.

The qualitative results of Study 2 also indicate that initiatives such as educational stress management seminars, subsidised gym memberships and regular newsletters were widely valued. Interestingly, although the independent variable of Physical Fitness was not positively associated with participation in the quantitative analysis, participants in the qualitative analysis indicated that they valued the fitness programs provided by the organisation. This may be relevant for employees who do not have their own personal fitness regime, and not relevant for employees who do have their own personal fitness regime.

The qualitative data also suggests that respondents believe continued efforts should be made to support the LCMO health and well-being program, suggesting that they value the level of organisational health and well-being engagement and would like to see this continued. In addition, the qualitative results of Study 2 indicate that respondents support a greater focus on educational seminars on topics
such as nutrition, weight loss and stress management. This finding is supported by Parks and Steelman (2008) who found that employees who participated in ‘comprehensive’ programs aimed to improve health and also attended educational seminars to prevent health problems.

When compared with the 2009-2010 LCMO health and well-being questionnaire, there were some notable inconsistencies in the 2010-2011 LCMO health and well-being questionnaire. Both survey questionnaires were administered under identical logistical conditions at the same organisation. In the one year between testing, there may have been various new employee appointments and terminations; however, the survey questionnaire was represented by a consistent response rate in both periods (2009-2010: 32.42%; 2010-2011: 32.61%).

Of the eleven independent variables, Recruitment and Attraction, Interest in General Health and Well-being, Socialising, Job Satisfaction, Interest and Enjoyment and Timing and Convenience were all consistently positively associated with participation in health and well-being programs in the 2009-2010 and 2010-2011 LCMO health and well-being survey questionnaires (Burston, 2010). The independent variables Family Commitments and Workload Pressure were consistently uncorrelated with participation in health and well-being programs in the 2009-2010 and 2010-2011 LCMO health and well-being questionnaires. The independent variables Stress, Mood State and Physical Fitness were positively associated with participation in health and well-being programs in the 2009-2010 LCMO health and well-being questionnaire; however, were not found to be positively associated with participation in health and well-being programs in the 2010-2011 analysis.
As a result of the 2009-2010 findings and based on academic recommendations (Burston, 2010), the LCMO conducted some modifications to the health and well-being program in 2010-2011. Some of the recommendations included implementing stress management seminars, providing more visible senior leadership support, increasing physical fitness initiatives and improving the marketing strategy to include regular newsletters and activity promotion. It is a plausible assumption that based on the modifications to the 2009-2010 health and well-being program, there may have been different responses to the 2010-2011 survey questionnaire as the program had improved to provide a more structured and tailored framework for employees.

For example, by increasing the promotion of health and well-being initiatives, employees may have begun pursuing healthier lifestyle choices as part of their personal regimen and as a result indicated in the survey questionnaire that they did not participate in organisation sponsored fitness activities. This may have also resulted in a greater participation rate in health and well-being educational initiatives as employees were encouraged to practice a healthier lifestyle by actively learning about the benefits of regular exercise and healthy diet when participating in regular ‘Lunch and Learns’. Furthermore, if an employee is already healthy, the health and well-being program may not be as relevant as it is for those employees who are unhealthy and are aiming to improve their health and well-being.

Comparisons of the recommendations section in the qualitative analysis show the findings are consistent in both 2009-2010 and 2010-2011 health and well-being questionnaires. That is, participants have consistently provided feedback that
suggests the organisation should promote and support the health and well-being program through marketing, newsletters and promotion of initiatives.

When comparing the 2009-2010 and 2010-2011 qualitative data, there were various inconsistencies in frequency of responses. For example, in 2009-2010 when respondents were questioned on the aspects they valued about the health and well-being programs offered at LCMO, they most frequently responded with ‘Start Smart’ (a work pre-start exercise conducted every morning), the seminars and subsidised gym memberships (Burston, 2010). In 2010-2011 when respondents were questioned on the aspects they valued about the health and well-being programs offered at LCMO, they most frequently responded with ‘the company cares about my health’, the ‘current and relevant topics’ and the ‘newsletters’. These findings are noteworthy, as they suggest that there is an element of perceived organisational support (‘POS’) developing within the organisation. This notion can be displayed by their general belief that their work organisation values their contributions and cares about their well-being, which is consistent with perceived organisational support research (Rhoades & Eisenberger, 2002). As outlined in the General Introduction, organisational support theory may be defined as “employees’ belief that the organisation’s actions were based on their influence, rather than being obligatory or regulatory” (Rhoades & Eisenberger, 2002, p. 698).

The results of Study 2 are consistent with research that suggests employees who display perceived organisational support are generally more involved with the organisation’s commitment to them; and being valued by the organisation can foster organisational benefits, such as endorsement and respect, salary and promotion and other elements of aid needed to successfully administer one’s job (Rhoades and
Eisenberger, 2002). The results of Study 2 further support elements of perceived
organisational support where it has been found to be related to outcomes favourable
in employees, for example improved job satisfaction (Rhoades & Eisenberger,
2002). It has also been recognised that employees who are emotionally committed to
their organisation, display improved performance, reduced absenteeism and are more
likely to stay with the organisation (Mathieu & Zajac, 1990; Meyer & Allen, 1997;
Mowday et al., 1982).

These cumulative findings which are indicated throughout the 2009-2010 and
2010-2011 survey questionnaires, suggest that the organisation is developing a
positive organisational culture, perhaps as a result of organisational support theory
and elements represented by perceived organisational support (such as enhanced job
satisfaction).

3.10 Limitations

A limitation of Study 2 was that only employees in the Perth corporate
offices were invited to participate in the survey questionnaire in 2009-2010 and
2010-2011. This means that blue-collar employees at the LCMO did not complete
the survey questionnaire in 2009-2010 and 2010-2011, where key findings to the
current study may have impacted employees at the Karratha and offshore asset
operations. To alleviate this limitation, future survey questionnaires need to be
available to all LCMO personnel, based at all locations, to ensure accurate and
reliable findings that are functional and topical in all parts of the organisation.

A notable limitation of Study 2 is that it consistently reported a contradiction
in the phrasing and interpretation of a question to the factor of Workload Pressure in
2009-2010 and 2010-2011. This required further investigation into why respondents
perceive or interpret questions differently when presented in quantitative or qualitative form, and thus provided the rationale for Study 3 where a series of standardised open-ended telephone interviews were conducted on a sample of LCMO employees in 2010-2011. The aim of the standardised open-ended telephone interviews was to gain a greater understanding of the influence of Workload Pressure on participation in health and well-being programs, to confirm or eliminate this factor as a negative predictor of participation in the health and well-being program.

3.11 Summary

For the purpose of this thesis, detailed analysis of the literature found 11 possible factors associated with participation in health and well-being programs. Analysis of the literature showed that no previous single study had attempted to determine the best predictors of participation using the full range of possible inherent and psychological predictors.

This study was initially conducted in 2009-2010 using an online questionnaire administered to a LCMO sampling of white-collar employees (Burston, 2010) Why do employees participate in health and well-being programs and why do employees not participate? A LCMO case study (Unpublished Masters thesis), Murdoch University, Murdoch). The 2009-2010 study analysis showed that it was possible to reliably predict participation in the health and well-being program, based on responses to various items in the questionnaire; however, there were numerous limitations that provided part of the rationale for re-administration of the survey questionnaire in 2010-2011.
The analysis from the 2010-2011 study found six of 11 factors strongly associated with participation in health and well-being programs. These factors were *Interest in General Health and Well-being, Interest and Enjoyment, Recruitment and Attraction, Timing and Convenience, Job Satisfaction and Socialising*. Combining these factors, discriminant function analysis was 78.7% accurate in predicting membership of the group of people who did participate and 80.0% accurate in predicting whether people did not participate. The analysis showed that it was possible to reliably predict participation in the health and well-being program based on responses to various items in the questionnaire. The analysis from the 2010-2011 study also found similar inconsistencies in quantitative and qualitative responses on the topic of *Workload Pressure* when predicting participation in health and well-being programs.

The 2010-2011 qualitative data suggested some recommendations for program improvement, including the need for the LCMO to continue to support the health and well-being program. Compared with the 2009-2010 survey questionnaire, there were responses in 2010-2011 from employees, on the educational initiatives provided by the organisation, and it was evident that the health and well-being program was meeting the expectations of some employees.

Having confirmed that a notable limitation of Study 2 was that the survey questionnaires in 2009-2010 and 2010-2011 consistently reported a contradiction to the phrasing and interpretation of a question in relation to *Workload Pressure*, this triangulated case study will proceed to examine the factor in greater depth by conducting a series of standardised open-ended telephone interviews on a sample of LCMO employees to form Study 3 of this thesis.
Chapter 4 : Study 3
4.1 Overview

As was stated in Chapter 3, the primary aim of Study 2 was to examine factors associated with why employees participate in health and well-being programs, by implementing a survey questionnaire in 2010-2011 to a large construction management organisation (‘LCMO’). The survey questionnaire was initially conducted in similar conditions at the LCMO in 2009-2010. Analysis of the literature showed that no previous single study had attempted to determine the best predictors of participation using the full range of possible inherent and psychological predictors. The analysis from Study 2 indicated six of 11 factors were associated with participation in health and well-being programs. These factors were *Interest in General Health and Well-Being, Interest and Enjoyment, Recruitment and Attraction, Timing and Convenience, Job Satisfaction and Socialising*. Combining these factors, discriminant function analysis was 78.7% accurate in predicting membership of the group of people who did participate and 80.0% accurate in predicting whether people did not participate. The analysis showed that it was possible to reliably predict participation in the health and well-being program based on responses to various items in the questionnaire.

When examining the 2009-2010 and 2010-2011 discriminant function analyses and qualitative analyses for the independent variable of *Workload Pressure*, notable consistencies were found. In the 2009-2010 and 2010-2011 survey questionnaires, where respondents were asked why they found it difficult to find time to regularly participate in health and well-being programs, they most frequently responded with “workload pressure”. This is contradictory to the quantitative question “I feel that my work-related commitments prevent or reduce my
participation in LCMO Health and Well-being programs”, where the discriminant function analysis found that “workload pressure” was a not significant predictor of participation in health and well-being programs in the 2009-2010 and 2010-2011 survey questionnaires. That is, a similarly phrased question was consistently answered differently when presented in quantitative and qualitative forms in the survey questionnaire. This likely contradiction may have resulted from the interpretation of the question by the respondent.

This limitation provided the rationale for implementing a series of qualitative standardised open-ended telephone interviews on a sample of employees from the LCMO to further examine the topic of Workload Pressure and participation in health and well-being programs, and to seek clarification on whether workload pressure may be a negative predictor of participation. Study 3 forms the final component of this triangulated case study examining participation in health and well-being programs. The following sections will describe the strengths and weaknesses of relevant qualitative methods for data collection in the social sciences.

