Understanding the predictors of participation and the barriers to employee involvement in workplace health promotion programmes

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ABSTRACT

The benefits of workplace health promotion programmes for organisations are well documented. However, the problem of low employee participation has continued to challenge managers, and is an area that has received relatively little attention in health promotion literature, particularly in New Zealand. The purpose of this investigation is to develop a better understanding of the variables predicting, and the barriers preventing, employee participation in health promotion activities. Thereby assisting managers to maximise participation rates and develop successful workplace health promotion initiatives.

This research centred on identifying and assessing the predictors and barriers to employee participation in nine health promotion activities commonly offered in New Zealand organisations. The data collection process included an initial preliminary study, followed by a large online questionnaire completed by 883 New Zealand employees. These results led to developing an in–depth qualitative study, involving semi–structured face–to–face interviews with 20 employees, designed to triangulate and add further depth in understanding the factors that influence employee participation in health promotion programmes.

Research results determined that the likelihood of an employee participating is best predicted by their age, gender, perceived stress, job satisfaction, supervisor support, organisational health climate, and degree of perceived job flexibility. Conversely, the barriers preventing participation included activities scheduled at inconvenient times, a lack of information about the activities, excessive work and family commitments, low job flexibility, low self–efficacy, feeling embarrassed, and a lack of trust in supervisors. Maintaining participation was achieved through continuously changing activities, and constant communication with participating staff.

To maximise participation, the present investigation recommends that managers consider the organisation's environment, by way of managerial support and cultivating a positive organisational health climate, schedule activities during normal working hours and provide time off for employees to take part, allow greater job flexibility, fully subsidise any financial costs, and ensure all employee health information is secure. When attrition is present, managers would benefit from focusing on motivational strategies, introduce rewards and incentives, and demonstrate their own high motivation, commitment and enthusiasm to the programme.

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TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1: INTRODUCTION

> **Outline of Chapter One:**
> 1.1   What is this study about?
> 1.2   What are workplace health promotion programmes?
>   1.2.1   The benefits of employee participation
>   1.2.2   The problem of low participation
> 1.3   Conceptual design of the study
>   1.3.1   Defining the concepts
>   1.3.2   Identifying the key predictor variables
>   1.3.3   Barriers to participation
>   1.3.4   Examining multiple activities
> 1.4   Wider applications
> 1.5   Outline of the methodology
> 1.6   Thesis structure

1.1   What is this study about?

The purpose of this research investigation is to develop a better understanding of the variables that influence employee participation in workplace health promotion programmes. To achieve this objective, this thesis will explore the factors predicting employee participation in a broad range of health promotion activities, and investigate the barriers that inhibit their participation.

The benefits to an organisation of increased employee participation in workplace health promotion programmes include reduced absenteeism and health care costs, and increased productivity, job satisfaction and staff retention (Burton, Pransky, Conti, Chen, & Edington, 2004; Collins et al., 2005; Loeppke et al., 2007; Shamian & El–Jardali, 2007). However, none of these benefits are realised unless employees take part. Herein lies the problem: participation in workplace health promotion programmes is traditionally low (Kwak, Kremers, Van Baak, & Brug, 2005; Linnan, Sorensen, Colditz, Klar, & Emmons, 2001), and our understanding of why this occurs is extremely limited.

1.2   What are workplace health promotion programmes?

Workplace health promotion programmes are employer–sponsored activities and initiatives designed to help employees improve their physical and emotional health and well–being. They include activities designed to educate and facilitate lifestyle management practices,

behavioural change techniques, and health management strategies (Aldana & Pronk, 2001; Cooper & Williams, 1994; Fedotov, 1998; Murphy & Cooper, 2000; Shain & Kramer, 2004; Yassi, 2005). Employers introduce these initiatives to encourage employees to adopt healthier lifestyles, and assist them in changing poor lifestyle behaviours. Programmes are often designed to improve the health of a workforce, rather than just those who have a specific illness or health condition (Loeppke et al., 2008).

In New Zealand workplaces, as in other countries, the range of activities offered to employees as part of a workplace health promotion programme is extensive, and no standardised list of activities exists. However, typical activities implemented as part of a health promotion programme include exercise and sports–orientated activities, weight and stress management programmes, counselling interventions, smoking cessation initiatives, and health seminars educating employees on nutrition, disease prevention, health care needs assessments and healthy lifestyle behaviours (Herman et al., 2006; Parks & Steelman, 2008; Tveito & Eriksen, 2009; Ware et al., 2008).

Workplace health promotion programmes can complement legislative occupational health and safety policies and procedures operating in New Zealand. There is some level of overlap between workplace health promotion activities and occupational safety and health activities; however, there are also notable differences. Occupational safety and health policies and procedures are designed to protect an employee's health and safety while they are at work. Policies and procedures are governed by the Health and Safety in Employment Amendment Act 2002; they are mandatory and must be adhered to by both the employer and the employee. Conversely, workplace health promotion programmes are often voluntary and not governed by strict legislation; managers choose whether or not to offer health promotion activities to employees, and employees choose whether or not to participate in them.

The other most notable difference between workplace health promotion and occupational safety and health concerns the overall objectives of each activity or initiative. Occupational safety and health initiatives are designed to prevent employees from suffering physical or emotional harm caused by identifiable hazards at work. The main objective of these initiatives is to *maintain* an employee's health while he or she is at work. In contrast, workplace health promotion programmes are often more holistic and designed to *improve* an employee's physical or emotional health. Additionally, workplace health promotion

initiatives are not restricted to the workplace, and often facilitate healthy lifestyle behaviours both in and out of work (DeJoy & Southern, 1993).