4.2 Strengths and weaknesses of qualitative methods for data collection

Qualitative research is common in the social sciences, with many people identifying the qualitative open-ended interview as a highly satisfactory and thoroughly-investigated approach for data collection (Garbett & McCormack, 2001; Hannabuss, 1996; Knox & Burkard, 2009; Lechuga, 2012; Novick, 2008; Sturges & Hanrahan, 2004). Qualitative findings are generated from three types of data-collection: 1) in-depth, open-ended interviews; 2) direct observation; and 3) written documents (Patton, 2002). In-depth, open-ended interviews aim to probe and generate in-depth responses and to gather quotations about respondents “experiences,
opinions, feelings and knowledge” (Patton, 2002 p. 4). Direct observations involve fieldwork descriptions of “activities, behaviours, actions, conversations, interpersonal interactions, organisational or community processes or any other element of observable human experience” (Patton, 2002 p. 4). Thirdly, written documents include written materials, including studying “excerpts, quotations or entire passages from organisational, clinical or program records” (Patton, 2002 p. 4). This may include documents such as memoranda, correspondences, official publications, journals, reports and open-ended written responses to questionnaires/surveys.

Qualitative research questions may attempt to reveal meaning in natural events, and also pursue subjective interpretations of experience (Haverkamp, 2005). The purpose of interviewing is to allow researchers to investigate respondents internal thoughts to examine what cannot be directly observed. There are three common approaches to collecting qualitative data through open-ended interviews: 1) informal conversational interview; 2) general interview guide approach and; 3) standardised open-ended interview (Patton, 2002).

The informal conversational interview relies completely on the unprompted generation of questions in the “natural flow of an interaction”, and is often in association with ongoing respondent observation fieldwork (Patton, 2002 p. 342). The general interview guide approach involves investigating a series of fixed issues to explore with each participant before the interview begins and it also provides a checklist to ensure that all relevant topics have been addressed. The standardised open-ended interview consists of a series of carefully worded questions that are arranged with the intention of methodically “taking each respondent through the
same sequence and asking each respondent the same questions essentially using the same words” (Patton, 2002 p. 342). The approach for collecting qualitative data through in-depth, open-ended telephone interviews used in Study 3 was standardised open-ended telephone interviews.

4.3 The standardised open-ended telephone interview as a qualitative method for data collection

Standardised open-ended telephone interviews are used frequently in qualitative research (Barriball et al., 2001) and are often discussed in methodology literature (Novick, 2008). Telephone interviews are a form of qualitative research method, others being questionnaires and observation (Hannabuss, 1996). This includes noting what respondents say and do and what respondents think and perceive about particular topics, such as organisational culture or other such elements. This makes qualitative research a useful method for collecting data as it allows researchers to illuminate differences between what people say and things researchers discover via other methods. Qualitative research helps researchers understand when verbal self-reports are accurate and trustworthy, versus when they need to be treated cautiously. The review *Telling more than we can know* by Nisbett and Wilson (1977) highlights this viewpoint nicely.

However, when telephone interviews are discussed they may have some limitations when compared to face-to-face interviews (Novick, 2008; Stephens, 2007). There may be a perception that telephone interviews may seem more open to interpretation because they are seen to be without the nuances and body clues that are more likely and perhaps more helpful with face-to-face interviews. Face-to-face interviews offer the observation of non-verbal and verbal data by noting facial
expressions, gestures and other para-verbal communication (Carr & Worth, 2001). Face-to-face interviews offer the advantage of building rapport with the respondent so as to enable the opportunity to freely disclose their experiences more accurately than may be accessible in in-depth, open-ended telephone interviews (Shuy, 2003).

Nevertheless, scholars have argued that telephone interviews are a valid and productive qualitative method for data collection (Lechuga, 2012; Sturges & Hanrahan, 2004; Tausig & Freeman, 1988). There are many advantages of utilising the in-depth, open-ended telephone interview as a preferred option in qualitative research. The method of interviewing is a well-recognised instrument in qualitative research as it can be adapted to suit many distinctive research aims (Cachia & Millward, 2011). The data obtained can provide a rich and in-depth viewpoint of respondents’ thoughts and experiences, and can be utilised to develop themes, conclusions and thorough qualitative analysis that has methodological strength and validity (Cachia & Millward, 2011).

In 1978, there were approximately 40 published articles about telephone interviewing, whereas now there are thousands (Dillman, 2007), making it a commonly used qualitative instrument generating current discussion and observation. Telephone interviews are typically seen as appropriate for short (Harvey, 1988), structured (Fontana & Frey, 1994), or topic-specific interviews (Rubin & Rubin, 1995).

Telephone interviews offer greater flexibility than face-to-face interviews (Dillman, 2007). A telephone interview can be scheduled on a day and time convenient to the respondent, where the flexibility also provides respondents with privacy by selecting a setting/venue to conduct the interview in which they are most
comfortable in (Holt, 2010). Privacy for the participant is increased by anonymity as the respondent is unseen by the researcher. It may be presumed that the mere convenience and flexibility of a telephone interview may be a more suitable option for some people when considering other qualitative methods.

Telephone interviewing may provide an opportunity to gather responses from possible respondents that are hard to reach, remotely located or reluctant to participate in face-to-face interviews (Tausig & Freeman, 1988). This would seem useful for respondents who are unable to conduct an interview from one standard location, and provide the flexibility to speak with respondents at a location, time and date convenient to them. From the researcher’s viewpoint, flexibility is also offered where note-taking can occur unobtrusively, allowing for more natural conversation without the respondent being distracted (Smith, 2005; Sturges & Hanrahan, 2004; Tausig & Freeman, 1988).

Additionally, the benefit of participant anonymity suggests that telephone interviews are an appropriate means of qualitative research (Lechuga, 2012; Sturges & Hanrahan, 2004). Some respondents may feel that the anonymity of using a telephone to convey their thoughts versus a face-to-face approach may be a more suitable option for sensitive topics as it reduces embarrassment when responding to “emotionally or socially-loaded questions” in face-to-face interviews (Fenig et al., 1993 p. 896). It is a reasonable assumption that when handling sensitive topics, using the telephone interview as an adequate qualitative method may encourage increased participation based on respondent anonymity.

When coupled with other forms of qualitative data, telephone interviews can increase their effectiveness as a primary data source (Lechuga, 2012). This may
suggest that different methods of data-collection (i.e., in-depth, open-ended interviews, direct observation and written documents) in the form of interviewing (i.e., informal conversational interview, general interview guide approach and standardised open-ended interview) may produce data that can be thoroughly analysed (by probing, investigating and allowing free-flowing conversation) to gain a better understanding of the respondent’s viewpoint and experiences to generate personal opinions in a structured way for the purpose of research analysis.

Using a combination of qualitative data collection methods to investigate the sample for the present study was beneficial in a number of ways. Firstly, Study 2 combined quantitative closed questions and qualitative open-ended questions, whereas Study 3 applies the open-ended standardised telephone interview utilising a standardised open-ended telephone interview guide to ensure the same approach to all respondents. Secondly, there were two questions in the standardised open-ended telephone interview that combined a quantitative rating analysis and qualitative data collection element whereby respondents were encouraged to elaborate on their responses with the researcher.

With the confirmation that the health and well-being program may have contributed to an associated reduction in mean employee absenteeism for the period at the LCMO (Study 1) and that there were six of 11 factors associated with participation in health and well-being programs (Study 2), it is now appropriate to seek clarification on the predictor of Workload Pressure as it relates to participation in health and well-being programs (Study 3), due to notable inconsistencies found in the 2009-2010 (Burston, 2010) and 2010-2011 survey questionnaires. Standardised open-ended telephone interviews were conducted on a sample of LCMO employees
and were recognised as the most appropriate measure to provide clarification from the viewpoint of convenience, flexibility and efficiency. The Method section which follows will describe the qualitative and quantitative approaches used to investigate factors associated with participation in health and well-being programs at the LCMO in 2010-2011.

4.4 Method

Study 3 examined participation in a health and well-being program by implementing a series of standardised open-ended telephone interviews with a sample of large construction management organisation (‘LCMO’) employees. Telephone interviews were considered the most appropriate measure for Study 3 from a convenience, flexibility and efficiency viewpoint. The aim of the telephone interviews was to gain a greater understanding of the influence of workload pressure on participation in health and well-being programs.

More specifically, the quantitative data analysed from the 2009-2010 survey questionnaire (Study 2) found that work-related commitments where not associated with participation in health and well-being programs (represented by: “I feel that my work-related commitments prevent or reduce my participation in the LCMO health and well-being programs”); however, when a similarly phrased question was presented in qualitative format (represented by: “I have difficulty finding time to regularly participate in LCMO’s health and well-being programs. If yes, why?”), it was found that “workload pressure” was a notable factor in preventing participation in health and well-being initiatives. This contradiction may have resulted from interpretation of the question. These findings were consistent in both the 2009-2010
and 2010-2011 survey questionnaire data and provided the rationale for conducting the telephone interview study (Study 3).

The telephone interview study also included two quantitative rating questions that investigated job satisfaction and general health and well-being. It was useful to include these questions in the telephone interview study to examine the perceived job satisfaction levels of the telephone interview sample as research suggests that participating in health and well-being programs improves employee job satisfaction (Ho, 1997; Thogersen-Ntoumani & Fox, 2005; Zoller, 2004). Telephone interview participants were also asked to rate their general health and well-being to ascertain their current perception of individual health and well-being.

### 4.4.1 Participants

Study 3 was conducted over a two-week period and each telephone interview was approximately 15 minutes in duration. There were ten participants in total; five males and five females from divisions within the LCMO. The mean age of the respondents was 36.6 years. Each participant had a different occupation, as listed below:

1. Document Controller,
2. Estimator,
3. Lead Structural Designer,
4. Learning and Development Coordinator,
5. Occupational Health and Safety Advisor,
6. Personal Assistant,
7. Project Close-out Coordinator,
8. Projects Implementation Shutdown Coordinator,
9. Senior Project Engineer, and
10. Travel Coordinator

Participants were initially invited by the Health, Safety and Environment (‘HSE’) department to be a part of a focus group study, however when employees showed little interest, the focus group study was changed to a telephone interview study. Further detail is provided in the Procedure section.

4.4.2 Materials

The telephone interviews were conducted from a landline telephone, using the speaker-phone option. In addition, a digital voice recorder (Olympus WS-110) was used to record the telephone interviews. A standardised open-ended telephone interview guide was used by the researcher to ensure that the same lines of inquiry were pursued with each participant interviewed. The importance of using a standardised approach in interviews is highlighted in the literature (Mateo & Kirchoff, 1991). A copy of the telephone interview guide can be found in Appendix E.

4.4.3 Procedure

The initial invitation email sent to participants who had responded with an interest to be a part of the focus group study was followed up and resent to the same interested sample illustrating the scope, objectives and nature of the telephone interview study. Participants were invited to register their interest by using a voting ‘Yes’ or ‘No’ button on the invitation email. In addition, a $20 department store voucher incentive was also provided (that was sponsored by the researcher) to encourage participation in the study. When the ‘Yes’ list of interested participants
from the HSE representative was received, an email was sent with a cover letter and consent form by the researcher to every participant. A copy of the cover letter email and individual consent form can be found in Appendix F and Appendix G.

Ten participants were contacted by the researcher to coordinate a suitable time to conduct telephone interviews with them. Coincidently, many of the telephone interviews were conducted during a participant’s lunch break however, some were conducted at times convenient to the participants.