1.2.1   The benefits of employee participation

The benefits to organisations of sustained employee participation in workplace health promotion programmes are well documented and include reduced absenteeism, increased productivity, and reduced staff turnover (Steffick, Fortney, Smith, & Pyne, 2006; Taitel, Haufle, Heck, Loeppke, & Fetterolf, 2008).

Reduced absenteeism has two main impacts for employers: reduced health care costs and increased productivity (Collins et al., 2005; Golaszewski, Snow, Lynch, Yen, & Solomita 1992; Loeppke et al., 2007; Springett & Dugdill, 1995).   In New Zealand organisations, work–related illness and injuries are addressed in legislation governing the Accident Compensation Corporation (ACC).   Reduced health care costs are more frequently addressed in North American organisations, where employers are required to subsidise employee–related health care expenses.   Previous studies suggest a range of financial savings of between US$100 and $700 per employee per annum as a result of a workplace health promotion programme (Gebhardt & Crump, 1990; Goetzel et al., 1998; Poole, Kumpfer, & Pett, 2001).

An outcome resulting from decreased absenteeism is a measurable increase in an organisation's productivity (Burton et al., 2004; Golaszewski et al., 1992; Musich, Hook, Baaner, & Edington, 2006; O'Donnell, 2004; Springett & Dugdill, 1995).   Early studies in workplace health promotion recognise the correlation between employees' health and their ability to perform at work (Gray, 1983).   Increased productivity can also be defined by an alternative measure known as presenteeism.   Presenteeism is a term used to describe employees' productivity while they are at work (Lofland, Pizzi, & Frick, 2004).   It refers to an employee being present at work but functioning at a reduced level of performance due to an illness (Yamamoto, Loerbroks, & Terris, 2009).   Existing research demonstrates employees who take part in workplace health promotion initiatives feel healthier and are therefore more productive during their working day, increasing their presenteeism levels (Block et al., 2008).

A clearly established benefit of workplace health promotion programmes is improved staff retention (Aldana, 1998; Jacobson, Yenney, & Bishard, 1990; Shamian & El–Jardali, 2007).

Workplace health promotion programmes are shown to improve staff retention by increasing job satisfaction (Johansson & Partanen, 2002; Kobayashi, Kaneyoshi, Yokota, & Kawakam, 2008; Patterson et al., 1998; Penak, 1991; Springett & Dugdill, 1995). Job satisfaction tends to increase when employees believe they are valued by their employers and, more specifically, when their health and well–being are being considered (Penak, 1991; Springett & Dugdill, 1995). One investigation involving over 900 Canadian employees found the average annual staff turnover reduced by 54% between 2001 and 2004 after the introduction of a comprehensive health promotion programme (Renaud et al., 2008).

The benefits of employee participation in workplace health promotion programmes also extend to the community. Several studies demonstrate that workplaces are an ideal setting to promote healthy lifestyle behaviours at a widespread community level (Batt, 2009; Bergstrom et al., 2008; Grzywacz & Faqua, 2000; Lusk & Raymond, 2002). Workplaces provide functional and convenient settings for creating awareness and educating large numbers of people about the importance of healthy lifestyle behaviours. This setting is made even more convenient considering that most adults spend over half their waking hours at work (Dishman, Oldenburg, O'Neal, & Shephard, 1998). Furthermore, workplaces have a number of existing conditions that facilitate healthy lifestyle behaviours. These include existing communication networks, the convenience of on–site facilities, and established social networks (Brownell & Jose, 1991; Chu, Driscoll, & Dwyer, 1997; Seymour, Yaroch, Serdula, & Khan, 2004). Goetzel and Ozminkowski (2008) further suggest workplace health promotion programmes have a greater ability to reach people who have no other exposure to organised health improvement initiatives at home or in the community, compared to other public health promotion campaigns. However, as Ziegler (1997) eloquently states, ''all the well–intentioned, beautifully structured programmes in the world will make no difference in workers' health or employers' costs if too few workers participate'' (p. 26).

1.2.2 The problem of low participation

Despite the recognised benefits of workplace health promotion programmes, organisations traditionally experience low participation rates among employees (Baker, Israel, & Schurman, 1994; O'Donnell, 2004; Poole et al., 2001; Shephard, 2000). Robroek, van Lenthe, ven Empelen, and Burdorf (2009) analysed 23 studies involving participants and non–participants in various workplace health promotion programmes and found participation rates were 50% at

best. Initial recruitment rates have been reported as high as 80% (Gomel, Oldenburg, Simpson, & Owen, 1993; Pelletier, 1996); however, these are the exception, and participation is often significantly lower than this (Dobbins, Simpson, Oldenburg, Owen, & Harris, 1998). The benefits to an organisation of implementing a workplace health promotion programme can only be realised if a sizeable percentage of the workforce take part.

Determining ways in which managers can maximise participation in health promotion activities is considered an essential requirement for the success of a programme (Harris, Lichiello, & Hannon, 2009). However, the problem of low participation, specifically insights ''in the underlying determinants of participation'' is an area that has received relatively little attention in workplace health promotion literature (Robroek et al., 2009, p. 26). Even fewer studies focus on participation in New Zealand workplace health promotion programmes. Furthermore, both in this country and overseas, existing research exploring the factors influencing participation has numerous shortcomings, which will be further explained in this chapter. Therefore, in order to realise the full benefits of these programmes, it is imperative to address this issue and to design a study aimed at uncovering the factors that enhance or limit employee participation in health promotion activities.

1.3   Conceptual design of the research

Previous researchers have investigated employee participation rates in various workplace health promotion programmes (Crump, Earp, Kozma, & Hertz–Picciotto, 1996; Crump, Shegog, Gottlieb, & Grunbaum, 2001; Emmons, Linnan, & Abrams, 1996; Kwak et al., 2006; Linnan et al., 2001; Serxner, Anderson, & Gold, 2004; Sorensen, Stoddard, Ockene, Hunt, & Youngstrom, 1996; Strange et al., 1991a). However, many existing studies are limited in the extent to which they are able to provide managers with comprehensive ways to encourage participation in a range of activities and interventions. The main limitations include no standardised measure of participation; a narrow focus, in that many previous studies consider only the individual and personal characteristics of participants; investigating single activities; and failing to consider the barriers to participation. This thesis addresses these issues by applying a broad measure of participation, investigating a range of activities, exploring different levels of influence on participation, and identifying the barriers to participation in these initiatives. It is argued that these design considerations help fulfil the objectives of this research: to extend our understanding of the reasons associated with employee participation in

health promotion programmes, and to provide managers with verified recommendations for maximising employee participation in their organisation.

1.3.1   Defining the concepts

In order for managers and future researchers to use the results of this investigation, it is necessary to build a solid platform of definitions and key concepts. In the current study, this has been achieved by addressing the myriad of definitions for the terms 'workplace health promotion programmes' and 'participation', which are used in organisational and academic literature.

The problem with existing research relates to how the concept of workplace health promotion is defined. The current investigation has elected to define this concept as a collection of voluntary health initiatives implemented by employers designed to improve the health of an entire workforce.

The other major issue evident in previous research is the lack of consistent measures of participation. Many existing measures were considered inappropriate for this study. For example, early researchers commonly used enrolment numbers to establish participation rates (Baun, Bernacki, & Tsai, 1986; Eakin, Gotay, Rademaker, & Cowell, 1988; Kotarba & Bentley, 1988; Shephard, Morgan, Finucane, & Schimmelfing, 1980), which included employees who intend to take part, but then fail to participate at a later date. Another early measure was the number of employees undergoing preliminary health test screenings or assessments (Gionet & Godin, 1989; King, Carl, Birkel, & Haskell, 1988). However, this approach merely identifies possible health–related problems and therefore only the possible, as opposed to actual, participants. Some researchers measure participation as the number of employees who attend an activity or intervention (Lewis, Huebner, & Yarborough, 1996; Orman & King, 1998; Wilson, Crossman, Davis, & McCarthy, 1994). Although more useful, attending an activity does not always indicate any involvement in that activity. For instance, attending a health seminar without paying attention will do little to educate, promote or encourage a healthier lifestyle. Other studies recognise this fault by measuring participation as the number of employees who attend an activity for a specified number of sessions, or fully complete an activity (Alexy, 1991; Goetzel, Jacobson, Aldana, Vardell, & Yee, 1998; Taitel et al., 2008), suggesting active or ongoing involvement. On the contrary, some researchers

provide no explanation of how participation is measured by simply reporting participation in some unspecified way (Emmons et al., 1996; Linnan et al., 2001; Mavis, Stachnik, Gibson, & Stoffelmayr, 1992). Applying this indeterminate definition does not allow for comparisons with future studies, or offer managers convincing ways to maximise participation when no accurate reference point or measure can be provided.

Participation is a key concept in this study. Therefore, a measure has been designed to address previous limitations and capture the various ways employee involvement can occur in the type of activity being considered. This study measures participation by examining the number of employees who enrolled, attended, completed, or did not participate in different health promotion activities. This definition avoids the pitfalls encountered by previous researchers and provides a more complete picture of the ways employees take part in different activities.

1.3.2 Identifying the key predictor variables

There are two dominant approaches that characterise why people take part in health interventions: the individual approach, and the environmental approach. Traditionally, decisions regarding personal health and health–related behaviours were regarded as an individual's concern. From an individually–orientated perspective, any health behavioural change, including participating in a workplace health promotion activity, is generated through an individual's motivation and willpower (Heaney & Goetzel, 1997; O'Donnell, 2004; Sloan, Gruman, & Allegrante, 1987). Consequently, many workplace health promotion studies, particularly earlier investigations, focused on the individual characteristics of participating employees.

Although interesting, studies which focus on the individual provide little information on how environmental factors, such as a person's social support, work, or family commitments, influence their decision to take part or continue taking part in health promotion activities. In the late 1990s, environmental influences were recognised as affecting an employee's health in the same, if not a greater, capacity than their own individual ability to adopt new behaviours (Yen & Syme, 1999). As a consequence, health promotion researchers and practitioners are becoming increasingly aware of how environmental conditions, as well as an individual's personal qualities and attributes, influence successful health behaviour changes. Despite this

realisation, few studies consider how the combination of individual, social and environmental factors influence employee decisions to participate in workplace health promotion programmes (Baker et al., 1994).

In order to address this issue, the current investigation is designed to recognise the importance of both individual and environmental factors on employee participation. One key advantage of this approach is that it provides a more complete picture of what influences an employee's decision to participate. It is also argued that this approach better facilitates managers who have considerably more influence on extrinsic environmental factors associated with participation compared to individual factors. Therefore, it is imperative that managers are aware of how and why particular environmental factors influence participation. This thesis aims to provide that information.