The telephone interview began by an explanation by the researcher regarding nature, scope and objectives of the study to the participant. It was reiterated that responses were confidential and would be collated to form part of a thematic analysis procedure seeking common themes on participation in health and well-being programs. Following this, a digital voice recorder (Olympus WS-110) was turned on and the participant was informed that the audio recorder had commenced recording the interview.

Many of the telephone interviews were approximately 15 minutes long, with some open-ended questions taking some three minutes to answer. At the end of each telephone interview, the participant was informed that the audio recorder had been stopped.

Upon completion of all telephone interviews, the department store vouchers were posted to the HSE representative to forward to the telephone interview participants via the organisation’s internal mail system. As the LCMO were not seeking any feedback from the telephone interview study, it was considered acceptable for the HSE representative to forward the incentives to the participants via the organisation’s internal mail system.
4.4.4 The telephone interview format

The telephone interview format consisted of six open-ended questions and two quantitative rating items, addressing six themes including culture, workload pressure and participation in health and well-being programs. The open-ended questions were aimed at ascertaining what aspects of the program employees valued, their perception of the health and well-being culture, and most importantly, whether they felt workload pressure was a factor associated with non-participation in health and well-being program initiatives. The themes are presented below:

4.4.4.1 Independent variable # 1: Participation in Health and Well-Being Programs

The theme of Participation in Health and Well-Being Programs was measured with two qualitative items inviting respondents to elaborate on why they participated in health and well-being programs, or why they did not participate. This was useful to gauge a more in-depth and accurate response compared with a similarly phrased question in the survey questionnaire (which did not provide the option to elaborate). The qualitative questions were: “Why do you participate in health and well-being programs?” and “Why don’t you participate in health and well-being programs?”.

4.4.4.2 Independent variable # 2: Health and Well-Being Culture at the LCMO

The theme of examining Health and Well-Being Culture at the LCMO was measured with one qualitative item aiming to gain an insight into the health and well-being culture at the LCMO by asking participants for their opinions and
perceptions of the current health and well-being culture. The qualitative question was: “What can you tell me about the health and well-being culture at LCMO?”

4.4.4.3 Independent variable # 3: Interest and enjoyment

The factor of Interest and Enjoyment as a predictor of participation in the health and well-being program was measured with two qualitative items that were aimed at ascertaining whether respondents found the health and well-being topics and initiatives that were currently presented were appealing and enjoyable. The first question was considered useful to gauge a more in-depth response compared to a similarly phrased question in the survey questionnaire. The second question was identical to a previously presented question in the survey questionnaire where it was considered useful to compare the telephone interview sample group responses with the overall organisational perspective. The questions were: “What aspects do you feel add value to the health and well-being programs offered at LCMO?” and “What aspects do you feel do not add value to the health and well-being programs offered at LCMO?”.

4.4.4.4 Independent variable # 4: Workload Pressure

The factor of Workload Pressure as a negative predictor of participation in the health and well-being program was measured with one qualitative item inviting participants to elaborate on whether they found it difficult to find time to regularly participate in health and well-being programs. The question was similarly phrased to an item in the survey questionnaire to ensure consistent reporting. The question was: “Why do you think, or why do you think others may find it difficult to find time to regularly participate in LCMO’s health and well-being programs?”.
4.4.4.5 Independent variable # 5: Job Satisfaction

The topic of *Job Satisfaction* as a predictor of participation in the health and well-being program was measured with one quantitative rating item that aimed at gauging a respondent’s current level of job satisfaction. The question was: “How would you rate your job satisfaction on a scale of 1 to 5?”.

4.4.4.6 Independent variable # 6: Individual Health and Well-Being

The topic of *Individual Health and Well-Being* was measured with one quantitative rating item the aim of which was to gauge a respondent’s current perception of their individual health and well-being. The question was: “How would you rate your current health and well-being on a scale of 1 to 5?”.

The telephone interview data was subject to thematic analysis and reconciled with the digital audio recording to ensure consistency and accuracy, as presented in the following Results section.

4.5 Results

The telephone interview data analysis process began with investigating the demographics of the sample. As reported earlier there were ten participants, each with different occupations; 5 male and 5 female with a mean age of 36.6 years working in full-time positions. Table 15 summarizes the age characteristics of the participants.
Table 15 - Age characteristics of participants

<table>
<thead>
<tr>
<th>Age (years)</th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>17-24</td>
<td>1</td>
<td>10.0</td>
</tr>
<tr>
<td>25-34</td>
<td>4</td>
<td>40.0</td>
</tr>
<tr>
<td>35-44</td>
<td>2</td>
<td>20.0</td>
</tr>
<tr>
<td>45-54</td>
<td>3</td>
<td>30.0</td>
</tr>
</tbody>
</table>

Note: N= 10.

4.5.1 Qualitative results from telephone interviews

The telephone interview data was subject to content analysis and were thematically coded into construct groups with the strongest construct theme groups shown in the following section (with accompanying tables).

4.5.1.1 Independent variable # 1: Participation in General Health and Well-Being

The first open-ended item was “Why do you participate in health and well-being programs?” The most common theme when answering this question was “To benefit and/or improve knowledge” (13 comments from the ten interviewees) as illustrated in Table 16. This question also received varied responses such as “I am a great believer of exercising and healthy eating so I try to do my best”, “It is a benefit to me and not to the company” and “It takes away from the monotony of work ... makes work a little more interesting”.

Table 16 - Most frequent themes identified from the question “Why do you participate in health and well-being programs?”

<table>
<thead>
<tr>
<th>Most frequent themes</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To benefit and/or improve knowledge</td>
<td>13</td>
</tr>
<tr>
<td>2. Identity as a healthy person</td>
<td>6</td>
</tr>
<tr>
<td>3. Personal interest in initiatives</td>
<td>4</td>
</tr>
<tr>
<td>4. Break from usual work</td>
<td>4</td>
</tr>
</tbody>
</table>

The second open-ended item for this independent variable was “Why don’t you participate in health and well-being programs?”. The most common theme when answering this question was “Personal relevance/interest” (7 comments from the ten interviewees) as illustrated in Table 17. This question also received varied responses such as “I don’t use the gym because I do my own training before work”, “I don’t participate in flu shots because I don’t think that I need it” and “I don’t participate in the dental check-ups because I have my own local dentist”.

Table 17 - Most frequent themes identified from the question “Why don’t you participate in health and well-being programs?”

<table>
<thead>
<tr>
<th>Most frequent themes</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Personal relevance/interest</td>
<td>7</td>
</tr>
<tr>
<td>2. Work commitments</td>
<td>2</td>
</tr>
<tr>
<td>3. Personal choice</td>
<td>2</td>
</tr>
</tbody>
</table>
4.5.1.2 Independent variable # 2: Health and Well-Being Culture at the LCMO

The second series of open-ended items aimed to investigate participants’ perceptions of the current health and well-being culture at LCMO. The question was “What can you tell me about the health and well-being culture at LCMO?” The most common theme when answering the question was “The health and well-being culture has improved recently” (9 comments from the ten interviewees) as illustrated in Table 18. This question received responses such as, “The majority aren’t engaged with health and well-being... has to do with workload... or whether it is pressure or perceived pressure”, “… the health and well-being culture is pretty good... there is a percent that ignores it entirely” and “… there is a pretty good focus on health and well-being... there always seems to be a pretty good reaction”.

Table 18 - Most frequent themes identified from the question “What can you tell me about the health and well-being culture at LCMO?”

<table>
<thead>
<tr>
<th>Most frequent themes</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The health and well-being culture has improved recently</td>
<td>9</td>
</tr>
<tr>
<td>2. Staff are perceived as wanting to be healthy</td>
<td>6</td>
</tr>
<tr>
<td>3. Unsatisfactory initiatives result in poor participation</td>
<td>4</td>
</tr>
</tbody>
</table>
4.5.1.3 Independent variable 3: Interest and Enjoyment

The aim of the third series of open-ended items was to investigate specific elements of the program that participants found appealing and enjoyable. The first question in this theme was “What aspects do you feel add value to the health and well-being programs offered at LCMO?”. The most common theme when answering this question was ‘Lunch and Learns’ (16 comments from the ten interviewees) as illustrated in Table 19. This question received responses such as, “I love learning... and I can’t get my hands on this sort of knowledge and follow through by myself”, “I am just glad that the program is there. I have been in workplaces over the years and there has been absolutely none of this culture... you know its work and work only” and “I like the fact that they are trying to improve the program... trying to increase variety”.

‘Lunch and Learns’ are one hour presentations held in lunch breaks that aim to provide speakers on different topics such as stress management and sleep hygiene. Due to feedback received in the 2009-2010 survey questionnaire, ‘Lunch and Learn’ sessions had been increased throughout the 2010-2011 period.

Table 19 - Most frequent themes identified from the question “What aspects do you feel add value to the health and well-being programs offered at LCMO?”

<table>
<thead>
<tr>
<th>Most frequent themes</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. ‘Lunch and Learns’</td>
<td>16</td>
</tr>
<tr>
<td>2. Fitness programs</td>
<td>4</td>
</tr>
<tr>
<td>3. Promoting a healthy culture</td>
<td>2</td>
</tr>
<tr>
<td>4. Flu shots</td>
<td>2</td>
</tr>
</tbody>
</table>
The second open-ended item in this theme was “What aspects do you feel do not add value to the health and well-being program offered at LCMO?”. The most common theme when answering this question was ‘No negatives identified’ (6 comments from the ten interviewees) as illustrated in Table 20. This question received responses such as, “... there is an avenue there that will suit everyone”, “I can’t think of anything negative” and “The personal training that they run I haven’t been doing... I don’t find the skill level of the trainers that high... it’s a very specific type of training”.

Table 20 - Most frequent themes identified from the question “What aspects do you feel do not add value to the health and well-being programs offered at LCMO?”

<table>
<thead>
<tr>
<th>Most frequent themes</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. No negatives identified</td>
<td>6</td>
</tr>
<tr>
<td>2. Flu shots</td>
<td>4</td>
</tr>
</tbody>
</table>

4.5.1.4 Independent variable # 4: Workload Pressure

The final series of open-ended items aimed at investigation of the topic of Workload Pressure in more detail. The singular question was “Why do you think, or why do you think others may find it difficult to find time to regularly participate in LCMO’s health and well-being programs?”. The most common theme when answering this question was “workload pressure” (11 comments from the ten interviewees) as illustrated in Table 21. This question received responses such as, “It’s purely our workloads at various times... we are schedule-driven and we have got tight schedules on shutdowns... our schedules and workloads are very heavy
sometimes... workload drives it more than anything else”, “Sometimes for me it’s just work... I have every intention of going but then my boss will need something done... sometimes I miss out” and “Lunch and Learns are not all that difficult to go to... I think others do find it difficult to make time... work commitments or perhaps it’s not as much of a priority...”.

Table 21 - Most frequent themes identified from the question “Why do you think, or do you think others may find it difficult to find time to regularly participate in LCMO’s health and well-being programs?

<table>
<thead>
<tr>
<th>Most frequent responses</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Workload pressure</td>
<td>11</td>
</tr>
<tr>
<td>2. Some don’t value the program</td>
<td>4</td>
</tr>
</tbody>
</table>

According to the above qualitative data, it can be interpreted that the people sampled participate in health and well-being program initiatives to benefit/improve knowledge and that they do not participate if they do not find the initiatives interesting or relevant. The above qualitative data suggests that the people sampled have found that the health and well-being culture has improved recently where staff are perceived as wanting to be healthy. Further, the above qualitative data suggests that the people sampled value ‘Lunch and Learns’ and when asked what did not add value to the program, there were no negatives identified. Interestingly, the qualitative data also suggests that the telephone interview sample believe that others, and/or themselves, find it difficult to find time to regularly participate in health and well-being programs due to workload pressure.
4.5.2 Quantitative results from telephone interviews

According to the findings presented in the 2009-2010 and 2010-2011 LCMO health and well-being survey questionnaire, job satisfaction (amongst other factors) was found to be associated with participation in health and well-being programs. During the telephone interviews, it was pertinent to investigate whether this was a consistent finding that was also found in the telephone interview sample. Following the six open-ended questions, a further two rating questions were presented where participants were invited to elaborate on their rating response. A 5-point Likert scale was used in this part of the telephone interviews (details on the 5-point Likert scale can be found in Appendix E).

4.5.2.1 Independent variable # 5: Job satisfaction

The first quantitative rating question was “How would you rate your job satisfaction on a scale of 1 to 5?”. The mean response for participants was $M = 3.70$ ($SD = 0.67$). When asked to elaborate on their rating, the participants gave responses such as “My employer cares about me”, “There is a reciprocal culture” and “I am unhappy with the politics”.

A t-test was conducted to measure against the neutral point of the scale (3) as this would moderate if mean responses were positive or negative. The assumption of normality was met, and with $\alpha$ set at .05, a statistically significant $t$ value was found, $t(9) = 3.28$, $p = .01$. This indicated that the job satisfaction themed mean for the telephone interview sample ($M = 3.70$, $SD = 0.67$) was above the neutral point of the scale (3) illustrating a significant correlation. The 95% confidence interval for the difference between the means was 0.21 to 1.18.
4.5.2.2 Independent variable # 6: Individual Health and Well-Being

The second quantitative rating question was “How would you rate your current health and well-being on a scale of 1 to 5?”. The mean response for participants was $M = 4.30$ ($SD = 0.71$). When asked to elaborate on their rating, the participants gave responses such as “I am an active person”, “I have bad eating habits” and “My level of fitness and health is really good... I’m not sick often”.

A $t$-test was conducted to compare with the point of the scale (3) as this would moderate if mean responses were positive or negative. The assumption of normality was met, and with $a$ set at .05, a statistically significant $t$ value was found, $t(9) = 5.75$, $p=0.003$. This indicated that the general health and well-being themed mean for the telephone interview sample ($M = 4.30$, $SD = 0.71$) was above the neutral point of the scale (3) illustrating a correlation. The 95% confidence interval for the difference between the means was 0.78 to 1.81.

From the above statistical data, it was found that some of the present findings are consistent with the qualitative and quantitative analysis from the 2009-2010 and 2010-2011 survey questionnaires. The following section will describe further findings and implications of the quantitative and qualitative data found in the 2010-2011 telephone interview data (Study 3) when examining participation in health and well-being programs.

4.6 Discussion

The primary aim of Study 3 was to seek clarification on whether the factor of Workload Pressure may be a negative predictor of participation in health and well-being programs due to inconsistencies in the 2009-2010 (Burston, 2010) and 2010-
2011 survey questionnaire qualitative and quantitative data, by implementing a series of telephone interviews to a sample of LCMO employees in 2010-2011. As outlined in Chapter 4, analysis of the literature showed that no previous single study had attempted to determine the best predictors of participation using the full range of possible inherent and psychological predictors.

Further, Study 3 aimed to ascertain what aspects of the program employees valued, their perception of the health and well-being culture and most importantly, whether they felt workload pressure was a factor associated with non-participation in health and well-being program initiatives. There were six themes (with accompanying qualitative and quantitative questions) presented throughout the telephone interview guide: 1) Participation in Health and Well-Being Programs, 2) Health and Well-Being Culture at LCMO, 3) Interest and Enjoyment, 4) Workload Pressure, 5) Job Satisfaction, and 6) Individual Health and Well-Being.

4.6.1 Interpretation and implications of findings

The following section presents an interpretation of the telephone interview results and discusses the implications of the findings found in the Chapter 4 Results. The six themes represented throughout the telephone interview guide are presented in order as follows:

4.6.1.1 Independent variable # 1: Participation in Health and Well-Being Programs

The results of this study indicate that many telephone interview respondents participate in health and well-being programs to improve and/or benefit their health and wellness knowledge. Content analysis also found that people participate in
health and well-being programs to uphold their identity as a healthy person and that some people participate in health and well-being program initiatives to take a break from their usual work tasks. The results of this study indicate that people do not participate in the health and well-being program if they do not find the initiative of personal relevance or interest to them. Content analysis also found that people do not participate in health and well-being programs if they have demanding work commitments.

When compared to the 2009-2010 and 2010-2011 health and well-being questionnaire, Study 3 findings suggest that there are consistent themes that have been supported by the telephone interview study. Most notably, the factor of *Interest in General Health and Well-Being* (which was associated to participation in health and well-being programs in the 2009-2010, 2010-2011 survey questionnaires) aligns with the findings found in this independent variable. That is, the degree to which an individual values their health and well-being will be a motivator or predictor for participation, as the individual believes that participation in health and well-being program initiatives will lead to an outcome that will improve their self and benefit their knowledge.

These findings support research into the importance of evaluating health and well-being programs to ensure that employees remain interested and engaged in health and well-being program initiatives (Gebhardt & Crump, 1990; Griffiths, 1996). That is, by conducting regular evaluations and applying employee feedback suggestions, organisations are fostering a culture whereby they value employee feedback and are aiming to increase participation by delivering on employee recommendations. These actions are reinforced by perceived organisational support
theory (Rhoades & Eisenberger, 2002) in addition to enhancing organisational commitment and employee engagement.

4.6.1.2 Independent variable #2: Health and Well-Being Culture at the LCMO

The results of this study indicate that many telephone interview respondents believe that the health and well-being culture at the LCMO has improved recently. Content analysis also found that employees are generally perceived as wanting to be healthy, however telephone interview participants also identified that unsatisfactory initiatives lead to poor participation rates, which may affect the health and well-being culture.

When compared to the 2009-2010 and 2010-2011 health and well-being questionnaire, Study 3 findings suggest that there are consistent themes that may have been supported by the telephone interview study. Most notably, the factor of Socialising (which was associated with participation in health and well-being programs in the 2009-2010, 2010-2011 survey questionnaires) aligns with the findings found in this independent variable. That is, the opportunity to interact with others to either fulfill a sense of belonging or to feel positive emotional reward through social attachment (by sharing common interests or experiences) may be associated with a notable improvement in the health and well-being of the organisation’s culture. The positive outcomes of social interaction through participation may have improved or fostered the culture at the LCMO. Having a sense of belongingness and social bonds with others can lead to feelings of reciprocity and positive emotional states.

Recently, organisations have supported the view that workplace health and well-being programs aim to improve the health of employees, monitor healthcare,
assist in work-life balance, as well as sustaining a more favourable work culture (Parks & Steelman, 2008). These findings support research that the implementation of a health and well-being program can improve an organisational health and well-being culture.

Those findings also support research by Holzbach et al. (1990) (as noted in the General Introduction) who conducted a quasi-experimental study suggesting that organisations which sponsored a general health promotion program with a fitness element, when compared with organisations that only had a health screen, accomplished positive attitudinal changes among personnel. Holzbach et al. (1990) revealed improvements in attitudes towards organisational commitment, working conditions, job capability and job security. These actions are reinforced by perceived organisational support theory (Rhoades & Eisenberger, 2002) which is a pertinent characteristic of organisation-employee interaction with health and well-being programs and a productive organisational culture.

Given that social interaction is a contributor to organisational growth and culture the associated psychosocial aspects of participating in health and well-being program activities may provide some insight into explaining why employees participate in health and well-being programs. In particular, Dubbert (2002) suggests that social support for physical activity is needed to encourage, specifically, physical activity improvement. This may suggest that the opportunity to improve organisational social interaction, cohesion and culture may be a positive consideration for employees partaking in health and well-being activities, where employees will participate based on the opportunity to socialise with other employees. Street et al. (2007) also state that the cultural benefits of participation in
group exercise, appear worthy of further and more thorough investigation (as noted in the General Introduction).

4.6.1.3 Independent variable # 3: Interest and Enjoyment

The results of this study indicate that many telephone interview respondents believe that the ‘Lunch and Learns’, and to a lesser extent, fitness programs add value to the health and well-being program. The results of this study also indicate that many telephone interview respondents believe that there are no aspects of the health and well-being program do not add value, however some indicated that influenza shots did not add value.

When compared to the 2009-2010 and 2010-2011 health and well-being questionnaire, Study 3 findings suggest that there are inconsistent and consistent themes that may have led to contradictory outcomes in the telephone interview study. Most notably, when examining the survey questionnaire qualitative analysis in the 2009-2010 survey questionnaire, some employees indicated that they were not aware of the health and well-being program and the irregular nature of the Start Smart program (definition: a work-related morning pre-start stretching initiative) did not add value to the health and well-being program (Burston, 2010). However, in the 2010-2011 survey questionnaire qualitative analysis, participants responded that conducting ‘‘Lunch and Learns during lunchtime’’ did not add value to the health and well-being program, which suggests that these findings are contradictory, as the telephone interview sample indicated that ‘Lunch and Learns’ did add value to the health and well-being program. Subjectively, it is a plausible assumption that the survey questionnaire participants are suggesting that they find ‘Lunch and Learns’ beneficial, however are dissatisfied that they are held during their personal lunch
breaks, which may be a negative predictor of participation for some participants; this may not be a negative matter for telephone interview participants, as indicated by their positive response to ‘Lunch and Learns’.

Also, as mentioned in the Results section, due to feedback received in the 2009-2010 survey questionnaire, ‘Lunch and Learn’ sessions had been increased throughout the 2010-2011 period, which may explain why telephone interview participants found it relevant and topical to suggest that ‘Lunch and Learns’ added value to the health and well-being program, as they were being implemented more regularly throughout the program.

However, when compared with the 2009-2010 and 2010-2011 health and well-being questionnaire, Study 3 findings suggest that there are also consistent themes that have been supported by the telephone interview study. Most notably, the factor of Interest and Enjoyment (which was associated with participation in health and well-being programs in the 2009-2010, 2010-2011 survey questionnaires) aligns with the findings found in this independent variable. That is, respondents appear to find the current health and well-being topics and initiatives appealing and enjoyable by responding that they are initiatives that add value to the program. Results of this study indicate that telephone interview respondents value the variety of educational and fitness components in the health and well-being program with some respondents suggesting that these “appealing initiatives promote a healthy culture”. The results of this study indicate that respondents value their organisation planning and scheduling health and well-being initiatives for them. These findings imply that telephone interview respondents acknowledge the contribution that the organisation
is making to their health and well-being and value the element of learning in alignment with the organisation promoting a healthy culture.