Despite providing a more complete picture of the factors affecting employee participation in health promotion programmes, adopting environmental factors creates the challenge of determining the most important variables associated with participation, and how to categorise those variables. One method of achieving this is to apply an ecological approach, which enables the categorisation of variables associated with participation into a format that is more practical and easily understood.

The ecological approach adopted in this investigation was first proposed by Bronfenbrenner (1977) and subsequently developed by McLeroy, Bibeau, Steckler, and Glanz (1988). The approach is based on the premise that individual decisions to participate in health promotion activities are based on multiple levels of influences, and offers a set of theoretical principles for understanding the relationships between those influences (Stokols, Pelletier, & Fielding, 1996). This approach is particularly useful for this study because it does not attempt to identify the sources of poor health, but rather examines the factors associated with decisions to take action that improves one's health (Green, Richard, & Potvin, 1996).

The approach categorises the predictors of participation into five groups: individual, social, organisational, community and policy factors. Individual factors are the personal characteristics of an employee, such as gender and age. Social factors include the degree of social support from co–workers, friends and family; while organisational factors include environmental job–related variables such as job flexibility, work duties, and organisational

health climate. Community factors focus on the level of publicly available health interventions, and policy factors concentrate on governmental decision–making (Linnan et al., 2001).

One advantage of the ecological approach is that it is not necessary to apply all of the five groups in any individual investigation (Spence & Lee, 2003). In the current study, only the individual, social and organisational levels are utilised. Including community and policy–related issues would change the focus and intent of this thesis. A manager has relatively less control over health promotion efforts in the community and public or government sectors, therefore, including these variables is of less relevance from a manager's perspective.

1.3.3 *Barriers to participation*

Few existing studies explore the barriers to employee participation in workplace health promotion programmes. This is because existing research typically concentrates on the factors associated with participation rather than the reasons for not participating (Linnan et al., 2001). However, existing studies comment on the need to address participants and non–participants when determining the factors associated with participation, and particularly the barriers to participation (Baker et al., 1994; Bowles et al., 2002). Despite previous recommendations, no known study has identified the specific barriers to participation in multiple health promotion activities. The current study is designed to address this important research gap. Identifying these barriers will also help managers minimise any obstacles to participation that may prevent employees from taking part.

1.3.4 *Examining multiple activities*

Mavis et al. (1992) believe that health promotion participants are heterogeneous and that different health promotion activities attract different employees. They suggest that participation indicators need to be examined with regard to specific activities. Many of the previous studies exploring participation in workplace health promotion programmes concentrate on a single health promotion activity, most often smoking cessation programmes, exercise activities, or weight management initiatives. Successful programmes are often characterised by having a number of complementary activities available to employees and incorporating a variety of ways to attract participants (Goetzel & Ozminkowski, 2008);

therefore, addressing only one activity provides minimal value. This study is unique in that it considers the factors influencing employee participation in a range of health promotion activities, rather than a single intervention, to provide managers with a more complete picture of the factors that are more likely to predict participation. In this study, nine key health promotion activities are investigated: fitness testing, exercise activities, health screening assessments, health seminars, weight management programmes, alcohol and drug interventions, stress management programmes, counselling, and smoking cessation programmes.

In addition to exploring the variables associated with participation in these nine individual activities, this study also considers the variables associated with groups of similar activities, all activities, education–orientated activities, and behavioural change activities. Here, education–orientated activities are fitness testing, health screening initiatives, health seminars, weight management, and stress management programmes. Behavioural change activities are exercise activities, alcohol and drug programmes, counselling, and smoking cessation programmes. These groupings consider the level of intervention and the commitment required when participating in each activity.

1.4   Wider applications

The wider applications of this research extend beyond employee participation in workplace health initiatives. Understanding the individual, social and organisational factors associated with participation can be applied to community efforts and public health promotion strategies. The ecological approach includes organisational variables associated with participation in the context in which they are being investigated. In other words, an organisation can refer to a workplace, school or other community group (Haug, Torsheim, & Samdal, 2008; Kok, Gottlieb, Commers, & Smerecnik, 2009; Naylor & McKay, 2009). Therefore, the findings of this study can address low participation rates in settings other than the workplace.

The findings from this investigation may also be used to facilitate health improvements in other populations, particularly children of participating parents. Implementing health promotion programmes at work that improve the health behaviours of parents may subsequently improve the health of their families (Gubbels et al., 2009; Sutherland et al., 2008). Although there is little research exploring how increased health awareness among

employees translates into the improved awareness and behaviours of their family members, a parent attending a dietary health seminar, for example, may be more inclined to make better food choices for their family.

1.5   Outline of the methodology

The data collection methods began with a detailed literature search to identify the variables thought to predict or prevent participation in various health promotion activities. Few studies were found to have investigated workplace health promotion programmes from a New Zealand perspective, therefore, a small preliminary study was carried out involving face–to–face interviews with eight workplace health promotion practitioners in order to gain insight into how these programmes operate in New Zealand organisations.

The literature and the outcomes of the preliminary study led to developing an online questionnaire designed to focus on the factors that potentially influence employee participation in the nine chosen workplace health promotion activities. The questionnaire was completed by 883 employees in five large organisations in New Zealand. Logistic regression modelling was used to determine the variables associated with participation in each of the nine health promotion activities investigated in this study.