4.6.1.4 Independent variable # 4: Workload Pressure

The results of this study indicate that many of the telephone interview respondents felt that, when asked why they may/or others may find it difficult to find time to regularly participate in health and well-being programs, the most common response was “workload pressure”. Content analysis also found that the people sampled suggest that they/or others do not value the program, which is why they may find it difficult to find time to regularly participate in health and well-being programs.

When compared with the 2009-2010 and 2010-2011 health and well-being survey questionnaires, Study 3 findings suggest that there are consistent themes that have been supported by the telephone interview study. Most notably, the factor of Timing and Convenience (which was associated with participation in health and well-being programs in the 2009-2010, 2010-2011 survey questionnaires) which aligns with the findings found in this independent variable. That is, the telephone interview sample supports the findings found in the 2009-2010 and 2010-2011 qualitative analyses that Workload Pressure is a negative predictor of participation in health and well-being programs. This finding is noteworthy as it confirms that after two longitudinal studies (2009-2010 and 2010-2011) examining participation in health and well-being programs at the LCMO, Workload Pressure seems to be a negative predictor of participation in health and well-being programs when presented in qualitative form. Notably, caution should be exercised when generalising data as the telephone interview study sample only accounted for 0.9% of total personnel at
the LCMO (as at 30th June 2011, there were 1,063 personnel (including contractor, agency and secondees) distributed between the Perth offices (466 personnel), offshore sites (254 personnel) and Karratha site (343 personnel)) for the period.

However, a contradiction in the qualitative and quantitative analysis remained when examining Workload Pressure and participation in health and well-being programs. This likely contradiction may have resulted due to the interpretation of the question, as had previously been discussed by Nisbett and Wilson (1977), who found that people may not be able to accurately report on their mental processes and motivations (as noted in Chapter 3). As a result of these findings, employees may have inherently felt that Workload Pressure was associated with participation in health and well-being programs because it seemed like a plausible explanation. Further, through careful probing and investigating, it was found that respondents felt more comfortable or encouraged to answer their true opinions and perceptions to the researcher regarding the topic.

Workload pressure in today’s society includes occupational stress, job strain or pressure involved with completing work tasks to deadlines, resulting in a lack of balance between job demands and job control (Rosenthal & Alter, 2011). The findings of the telephone interview study indicate that the people sampled felt pressured to work within task deadlines, which may have affected performance, organisational culture and the health and well-being of employees. Further, these findings support research by De Cieri et al., (2005) examining the need for organisations to structure and manage work-life balance initiatives more productively, where increased work demands can overshadow personal needs. This case study found that many respondents experienced pressure in their roles that
prevented them from initiating work-life balance techniques (as noted in the General Introduction).

4.6.1.5 Independent variable # 5: Job Satisfaction

The results of this study indicate that the Job Satisfaction rating for telephone interview sample was above the neutral point of the scale, which implies that the telephone interview participants self-rated their job satisfaction above average. When prompted on their rating, some participants responded “My employer cares about me” and “There is a reciprocal culture”, indicating that there were various elements of perceived organisation support within the culture. As mentioned in the General Introduction perceived organisational support involves “an employee’s general belief that their employer values their contribution and cares about their well-being” (Rhoades & Eisenberger, 2002, p. 698). Perceived organisational support has been associated to favourable employee psychological outcomes, such as positive job satisfaction and enhanced mood (Rhoades & Eisenberger, 2002), where organisational outcomes include affective commitment, improved performance and reduced turnover (Eisenberger, Huntington, Hutchison & Dowa, 1986).

When compared to previous data, the findings from Study 3 findings suggest that there are consistent themes that were supported by the telephone interview study. Most notably, the factor of Job satisfaction (which was associated to participation in health and well-being programs in the previous survey questionnaires) aligns with the findings found in this independent variable. The telephone interview sample supports findings found in the 2009-2010 and 2010-2011 survey questionnaire quantitative analyses indicating that participation in health and well-being programs assist in enhancing individual job satisfaction.
Study 3 findings support long-standing research confirming that health and well-being programs improve employee job satisfaction (Ho, 1997; Parks and Steelman, 2008; Zoller, 2004). A study by Thogersen-Ntoumani and Fox (2005) found interrelationships between exercise participation and several well-being components. Research from this study indicated that exercise was associated to higher levels of physical self-perception, physical satisfaction and greater job satisfaction, which generated increased enthusiasm at work. These elements of well-being were associated to the wider global indicators of life satisfaction and self-esteem (Thogersen-Ntoumani & Fox, 2005).

4.6.1.6 Independent variable # 6: Individual Health and Well-being

The results of this study indicate that the individual health and well-being rating for telephone interview participants was well-above the neutral point of the scale, which implies that the telephone interview participants rated their individual health and well-being above average. When prompted on their rating, some participants responded “I am an active person” and “My level of fitness and health is really good”, indicating that they perceive their personal health and well-being above average to the norm.

These findings support research into the likelihood that health and well-being programs may contribute to the improved health and well-being of employees and may improve the health behaviours of employees which may result in a more productive, healthy and satisfied workforce (Parks & Steelman, 2008; Watson & Gauthier, 2003). These findings indicate that the telephone interview sample perceive themselves as having higher than average health and well-being, and by participating in health and well-being program initiatives, this positively reinforces
their values in living a healthy lifestyle. That is, an employee that values their individual health and wellbeing may be more intrinsically motivated to participate in initiatives as part of their hierarchy of preferences, commonly known as a value system (McShane & Traviglione, 2008). To improve the overall health and well-being culture of the organisation it may be beneficial to encourage employees who do not generally participate in program initiatives to realise the value in improving their health and well-being to develop healthier lifestyles.

4.7 Limitations

As previously mentioned, a limitation of Study 3 indicated that caution should be exercised on generalising from the data as the telephone interview study sample accounted for 0.9% of total personnel at the LCMO (as at 30th June 2011, there were 1,063 personnel [including contractor, agency and secondees] distributed between the Perth offices [466 personnel], offshore sites [254 personnel] and Karratha site [343 personnel]) for the period.

The findings from Study 3 may have been further supported had a question been added asking respondents how many sick leave days they had taken in the previous 12 months. This may have provided an insight into the absenteeism data for the telephone interview sample when investigating sick leave days taken and sick days not taken. It may have also been beneficial to include a specific question to ascertain the impact of the health and well-being program on the telephone interview sample, by asking “Do you think that participation in the health and well-being program improves your job satisfaction and general health and well-being?”. This added question may have provided an accurate insight into some of the outcomes of participating in health and well-being programs.
Lastly, the findings from Study 3 may have been further validated by inviting non-participants of the health and well-being program to be involved in the telephone interview study to compare and contrast qualitative and quantitative data. However, given that the participants who volunteered for the study participated in the health and well-being program (in some form), it was not possible to identify this limitation until collection and analysis of the data had commenced.

4.8 Summary

The aim of Study 3 was to seek clarification on whether the factor of Workload Pressure may be a negative predictor of participation in health and well-being programs due to inconsistencies in the 2009-2010 (Burston, 2010) and 2010-2011 survey questionnaire qualitative and quantitative data. This was done by examining psychological factors associated with why employees participate in health and well-being programs by implementing a series of telephone interviews to a random sample of LCMO employees.

Qualitative analysis of the telephone interview study found that various factors were associated with participation in health and well-being programs that were also found in Study 2 and were associated with participation in Study 3, such as Interest in General Health and Well-being (as supported by research into the importance of evaluating health and well-being programs to ensure improved engagement [Gebhardt & Crump, 1990; Griffiths, 1996]), Timing and Convenience (as supported by research outlining the need for organisations to structure and manage work-life balance initiatives more productively [De Cieri et al., (2005)]) and Socialising (as supported by research suggesting that health and well-being programs assist in sustaining a more favourable work culture (Parks & Steelman, 2008));
however the factor of *Interest and Enjoyment* was found to be associated and disassociated in differing contexts.

Qualitative analysis of the telephone interview study also confirmed that *Workload Pressure* was a negative predictor of participation in health and well-being programs, as supported by the 2009-2010 and 2010-2011 qualitative survey questionnaire analyses, but not the 2009-2010 and 2010-2011 quantitative survey questionnaire analyses. This likely contradiction may have resulted due to the interpretation of the question, or possibly that respondents felt more comfortable or encouraged to answer their true opinions and perceptions to the researcher through a telephone interview format.

Lastly, the results of this study indicated that there were elements of perceived organisational support theory (Rhoades and Eisenberger, 2002) emerging in the culture at the LCMO. These findings were identified by numerous responses from the telephone interview sample, such as “*My employer cares about me*” and “*There is a reciprocal culture*”. These finding were noteworthy and encouraging, as perceived organisational support has been associated to favourable employee psychological outcomes (such as positive job satisfaction and enhanced mood) (Rhoades & Eisenberger, 2002) and organisational outcomes (such as affective commitment, improved performance and reduced turnover) (Eisenberger, Huntington, Hutchison & Dowa, 1986). The findings from Study 3 suggesting that the health and well-being program may be assisting in creating perceived organisational support could enable the LCMO to gain further monetary support in the long-term period due to the positive short-term results evident in this study.
Chapter 5 : Discussion
5.1 Discussion

The purpose of this thesis was three-fold: (1) to determine if the presence of a health and well-being program had an effect on employee absenteeism for the period; (2) to investigate factors associated with participation in health and well-being programs using a large construction management organisation (‘LCMO’) over a two-year period; and 3) to seek clarification on whether Workload Pressure may have been a negative predictor of participation in health and well-being programs due to inconsistencies in the 2009-2010 and 2010-2011 survey questionnaire qualitative and quantitative data. This thesis was an intensive triangulated case study examining participation in health and well-being programs.

The aim of Study 1 was to determine if the presence of a structured health and well-being program had an effect on employee absenteeism before and after implementation at a large construction management organisation (‘LCMO’) operating in Western Australia. In 2009-2010 the LCMO had an ad-hoc approach to health and well-being in comparison to 2010-2011 where a structured health and well-being program was implemented across the business.

Results from Study 1 found that when compared to the data analysis from 2009-2010, overall mean employee absenteeism reduced in 2010-2011 suggesting that the implementation of a structured health and well-being program may have had a positive effect on reducing absenteeism at the LCMO. This finding indicates that the health of employees may have improved for the period, represented by an associated reduction in employee absenteeism at the LCMO. This finding was consistent with research outlining that participation in health and well-being programs contributes to a reduction in employee absenteeism (Aldana et al., 2005;
Results from Study 1 also found that when compared to the data analysis from 2009-2010, overall mean employee absenteeism at the offshore sites reduced in 2010-2011 suggesting that the implementation of a structured health and well-being program may have had a positive effect on reducing absenteeism. The associated reduction in overall mean employee absenteeism at the offshore sites indicated that structured health and well-being programs can be effective at reducing absenteeism in shift work and mine-site based operations in the construction industry. Further research examining whether health and well-being programs reduce absenteeism in the construction management industry was required due to a lack of previous research. Having confirmed that the implementation of a structured health and well-being program was associated with an associated reduction in absenteeism, the triangulated case study proceeded to focus on the central question of why people participate in health and well-being programs.