The questionnaire results were then used to develop the focus of a third study, which involved face–to–face, semi–structured interviews with 20 employees from a single company. This study was designed to gather more in–depth data on the predictors and barriers to participation, and potential insights into how participation can be maintained over time. Thematic analysis was applied to review these insights and identify relevant themes in accordance with the ecological approach followed throughout this thesis. These themes were then used to offer more detailed information on the factors influencing participation.

1.6   Thesis structure

This present chapter outlines the overall purpose and significance of the research, details how employee participation in workplace health promotion programmes is examined, and provides an introduction to the theoretical framework guiding this investigation.

Chapter 2 describes the conceptualisation of the research process by exploring the concept of workplace health promotion. Here, further detail is provided demonstrating the benefits of workplace health promotion programmes, the distinctions between mandatory occupational safety and health initiatives and voluntary workplace health promotion programmes, and more detailed descriptions of the nine activities investigated in this study.

Chapter 3 examines the concept of employee participation; including a justification for choosing to measure participation as enrolled, attended or having completed an activity. This chapter illustrates how the ecological approach is used to address the multiple layers of participation. Variables thought to be associated with participation are grouped in accordance with this ecological framework and existing literature support is examined to warrant the inclusion of each predictor. Chapter 3 concludes with the outcomes of the preliminary study, establishing the need to investigate the problem of low employee participation and establishes the value, practicability, and significance of this research as a whole.

With the literature framework in place and evidence that this study will provide practical value, attention turns to the methodology in Chapter 4. This chapter presents the data collection process, which began with a preliminary study interviewing eight health promotion consultants, this information was combined with the literature to develop a second study involving 883 employees answering an online questionnaire. The results of the questionnaire were then used to drive the development of a third study conducting face–to–face, semi–structured interviews with 20 employees. How these three studies were analysed and applied is also presented in this chapter.

Chapter 5 is the first results chapter detailing information gathered from the online questionnaire. This chapter presents the individual, social and organisational variables found to be associated with participation in each of the nine health promotion activities assessed in this investigation. A combination of individual and organisational variables, including age, gender, perceived stress, and perceived organisational climate, were associated with participation in many of the activities investigated. This chapter also demonstrates that organisational variables including inconvenient scheduling, lack of time, work and family commitments, inconvenient locations, and lack of personal motivation were the dominant barriers to participation.

Chapter 6 provides the reader with the outcomes of the 20 face–to–face interviews and demonstrates how this qualitative study validates and triangulates the larger quantitative investigation. This chapter presents evidence suggesting that the timing of activities strongly influences participation, that individual factors such as personal motivation best describe the reasons why employees leave an activity, but that it is the organisational factors including continuous change, incentives and communication that lead to successfully maintaining participation rates over time.

Chapter 7 discusses the research outcomes by explaining the reasons why certain variables might relate to participation. This chapter also presents practical recommendations for managers on ways to maximise employee participation in their organisations. It continues by assessing the limitations in this research and providing recommendations for future researchers.

Chapter 8 concludes this thesis by providing a guide to customising a workplace health promotion programme based on the characteristics of an organisation's employee population. This chapter strengthens the reader's understanding that organisational variables have the greatest influence on employee participation, which is beneficial to managers when these variables can be modified to successfully encourage initial and continued participation in health promotion activities.

CHAPTER 2: WORKPLACE HEALTH PROMOTION

Outline of Chapter Two:
2.1 Literature review structure
2.2 Health and health promotion
2.3 Employee health
      2.3.1 Occupational safety and health
      2.3.2 Workplace health promotion programmes
2.4 Benefits of workplace health promotion programmes
      2.4.1 Increased employee satisfaction
      2.4.2 Convenience
      2.4.3 Reduced absenteeism
      2.4.4 Increased productivity
      2.4.5 Reduced health care costs
      2.4.6 Increased staff retention
      2.4.7 Community benefits
2.5 Workplace health promotion activities
      2.5.1 Fitness testing and exercise activities
      2.5.2 Health screening assessments
      2.5.3 Health seminars
      2.5.4 Weight management programmes
      2.5.5 Alcohol and drug assistance programmes
      2.5.6 Counselling
      2.5.7 Stress management programmes
      2.5.8 Smoking cessation programmes
2.6 Chapter summary and direction of the study

2.1 Literature review structure

As with any comprehensive study, the body of literature relating to workplace health promotion programmes is extensive. Considering this, the following literature evaluation is presented in two separate chapters. The first chapter concentrates on introducing the concepts surrounding workplace health promotion programmes, what is known about these programmes, how they differ from other occupational safety and health initiatives, and how these programmes can benefit employees and organisations. The second literature chapter presents an assessment of employee participation in workplace health promotion programmes. This second chapter includes the various definitions of `participation' as used in existing studies, the variables thought to influence participation, and the theoretical ecological approach used to categorise these variables. Both of these literature review chapters are designed to guide the reader towards a greater understanding of the key variables related to employee participation, and how this study will identify the ways managers can maximise participation.

2.2 Health and health promotion

Historically, when infectious diseases were the dominant cause of illness and death, health was defined as the absence of disease. This definition implied that if no apparent signs or symptoms of illness were present then an individual was considered to be healthy (Robbins, Powers, & Burgess, 1994; Pender, Murdaugh, & Parsons, 2002). By the mid–1900s, infectious diseases were better controlled and this narrow definition was abandoned in favour of the broader classification of health introduced by the World Health Organisation, which classified health as a state of complete physical, mental and social well–being and not merely the absence of disease or infirmity (Üstün & Jakob, 2005). Here the concept of health refers to a combination of one's quality of life, including both physical and emotional health. In recent times, contemporary health themes often refer to health as being holistic in nature. This holistic approach regards health as a spectrum of well–being, from illness and disease to an optimal state of wellness (Stokols, 1992). This broader definition recognises that health is not an individual matter but includes biological, personal, relational, social, and political factors (Bauer et al., 2003; Larson, 1999; Law & Widdows, 2008). It is this shift in health from an individually orientated phenomenon to something influenced by environmental considerations and societal concerns that has resulted in more innovative and extensive ways of defining the concept of health promotion.