The aim of Study 2 was to investigate factors associated with participation in health and well-being programs at the LCMO over a two year period by re-administering the survey questionnaire in 2010-2011. The survey questionnaire also aimed to ascertain which aspects of the health and well-being program employees valued, which aspects of the program they felt could be improved and, most importantly to identify factors associated with participation and non-participation.

Results from Study 2 found that six of 11 factors tested were associated with participation in health and well-being programs. These factors were Interest in
General Health and Well-being, Interest and Enjoyment, Recruitment and Attraction, Timing and Convenience, Job Satisfaction and Socialising. Combining these factors, discriminant function analysis was 78.7% accurate in predicting membership of the group of people who did participate and 80.0% accurate in predicting whether people did not participate. The analysis showed that it was possible to reliably predict participation in the health and well-being program based on responses to various items in the questionnaire.

The results of Study 2 were consistent with perceived organisational support research that suggest employees who are more involved with the organisation may feel valued by the organisation and can foster organisational benefits such as endorsement and respect, salary and promotion (Rhoades & Eisenberger, 2002). The results of Study 2 supported elements of perceived organisational support which have led to favourable outcomes in employees such as improved job satisfaction (Rhoades & Eisenberger, 2002). It has also been recognised that employees who are emotionally committed to their organisation display improved performance, reduced absenteeism and are more likely to stay with the organisation (Mathieu & Zajac, 1990; Meyer & Allen, 1997; Mowday et al., 1982).

When predicting participation in health and well-being programs, Study 2 found inconsistencies in quantitative and qualitative responses correlated to the topic of Workload Pressure. That is, a similarly phrased question was consistently answered differently when presented in quantitative and qualitative format in the survey questionnaire. This possible contradiction may have resulted due to the interpretation of the question by the respondent. This nuance provided the rationale for implementing a series of qualitative open-ended telephone interviews to a
random sample of employees to further examine participation in health and well-being programs and seek clarification on whether Workload Pressure may have been a negative predictor of participation in health and well-being programs.

Study 3 was the final component of the triangulated case study examining participation in health and well-being programs. The aim of Study 3 was to seek clarification on whether Workload Pressure may have been a negative predictor of participation in health and well-being programs due to inconsistencies found in the 2009-2010 and 2010-2011 survey questionnaire qualitative and quantitative data. Notable inconsistencies were found when examining the 2009-2010 and 2010-2011 discriminant function analyses and qualitative analyses for the independent variable of Workload Pressure. More specifically, when respondents were asked why they found it difficult to find time to regularly participate in health and well-being programs, they most frequently responded with “workload pressure”. This was contradictory to the quantitative question “I feel that my work-related commitments prevent or reduce my participation in LCMO Health and Well-being programs”, where the discriminant function analysis found that the question measuring Workload Pressure was not a significant predictor of participation in health and well-being programs in the 2009-2010 and 2010-2011 survey questionnaires.

The results of Study 3 found that various factors that were associated with participation in health and well-being programs were also found in Study 2, such as Interest in General Health and Well-being, Timing and Convenience and Socialising. The factor of Interest and Enjoyment was found to be associated and disassociated in differing contexts. Qualitative analysis of the telephone interview study also confirmed that Workload Pressure was a negative predictor of participation in health
and well-being programs, as supported by the 2009-2010 and 2010-2011 qualitative survey questionnaire analyses, but not the 2009-2010 and 2010-2011 quantitative survey questionnaire analyses.

The results of Study 3 also indicated that there were elements of perceived organisational support theory (Rhoades and Eisenberger, 2002) emerging in the culture at the LCMO. This finding was represented by numerous responses in the telephone interview sample, such as “My employer cares about me” and “There is a reciprocal culture”. This finding was noteworthy and encouraging as perceived organisational support has been associated to favourable employee psychological outcomes, such as positive job satisfaction and enhanced mood (Rhoades & Eisenberger, 2002). However, a notable limitation of Study 3 indicated that caution should be exercised in generalising from the data as the telephone interview study sample accounted for 0.9% of total personnel at the LCMO.

5.2 Why do people participate in health and well-being programs?

When examining the central question of why people participate in health and well-being programs, the 2010-2011 survey questionnaire analyses found six of 11 factors associated with participation. Analysis of the literature showed that no previous single study had attempted to determine the best predictors of participation using the full range of possible inherent and psychological predictors. The 2010-2011 survey questionnaire analysis found the following six factors associated with participation with health and well-being programs: 1) Interest in General Health and Well-being, 2) Interest and Enjoyment, 3) Recruitment and Attraction, 4) Timing and Convenience, 5) Job Satisfaction and 6) Socialising. The analysis showed that it was
possible to reliably predict participation in the health and well-being program based on responses to various items in the questionnaire.

This study’s findings suggest that the factor of *Interest and Enjoyment in General Health and Well-being* was associated with participation and was consistent with research that found employees who participated in health and well-being programs tend to be healthier and more productive, possibly providing a motivation for participation (Griffiths, 1996; Parks & Steelman, 2008). Further, this study’s findings suggest that employees who valued health and well-being may have been more likely to participate in program initiatives possibly leading to greater well-being and employee commitment (as more employees become engaged with the organisation through participation in wellness initiatives) (Falkenberg, 1987).

The discriminant function analysis found that all three *Interest and Enjoyment* quantitative items in the survey questionnaire were predictors of participation in the LCMO health and well-being program. This finding supported the notion that if an employee values their individual health and well-being they will be more intrinsically motivated to participate in initiatives because they find interest and enjoyment by doing so. These findings align with research consistent with social psychologists that intrinsic motivation and self-determination theory are correlated (Csikszentmihalyi, 1990; Deci & Ryan, 1971; White, 1959). According to Csikszentmihalyi (1990), when individuals are intrinsically motivated they will feel a sense of enjoyment and ‘flow’ when participating in activities that meet their psychological needs and inherent growth tendencies.

This study’s findings indicated that in conjunction with the factor of *Recruitment and Attraction*, employees favorably selected an organisation to work
with depending on the presence of a health and well-being program; this suggests that the promotion of health and well-being programs can be a successful recruitment enabler for those that value health and wellness. These findings were consistent with research that indicated potential candidates who value physical fitness and living a healthy lifestyle may be more likely attracted to an organisation offering a health and well-being program, over one that does not (Falkenberg, 1987; Parks & Steelman, 2008).

This study’s findings that the factor of Timing and Convenience was associated with participation in general health and well-being programs was indicated by one of the four items in the survey questionnaire being a predictor of participation. That is, employees of the LCMO found the activity locations and schedules convenient which provided a predictor for participation in health and well-being initiatives. According to findings in this study, employees appeared to want program initiatives that were easy and convenient to attend. These findings were consistent with Thaler and Sunstein’s (2008) Nudge Theory which suggests that people may be more inclined to do things if the choice to do them is made more convenient.

This study’s findings that the factor of Job Satisfaction was associated with participation in general health and well-being programs was consistent with research that found that the positive outcomes of health and well-being program initiatives (for example, improved wellness and mental well-being) assisted in enhancing individuals’ job satisfaction. These findings were also consistent with research that indicated job satisfaction is an important factor when influencing the health of workers (Faragher et al., 2003; Thogersen-Ntoumani & Fox, 2005). The relationship
between physical activity contributing to greater physical and mental well-being, found by Thogersen-Ntoumani and Fox (2005), suggested that the workplace is an ideal venue for improving mental health and job satisfaction to alleviate the negative effects of stress and work-place related illness.

Subsequently, the findings that Job Satisfaction was a predictor in participation with health and well-being programs indicated that a positive association existed between general health and well-being and job satisfaction. This relationship suggests that by participating in health and well-being programs to maintain general health and well-being, employees enhance their level of job satisfaction. These findings were consistent with various studies that found participation in health and well-being programs improved employee job satisfaction (Dubbert, 2002; Griffiths, 1996; Parks & Steelman, 2008; Rhoades & Eisenberger, 2002). As mentioned, health and well-being programs are a form organisational support that has been shown to be positively related to job satisfaction; possibly because they assist in the socio-emotional needs of employees and demonstrates that the organisation cares about their staff (Rhoades & Eisenberger, 2002).

The finding that Socialising was associated with participation in general health and well-being programs indicated that the opportunity to interact with others to either fulfill a sense of belonging or to feel positive emotional reward through social attachment (by sharing common interests or experiences) was a predictor of participation. This finding was noteworthy, as it indicated that the program activities provided opportunities for employees to informally communicate and come together whilst participating in health and well-being program activities. These findings were consistent with research that emphasised the importance of positive reinforcement as
the most effective method to encourage behaviour that fosters social engagement at work (Daniels, 2009; Ludwig & Frazier, 2012). In this instance, the intrinsic reward that employees experienced whilst participating in health and well-being program initiatives is the positive reinforcement for creating associated value-added behaviours to foster a positive and social work environment.

When examining the central question of why people participate in health and well-being programs, the 2010-2011 survey questionnaire analyses found five of 11 factors that were not associated with participation. The 2010-2011 survey questionnaire analysis found the following five factors were not associated with participation in health and well-being programs: 1) Mood State, 2) Physical Fitness, 3) Stress, 4) Family Commitments and, 5) Workload Pressure.

The findings for Mood State were that it was not positively associated with participation in health and well-being programs suggesting that respondents did not participate in health and well-being initiatives to improve their mood state. This may imply that employees participate in health and well-being program initiatives for factors other than generating a ‘positive mood state’, for example to possibly raise their awareness in wellness education and healthy learning, as represented in the qualitative findings. These findings were inconsistent with Scully et al. (1998) and Stewart and Barling (1996) that suggested employees may participate in health and well-being fitness initiatives that lead to a positive effect on mood state, which may have also mediated the negative outcomes associated with stress.

The discriminant function analysis found that both Physical Fitness quantitative items in the survey questionnaire were not significant predictors of participation in health and well-being programs. As mentioned in Chapter 3, it was
noted in the qualitative analysis that some employees engage in their own personal fitness regime, which may have explained why some employees do not participate in the sponsored fitness program initiatives. Given this finding, it is a plausible assumption to suggest that the efforts of promoting a healthy lifestyle are being recognised amongst employees as they increasingly incorporate independent wellness measures without using the sponsored health and well-being program. There is much research to support the positive health outcomes of participating in physical fitness, such as reducing the negative effects of stress, improving well-being and reducing the likelihood of obesity (Brown, 1991; Hansen, Stevens & Coast, 2001; Thogersen-Ntoumani & Fox, 2005; Yeung, 1996). With a greater emphasis on the promotion of the positive effects of physical fitness, further attitudinal changes towards health and well-being may continue to be realised at the LCMO.