Health promotion refers to efforts that encourage and enable people to make lifestyle and behavioural changes that increase control over the determinants of their own health (Nutbeam, 1998; Yassi, 2005). This includes education and information efforts designed to improve a person's quality of life and life expectancy, and prevent illness, disease and premature death, through positive lifestyle choices (Redland & Stuifbergen, 1993; Sloan et al., 1987; Wallack & Winkleby, 1987). Similarly, the concept of health promotion has been extended further to include not only physical and emotional health and well–being, but also the initiatives designed to improve a person's overall state of wellness. Pender et al. (2002) go beyond individual health efforts to embrace the actualisation of human potential and self–responsibility.

In 1986, the Ottawa Charter of Health Promotion advocated that public health improvements are only successful when environmental conditions encourage participation and strengthen community actions. The Ottawa Charter for Health Promotion, held by the World Health

Organisation in November 1986, was the first international conference to call for health promotion efforts to include social and environmental conditions, strong communities, and appropriate and understandable health information and services orientated towards the health needs of the population being served. The Charter also campaigned on the need to address the 'holistic' needs of individuals, rather than simply their medical or clinical requirements (WHO, 1986). In 2005, the Bangkok Charter for Health Promotion continued to stress the importance of environmental conditions on effective health promotion by including governments, civil society, private and international organisations, and public health advocates. The overriding theme of this conference was to promote global health (WHO, 2005). Health promotion advocates have also begun to recognise the extent environmental factors contribute to healthy behaviour (Yassi, 2005). This view further strengthens the belief that one's environment has a considerable impact on one's capacity to adopt healthy behaviours.

2.3   Employee health

Defining health as a spectrum between poor health and optimal wellness has significant implications when considering employee health requirements. The World Trade Organisation International Labour Office states the purpose of employee health initiatives is to promote and maintain the highest degree of physical and mental health of workers, by controlling the risks associated with poor health (Kemm & Close, 1995; Williams & Cooper, 1999). Measures of employee health include personal mobility, self–care, managing pain or discomfort, and anxiety or depression (Brooks, Jendteg, Lindgren, Persson, & Bjork, 1991), general health and prolonged fatigue (De Raeve, Jansen, van den Brandt, Vasse, & Kant, 2009), and self–rated health status (Krause & Jay, 1994).

More recently, employee health has been expanded to consider concepts such as 'healthy' organisations (Shoaf, Genaidy, Karwowski, & Huang, 2004). Healthy organisations were first introduced by the National Institute of Occupational Safety and Health to distinguish healthy work environments from unhealthy ones (Wilson, DeJoy, Vandenberg, Richardson, & McGrath, 2004). A healthy organisation is characterised as one designed to both maintain and promote the physical and mental health of employees (Yassi, 2005).

In New Zealand, employee health requirements fall into two broad, yet distinct, categories: mandatory occupational safety and health requirements, and voluntary health promotion initiatives. The first category, occupational safety and health, ensures employees are protected from physical or emotional harm while they are at work and are governed primarily by the Health and Safety in Employment Act Amendment 2002. The second category is voluntary workplace health promotion programmes. These are complementary, but differ in that they are directed towards promoting healthy lifestyle behaviours both in and out of the workplace.

2.3.1 Occupational safety and health

One limitation in the current literature on workplace health promotion programmes is the frequent lack of distinction between mandatory occupational safety and health requirements, and voluntary workplace health promotion programmes. Employees are exposed to a multitude of workplace health issues, including illness, injury, stress, and fatigue. The difficulty is these health issues can be addressed by both legislation and voluntary occupational health and health promotion interventions.

In New Zealand, mandatory occupational safety and health policies focus on protecting employees against previously identified personal and environmental hazards, illnesses, and injuries that are sustained at work. Legislative requirements are designed to ensure the occupational environment is suitably adapted to the physiological and psychological capabilities of workers in order to prevent injury and disease caused through unsafe and unhealthy working conditions (Fedotov, 1998; Shappendel, 1995). In New Zealand, the Health and Safety in Employment Amendment Act 2002 requires organisations to have systems in place for emergencies, accidents and investigations, and policies for identifying hazards. Workplace hazards are mechanical, transport related, ergonomic, electrical, fire, explosives, fibres and dust, radiation, biological, environmental, as well as personal and organisational situations which may result in illness or injury, and emotional or physical stress (Nielsen, Nielsen, & Sorensen, 2007; Seaton, et al., 2005; Simard & Marchand, 1995; Stouten, Ott, Bouwman, & Wardenbach, 2008). Employers must take all practicable steps against employees sustaining injuries or illness, including machine guarding, attention to occupational overuse syndrome, back injury prevention, noise control, enforcement of chemical handling guidelines, wearing protective clothing, hearing and vision testing, hygiene

control, and dust dispersion procedures. Hazard identification and subsequent preventative measures are considered critical functions of the occupational safety and health legislation (Hay, 2003). It is important to recognise that the Act requires an employer to take all reasonable and prudent steps to prevent these hazards, however; the Act does not specify how an employer achieves these requirements (Ministry of Labour, 2003).

In the past, occupational hazards were dominated by physical exposure to dangers such as toxic substances, cold, heat, or noise. However, more recently the focus has shifted from physical threats to protecting employees from possible psychological and emotional dangers to their health and well–being (Siegrist, 2002). This shift has led to an overlap in traditional safety and health initiatives and workplace health promotion programmes. Occupational stress is a good example of this common ground. In 2002 the Health and Safety in Employment Act was amended, replacing the previous Health and Safety in Employment Act 1992. One of the most notable amendments to the legislation was to identify stress explicitly as an occupational hazard. The importance of this is evidenced in a study by Huddleston, Stephens, and Paton (2007) who report organisational stressors are the strongest predictor of psychological harm among New Zealand police recruits. Employers are now required by law to take all practicable steps to protect employees against known workplace stressors. The Act defines stress as an employee's reaction to a demanding situation at work involving harmful physical and emotional responses, which occurs when the requirements of the job are inconsistent with the capabilities of the employee. The amended legislation requires stressors to be managed in the same manner as any other recognised workplace hazard, namely by applying a hierarchy of controls to eliminate, isolate or minimise factors contributing to employee stress (Hay, 2003). Thus, mandatory safety and health requirements focus on stress prevention, meaning potential stressors are identified by the organisation and efforts are taken to reduce the subsequent stress experienced by employees. The overlap between occupational safety and health initiatives and workplace health promotion programmes occurs when stress management initiatives are implemented. These initiatives are designed with the intention of reducing the effect of potential stressors by attempting to improve how an employee manages their individual stress and the causes of stress. Taking preventative measures to protect employees from previously identified workplace stressors supports mandatory safety and health requirements, whereas stress management programmes are more in accordance with health promotion efforts when they are designed to address stress factors from both work and home.

2.3.2 *Workplace health promotion programmes*

The concept of workplace health promotion has been gaining momentum since the 1970's (Chu et al., 1997). However, programmes are still referred to in a number of different ways. Typical examples include wellness programmes, corporate health initiatives, health and disease management, health enhancement programmes, and health and productivity management programmes (Goetzel & Ozminkowski, 2008). No single standardised definition of a workplace health promotion programme exists, which is largely due to the broad variations in programme components (Wolfe, Slack, & Rose–Hearn, 1993). Despite the lack of a single definition, workplace health promotion programmes are commonly identified as the systematic and strategic efforts of managers to provide employees with activities that encourage healthy lifestyle behaviours, health improvements and disease prevention initiatives (Aldana & Pronk, 2001; Cooper & Williams, 1994; Fedotov, 1998; Fries et al., 1993; Kotarba & Bentley, 1988; Murphy & Cooper, 2000; Shain & Kramer, 2004).

Most workplace health promotion initiatives fall outside the traditional employer responsibilities required under legislation, but still recognise that work and workplace factors affect employee health and well–being (Williams & Cooper, 1999). As earlier discussed, one of the major differences between legislative safety and health requirements, and workplace health promotion programmes is the voluntary nature of such programmes. Health promotion programmes at work are considered to strengthen occupational safety and health initiatives by providing an emphasis on general employee health and well–being, which is additional to illness and injury protection governed by legislation (Fedotov, 1998).

Workplace health promotion programmes have evolved considerably from their early beginnings. Early programmes mainly focused on identifying and targeting specific lifestyle illnesses, and were often only concerned with employees who had the greatest risk of developing those health ailments (Fedotov, 1998; Naidoo & Wills, 2000). These initial programmes were limited in scope and essentially designed to improve the health of key employees, generally in executive positions, from leaving the organisation prematurely through poor health. Contemporary programmes have become more holistic in nature, encompassing an extensive range of health promotion initiatives, as well as a comprehensive range of activities. Moreover, programmes are now almost universally directed at all members of an organisation, regardless of their position within the organisation's hierarchy or

their current health status. In addition, programmes are now designed to introduce, create an awareness of, and facilitate an extensive range of health and lifestyle behaviours, rather than focusing on a few identifiable issues affecting a small number of key employees (Chu et al., 1997).

The range of activities included in workplace health promotion programmes is extensive, including:

- Alcohol and drug assistance
- Cancer prevention
- Cardiovascular screening
- Cholesterol screening and reduction
- Counselling assistance
- Exercise advice
- Eye care
- Fitness testing and maintenance
- Flu injections
- Headache/migraine prevention techniques
- Health risk appraisals and needs assessments
- Hypertension screening and reduction control
- Lifestyle consultations
- Yoga
- Nutrition seminars and workshops
- Psychological evaluations and assistance
- Smoking cessation
- Stress management and reduction
- Weight control and maintenance

(See, Aldana, 1998; Breslow, Fielding, Herrman, & Wilber, 1990; Conrad, 1987a; Davidson–Rada & Davidson–Rada, 1992; Fedotov, 1998; Goetzel et al., 1998; Grosch, Alterman, Petersen, & Murphy, 1998; Harrison, 1999; Murphy & Cooper, 2000; Scanlon, 1991; Stokols, Pelletier, & Fielding, 1995).