The study’s findings that the factor of Stress was not positively associated to participation in health and well-being programs suggests that possibly only a small proportion of employees participate in sponsored program initiatives to reduce the negative effects of stress. None of the four items in the survey questionnaire were clear predictors of participation in health and well-being programs. This finding was anomalous given that workplace stress is a leading contributor to illness, anxiety and depression in Australia with almost one third of the population identifying workplace stressors as a contributor to illness (Casey, 2012). The factor of Stress as a non-predictor of participation in health and well-being programs may suggest that employees do not perceive the organisation as an avenue for reducing stress; more so as an avenue for increasing workplace stress (according to the above findings by Casey, 2012). That is, whilst one third of the population identify workplace stressors
as a contributor to illness, organisations still have much to do to create attitudinal changes to show employees that organisational health and well-being is valued and implementing initiatives to reduce workplace stress are important to management.

However, it may also be the case that the findings for the factor of Stress were consistent with research that supports the notion that by participating in health and well-being programs employees will learn improved wellness habits leading to a healthy lifestyle. In turn, employees may become less susceptible to the negative effects of stress (Donaldson, 1993); suggesting that the outcome of reducing stress is not an inherent or psychological predictor of participation.

The discriminant function analysis associated with the factor of Family Commitments found that the single quantitative item in the survey questionnaire was not a significant predictor of participation in health and well-being programs. These findings may be linked to the significance of Timing and Convenience, where employees found the activity locations and attractive schedules convenient enough to indicate that it was a factor to predict participation. Given this finding, it is a plausible assumption to suggest that Family Commitments would not have been a predictor of participation in health and well-being programs as the initiatives did not impede on their family commitments or time associated with family. It is also pertinent to report that as family status was not reported in the survey questionnaire, the factor of Family Commitments was not a predictor of participation in health and well-being programs for this sample only.

Lastly, the discriminant function analysis associated with the factor of Workload Pressure found that the single quantitative item for Workload Pressure in the survey questionnaire was not a significant predictor of participation in health and
well-being programs, but was associated with non-participation in the qualitative analysis in both Study 2 and Study 3 (as discussed in Chapter 3). As mentioned in the General Introduction, Workload Pressure may involve a self-perception that individual work tasks/demands outweigh an internal perceived ability to cope with pressures/deadlines. However, based on the responses given in the telephone interview study (Study 3), it can be confirmed that Workload Pressure was perceived to impede on participation in the health and well-being program at the LCMO. This finding implies that for those employees who have many work-related pressures, they may be unable to find the time to participate in health and well-being program initiatives. This finding is supported by research that suggests respondents experiencing pressure in their roles prevent them from initiating work-life balance techniques (De Cieri et al., 2005; Webber et al., 2010).

5.3 Theoretical conclusions

5.3.1 A conceptual model of why people participate in health and well-being programs

When conceptually examining all three studies as part of this intensive triangulated case study, the central question of why people participate in health and well-being programs and its impact on mean employee absenteeism can be illustrated in Figure 3.0.
Figure 3.0 illustrates the relationship between the six associated factors that predict participation in health and well-being programs by showing their relationship with participation and the outcome of participation by reducing absenteeism. The factor of *Workload Pressure* has a dotted border leading to participation, as it was not associated to participation in the discriminant function analysis, but associated to non-participation in the qualitative analysis in Study 2 and Study 3. As the six factors predict participation in health and well-being programs, the current study has found that by identifying these inherent and psychological predictors of participation incorporated as part of a structured health and well-being program a likely reduction
in absenteeism can be a tangible outcome. For example, when addressing the factor of *Timing and Convenience* as a predictor of participation in combination with the five other associated factors presented in Figure 3.0, a reduction in employee absenteeism can be accomplished.

Figure 3.0 demonstrates that participation in a structured health and well-being program can have a positive effect on reducing employee absenteeism. By incorporating practical methods involved with the six predictors of participation (as illustrated in Figure 3.0) it is likely that participation in health and well-being programs can be increased.

More specifically, the predictor of *Interest and Enjoyment* may be incorporated by seeking routine feedback on initiatives that employees find interesting and receive enjoyment by participating in. The predictor of *Interest in General Health and Well-being* may be incorporated by gauging the level of interest in each initiative; possibly by distributing small surveys after each initiative and implementing an annual survey to generate organisation-wide feedback. The predictor of *Job Satisfaction* may be realised as an outcome of participation in the health and well-being program by encouraging individuals to provide feedback and become more involved in the engagement process (either through providing routine feedback or by participating).

The predictor of *Recruitment and Attraction* may be incorporated by promoting the health and well-being program during the recruitment process. By offering information on the structured nature and diversity of the program made available to employees of the LCMO, it is a plausible assumption that this may be an attractive driver for prospective candidates that value health and well-being. The
predictor of *Socialising* may be incorporated by developing more initiatives that are group-based to provide employees with the opportunity to belong and create social attachments to form the fundamental basis of this predictor. The predictor of *Timing and Convenience* may be incorporated by ensuring that health and well-being initiatives are conveniently scheduled and easy to attend. This feedback can be generated by issuing small surveys after each initiative to gauge the level of satisfaction with the timing and convenience found by employees. The factor of *Workload Pressure* may be addressed by observing trends in productivity and engaging with managers and senior members of staff to monitor workload and levels of job strain experienced throughout the implementation of projects to ensure greater consistency of participation in health and well-being initiatives.

### 5.3.2 The factor of Workload Pressure

When clarifying the factor of *Workload Pressure* as a negative predictor of participation in health and well-being programs, it is a plausible assumption that this factor may not have been associated as a predictor in the discriminant function analysis due to it being correlated to other factors such as *Job Satisfaction*. That is, when people are feeling pressured by workload this may lead to a reduction in job satisfaction, and as such may have statistically accounted for *Workload Pressure* as a factor associated with participation in the quantitative analysis. This theory can be conceptualised in Figure 4.0.
Figure 4.0 – The possible mediated relationship between *Workload Pressure* and the six predictors of participation in health and well-being programs

Figure 4.0 suggests that the predictors associated with participation in the health and well-being program may have mediated the relationship between *Workload Pressure* and participation in the discriminant function analysis. That is, the impact of the discriminant function of *Workload Pressure* may have been counteracted or superseded by one or a number of the other factors to which it was related. The mediated effect may have also been associated with the use of only one single item to measure *Interest in General Health and Well-being*. Theoretically,
Workload Pressure may be an indirect predictor of participation. For example, Workload Pressure may decrease Job Satisfaction while the discriminant function analysis defects the relationship between Job Satisfaction and participation.

In theory, if an employee is experiencing workload pressure and decides to participate in a health and well-being initiative, the significance of one of the other items may have counteracted the aforementioned relationship in the discriminant function analysis subsequently resulting in an association in the qualitative analysis as more specific data can be drawn from responses. Figure 4.0 also suggests that given there is a possible mediated effect on Workload Pressure, the extent of the effect was unknown within the discriminant function analysis.

5.4 Limitations

As mentioned in Chapter 2, a limitation of Study 1 was that it did not specifically record which employees participated in the health and well-being program and which employees did not. The absenteeism data illustrated organisation-wide changes in mean employee absenteeism for the period at the LCMO. If a key driver of the reduction in mean employee absenteeism is the presence of a structured health and well-being program, then it is likely that this average has been reduced by the employees who participated in the health and well-being program, whereas the absenteeism data for employees who do not participate would likely to have been relatively stable. To alleviate this limitation, future studies may aim to include identification of employees who participated in the health and well-being program and those that did not to gain a greater understanding of the specific effects that initiatives have on mean employee absenteeism. It was also noteworthy to mention that the absenteeism findings in Study 1 did not include
presenteeism and were only related to employees who recorded sick leave for medical reasons, which may also provide a limitation for the study as any effect of presenteeism on the study was unknown.

As mentioned in Chapter 3, a limitation of Study 2 was that only employees in the Perth corporate offices were invited to participate in the survey questionnaire in 2009-2010 and 2010-2011. This indicates that blue-collar employees at the LCMO did not complete the survey questionnaire in 2009-2010 and 2010-2011 where key findings to the current study may have impacted blue-collar employees at the Karratha and offshore operations. To alleviate this limitation and to provide the greatest opportunity for improvement, future survey questionnaires need to include all LCMO personnel based at all locations to ensure accurate and reliable findings that are relevant to all parts of the business.

As mentioned in Chapter 4, a limitation of Study 3 indicated that caution should be exercised in generalising from the data as the telephone interview study sample accounted for 0.9% of total personnel at the LCMO (as at 30th June 2011, there were 1,063 personnel [including contractor, agency and secondees] distributed between the Perth offices [466 personnel], offshore sites [254 personnel] and Karratha site [343 personnel]) for the period.

Study 3 may have been further validated by including a question in the telephone interview study that asked respondents how many sick leave days they had taken in the previous 12 months. This may have provided an insight into the absenteeism data for the telephone interview sample when investigating sick days taken and sick days not taken.
When examining the effect of the factor of *Family Commitments*, family status was not reported in the survey questionnaire resulting in a non-association with participation for the current sample only. In future, researchers should address this limitation to ascertain the extent that specific family arrangements (i.e. married, de-facto, single arrangements) may have on this predictor.

A final limitation of this study may have been that it was conducted exclusively within one industry, being the construction sector. Factors pertaining to why people participate in health and well-being programs may differ within industry, and hence future research should aim to address the research question by sampling different industries.

### 5.5 Future research

In an effort to improve the health and well-being of the Australian population and, given that many employees spend the majority of their waking hours in the workplace, it makes sense for the workplace to be a venue for health investment (Baicker, Cutler & Song, 2010; Dishman, Oldenburg, O’Neal, & Shephard, 1998; Person, Colby, Bulova & Whitehurst-Eubanks, 2010). However, participation in health and well-being programs among employees is still generally less than 50% (Robroek et al., 2009), implying that organisations have much to do to improve engagement in health and well-being programs.

The results of this intensive triangulated case study have confirmed the importance of generating employee feedback to improve factors such as job satisfaction and reduce organisational costs such as absenteeism. Researchers need to begin to focus on whether there are differing associative factors for participation in health and well-being programs by examining industry-specific organisations, such
as private and public sectors where predictors of participation may be different. This may include comparing predictors of participation in sectors that are experiencing the highest increases in absenteeism, for example banking, finance, infrastructure and call-cost centres (Direct Health Solutions, 2010).

It is also thought that health and well-being programs can lend themselves to multi-disciplinary approaches that can be further examined. That is, investigating whether the inclusion of leadership pillars and Key Performance Indicators associated with wellness values can influence participation in structured health and well-being programs. Researchers need to begin to answer whether perceived supervisor support (Rhoades & Eisenberger, 2002) can be used as an enabler to improve participation in health and well-being programs. Factors associated with this recommendation may include an individual supervisor’s value system toward health and well-being and other factors (for example, motivation to support, type of behavioural support and organisational climate). According to Eisenberger et al., (2002) both perceived organisational support and perceived supervisor support are highly desirable contributors when developing and sustaining a positive health and well-being culture where supervisors act as advocates for the organisation by encouraging participation and representing the organisation’s commitment to health; the belief is that their employer cares about their well-being. Perceived organisational support and perceived supervisor support aid in creating a positive organisational culture, which is pertinent to improving participation in health and well-being programs and reducing employee absenteeism.

Further, the ongoing question of why mostly healthy employees participate in health and well-being programs suggests that those most in need of health awareness
are not being engaged (Glasgow, McCaul & Fisher, 1993). It was noted that in the 2009-2010 and 2010-2011 statistical analyses that non-participation in health and well-being programs at the LCMO was generally between 43-50%; indicating that much of the workforce were not engaging with the health and well-being program. These non-participation rates suggest that some employees may have personal health regimes and felt no requirement to participate in organisational health and well-being programs, or that many were not participating for various reasons. It is recommended that fellow researchers examine the specific underlying factors (either psychological or inherent) associated with people who do not participate in organisational health and well-being programs. Evidence suggests that with an increasing prevalence of obesity and workplace stress, there are many more employees that may benefit from participating in health and well-being initiatives that are in most need of health education and greater awareness.

Further, given that in Australia 32% of people identify workplace stressors as a contributor to illness (Casey, 2012) researchers need to investigate the origins of workplace stressors in an effort to incorporate targeted and mainstream stress management initiatives into health and well-being programs (Casey, 2012). Researchers need to begin to examine how organisational health and well-being programs can reduce workplace stress and examine the most efficient methods available to fully utilise the workplace as an effective venue for health investment; this may include examining the attitudinal changes required in some employees to recognise the program’s significance.

A direction for future research also lies in exploring the potential mediated relationship of Workload Pressure on participation. Given that the current study
indicated that Workload Pressure was a factor associated in participation in the qualitative analysis, but not the quantitative analysis, further research may be useful by researching the hypothesis that other factors may also mediate the relationship between a predictor and participation in health and well-being programs.

5.6 Conclusion

Employee health and well-being programs are organisation-sponsored activities aimed at improving employee health by promoting and embracing positive and sustainable health behaviours (Wolfe, Parker & Napier, 1994). Organisations are increasingly electing to implement health and well-being programs due to the financial, economic and social benefits associated with a healthier and more productive workforce (Health and Productivity Institute of Australia, 2008). In Australia, 32% of people identify workplace stressors as a contributor to illness (Casey, 2012). However, given the associated individual health and organisational benefits associated with the implementation of health and well-being programs, participation among employees is still generally less than 50% (Robroek et al., 2009).

The findings from this triangulated case study suggest that the implementation of a structured health and well-being program can have a positive effect on reducing absenteeism. Further, when focusing on the central question of why people participate in health and well-being programs, there were six factors associated to participation 1) Interest in General Health and Well-being, 2) Interest and Enjoyment, 3) Recruitment and Attraction, 4) Timing and Convenience, 5) Job Satisfaction and 6) Socialising. The study also found that by combining these factors, discriminant function analysis was 78.7% accurate in predicting membership of the
group of people who did participate and 80.0% accurate in predicting whether people did not participate. The analysis showed that it was possible to reliably predict participation in the health and well-being program based on responses to certain items in the questionnaire. Thirdly, when seeking clarification on whether Workload Pressure was a negative predictor of participation in health and well-being programs (due to inconsistencies in the 2009-2010 and 2010-2011 survey questionnaire qualitative and quantitative data), it was confirmed that Workload Pressure was perceived by a sample of employees to be a negative predictor of participation in health and well-being programs.

The results of this case study helped to clarify why people participate in health and well-being programs and the relationship between implementing a structured health and well-being program and its positive effect on reducing mean employee absenteeism. The findings of this case study indicated that it was possible to determine the best predictors of participation using the full range of possible inherent and psychological predictors. Further research on whether mediators explain why the factor of Workload Pressure was not a direct predictor of participation in the discriminant function analysis need to be addressed.
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Chapter 7 : Appendices
Appendix A – Ethics approval letter

Dear Guy,

Project No. 2010/034
Project Title Why do Employees Participate in Health and Wellbeing Programs and Why do Employees Not Participate? A Case Study

AMENDMENTS Addition of 3 Data groups, as advised.

Your application for an amendment to the above project, received on 7 October 2011 was reviewed by the Murdoch University Research Ethics Office and was

APPROVED

Approval is granted on the understanding that research will be conducted according to the standards of the National Statement on Ethical Conduct in Human Research (2007), the Australian Code for the Responsible Conduct of Research (2007) and Murdoch University policies at all times. You must also abide by the Human Research Ethics Committee’s standard conditions of approval (see attached). All reporting forms are available on the Research Ethics web-site.

I wish you every success for your research.

Please quote your ethics permit number in all correspondence.

Kind Regards,

[Signature]

Dr. Keri von Datess
Manager of Research Ethics

[Note: Signature and contact information]
Appendix B – Examples of LCMO health and well-being program initiatives

HSE – Health and Wellbeing Newsletter

Heath and Wellbeing Calendar of Events

March 2011
- Drive More, Thinking about Quitting Smoking

March 2011
- Pharma go green, bike to work

April 2011
- FREE General Training Seminar (12 December 6pm)

April 2011
- Annual Spring Clean (flyer and info sent in the coming week)

May 2011
- Obe One and jubilance

June 2011
- Work Heath for you and your family

July 2011
- Body Balance – FREE COCKTAIL / FREE MASSAGE

FREE MASSAGE

During the month of April, there is the opportunity for you to be pampered with a free 15 minute massage. A massage therapist will be setting up shop in Bistro, Rooms B1, and D1, Forest Centre Levels 7 and 10, Forest Centre Levels 7 and 10. Enjoy your chance with some relaxation.

Want to Become A Start Smart Coach…

COURSES ARE NOW OPEN FOR REGISTRATION

What are some the benefits:

- Developing leadership skills
- It’s a fun way to start the day
- A nationally accredited course
- Reduction in stress levels
- Increase in muscle and joint flexibility
- Improved team morale

To register please email Tenille Trigwell Extn 87591 Email trigwellt@transfield-worley.com.au along with your preferred course date.

- Wednesday 23rd June 8am – 2pm
- Thursday 24th June 8am – 2pm
- Monday 21st July 8am – 2pm
- Wednesday 28th July 8am – 2pm

EMAIL:

start smart
WARM-UP/AT-WORK STRETCHING
Appendix C – Study 2 research invitation letter from the LCMO

LCMO LOGO HERE

MC Alice Burkan
Director of Psychology researcher
Monash University
90 Second Street
Mundock WA 6190

20th June 2013

Dear Nick,

On behalf of the HSE Workforce Division, we are delighted to invite you to participate in our research study titled "Why do employees participate in health and wellbeing programmes". As a follow-up study to the research you conducted with our staff.

We understand that this research will be conducted under stringent Monash University Ethics guidelines and will be in accordance with the National Statement on Ethical Conduct in Human Research (2007) and coordinated with the instruction of a Monash University supervisor.

With the assistance of your research, we anticipate to receive feedback on our health and wellbeing program from the perspective of our workforce and our employees. This includes both contract and staff employees. We understand that your topic will involve a voluntary survey that will be accessible online.

At the time of this correspondence, the survey will be delivered in August 2013 subject to the approval and collaboration of our internal guidelines. We look forward to working with you to further assist you in your research interests.

Yours sincerely,

[Signature]

Alice Burkan
Monash University researcher
Appendix D – The LCMO health and well-being questionnaire
Appendix E – Study 3 telephone interview guide

Why do employees participate in health and wellbeing programs?

1.0 Why do you participate in health and wellbeing programs?
2.0 Why don’t you participate in health and wellbeing programs?
3.0 What can you tell me about the health and wellbeing culture at LCMO?
4.0 What aspects do you value about the health and wellbeing programs offered at LCMO?
5.0 What aspects do feel do not add to the health and wellbeing programs offered at LCMO?
6.0 Why do you think it can be difficult to find time to regularly participate in LCMO’s health and wellbeing programs?
7.0 How would you rate your job satisfaction on a scale of 1 to 5? (1 being highly unsatisfied, and 5 being highly satisfied)
8.0 How would you rate your current health and wellbeing on a scale of 1 to 5? (1 being unhealthy and frequently unwell, and 5 having general good health and wellbeing)
Appendix F – Study 3 information letter to participants

Information Letter

"Why do employees participate in Health and Wellbeing Programs?"

Dear employees,

The purpose of this project is to conduct a detailed evaluation into some of the reasons why Transfield Works employees participate in health and wellbeing programs. Dr. Guy Curtis and Ms. Alice Barson (Doctorate of Psychology student) are working together to evaluate this program. We hope to find out whether the program is meeting its aims successfully and whether there is anything we can learn from you that will be of value to other similar programs.

You are invited to participate in a telephone interview on either Monday 30 April or Tuesday 17 April 2012 (as scheduled). The telephone interview will last about 10-15 minutes.

We want to find out both your understanding of the program as well as your opinions about it. To help us achieve this, you may/may not have previously completed the TW Health and Wellbeing Survey 2011 conducted in August 2011. The telephone interview is a follow-up to this survey. The telephone interview is voluntary and open to anyone over the age of 18 employed at , regardless of whether they completed the TW Health and Wellbeing Survey 2011 survey or not.

You can decide at any time to withdraw your consent to participate in this research. If you decide to withdraw, any material you have given us will be destroyed. Withdrawing from the research will have no consequences for your ongoing participation in the program.

Please see attached a Murdoch University Consent Form. Please print, sign and return it to me before your interview occurs on your scheduled date. My supervisor and I are happy to discuss with you any concerns you may have regarding this study.

You can expect to receive feedback in May 2012. Thank you again for your participation.

Yours Sincerely,

[Signature]

Doctorate of Psychology student

This study has been approved by the Murdoch University Human Research Ethics Committee (Approval 2012/14). If you have any question or concern about the ethical conduct of this research, and wish to talk with an independent person, you may contact Murdoch University’s Research Ethics Office (Tel. 08 6304 5167 or e-mail ethics@murdoch.edu.au). Any issues you raise will be treated in confidence and investigated fully, and you will be informed of the outcome.
Appendix G – Study 3 consent form for participants

1. I agree voluntarily to take part in this study.

2. I have read the information sheet provided and been given a full explanation of the purpose of this study, of the procedures involved and of what is expected of me. The researcher has answered all my questions and has explained the possible problems that may arise as a result of my participation in this study.

3. I understand I am free to withdraw from the study at any time without needing to give any reason.

4. I understand I will not be identified in any publication arising out of this study.

5. I understand that my name and identity will be stored separately from the data, and that these are accessible only to the investigators. All data provided by me will be analysed anonymously using code numbers.

6. I understand that all information provided by me is treated as confidential and will not be released by the researcher to a third party unless required to do so by law.

7.☐ I consent for this session to be audio-taped.
☐ I am not willing for this session to be audio-taped.

8.☐ I would like to receive a copy of the feedback from the study. Please contact me at ______________________

9. I understand that the audio equipment utilized during this session will be used only for the purpose of creating a transcript, and I will not be individually identified in the transcript.

Signature of Participant: ___________________________ Date: …/…/2012

Name: ___________________________

Signature of Investigator: ___________________________ Date: 11/04/2012

Name: Alice Carson Doctorate of Psychology student (DPsych, MPsych App GrC)