Goetzel and Ozminkowski (2008) evaluated the extensive range of workplace health promotion activities and interventions by separating programmes into primary, secondary and tertiary levels. Each level is dependent on the number and type of health interventions offered to employees at work. Primary prevention efforts are directed at employees who are generally healthy, as well as offering interventions aimed at employees with unhealthy lifestyle habits

that are susceptible to future health issues. These types of interventions include exercise activities, weight control, and stress management programmes. Secondary interventions are directed at individuals who are identified as having high–risk health complaints related to poor lifestyle choices. These employees are often identified through abnormal biometric levels such as high blood pressure, potentially dangerous cholesterol or glucose levels. These interventions include smoking cessation programmes, health screening assessments, and health management initiatives. Tertiary interventions target existing health issues, such as asthma, cardiovascular disease, cancers, musculoskeletal disorders, and depression. These initiatives include adherence to evidence–based clinical practice guidelines and often involve collaboration between the employer and the employee's physician, family and other support and health care providers.

2.4   Benefits of workplace health promotion programmes

Workplaces offer access to a large number of people, with employees typically spending half of their waking hours at work (Cornfeld et al., 2002). There is little doubt that the sizable body of information available on the benefits of workplace health promotion programmes has facilitated their popularity and an extensive body of literature supports the benefits of workplace health promotion programmes for individuals, organisations, and the community. The advantages of participating in workplace health promotion programmes for individual employees are often greater job satisfaction and the convenience of activities being available at work. Benefits to the organisation include reduced absenteeism, increased productivity, reduced health care costs, and improved staff retention. In addition to individual and organisational benefits, there are benefits to the community when employees share the health knowledge they have gained at work with their friends and family.

2.4.1   Increased employee satisfaction

Workplace health promotion programmes increase employee loyalty, morale and job satisfaction (Johansson & Partanen, 2002; Penak, 1991; Peterson, 1998; Springett & Dugdill, 1995). Perceptions of management commitment to employee health and well–being are also widely associated with job satisfaction through reducing stress and positive employee appraisals of their work environment (Peterson, 1998; Steinhardt, Dolbier, Gottlieb, & McCalister, 2003). In addition, Lassen, Bruselius–Jensen, Sommer, Thorsen, and Trolle

(2007) suggest health–related activities increase overall job satisfaction through employees feeling more appreciated and valued by their employer.

Cross–boundary networking, comradeship, and co–worker relationships that, in turn, impact on an employee's job satisfaction are other examples of the benefits of implementing these programmes. Early research by Tait (1984) identified employer–sponsored sports teams encourage camaraderie between workers facilitating harmonious workplace relationships. Health promotion initiatives at work, particularly fitness activities, also provide opportunities for employees to socialise between divisions creating flatter organisational structures and levelling organisational hierarchy (Conrad, 1987a). Faragher, Cass, and Cooper (2005) suggest improved perceptions of one's overall work situation is a powerful indicator of increased job satisfaction. Their literature review and meta–analysis of previous studies revealed significant associations between job satisfaction and employee health.

2.4.2   Convenience

After the home environment, it is a person's workplace that can have the greatest effect on their lifestyle and behaviours (Lusk & Raymond, 2002). Health promotion programmes at work can be more successful than community programmes because they are more convenient and accessible to employees. This is mainly because of reduced time and travel requirements (Crump et al., 1996; Fletcher, Behrens, & Domina, 2008; Lovato & Green, 1990). For example, overweight and unmotivated employees rarely make an effort to travel to take part in weight control programmes, therefore organisations offering weight management services on–site, such as Weight Watchers, are more likely to attract a greater number of employees (Hennrikus & Jeffery, 1996). A study of food choices among 1918 employees from the United States found convenience to be the most significant factor influencing their decisions about what they would eat at work (Blanck et al., 2009).

2.4.3   Reduced absenteeism

Workplace health promotion programmes are often credited with reducing workplace absenteeism. The most frequently cited rationale is that healthier employees have an increased resilience to illness, and as a result require fewer days off work due to illness (Collins et al., 2005; Golaszewski et al., 1992; Loeppke et al., 2007; Springett & Dugdill,

1995). It is also suggested that workplace health promotion activities reduce absenteeism through facilitating, educating, creating awareness, and providing support for employees to reduce the impact of identifiable health risks (Aldana & Pronk, 2001; Stewart, Ricci, & Loetta, 2004).

The actual costs of reduced employee absenteeism following the implementation of a comprehensive workplace health promotion programme vary. Chapman (2005a) suggests the costs related to absenteeism are reduced by 25–30% among programme participants compared with non–participants, over an average period of 3.6 years duration. Bertera's (1991) study of 29,315 employees in the United States found absenteeism declined 14% over a two–year period compared with a 5.8% decrease for the 14,573 control group employees. That investigation also found net savings over two years include 11,726 fewer working days lost due to employee illness and subsequent absenteeism. Lamb's (2000a) review of 18 studies in a demographic similar to Bertera (1991) measured the variations in sick–leave between participants and non–participants in workplace health activities and found an average 27.1% decrease in absenteeism among participants, while absenteeism increased for non–participants. Opatz (1994) suggests unfit employees spend an average of 30% more days in hospital recovering from illnesses and are 20% more likely to take more than seven days sick leave per annum compared with fit employees. A more recently published study by Wolf et al. (2009) found a 64.3% decrease in lost work days among 147 employees, who were clinically obese and suffering from Type–2 diabetes, after they participated in a lifestyle intervention plan. Other studies suggest stress related absences account for up to 60% of all workplace non–attendance (Cartwright, 2000). There is also evidence of the costs associated with alcohol related illness and long–term sickness which, in the United Kingdom, is upwards of £2 billion (Cooper & Williams, 1994). Similarly, Grunberg (1991) suggests that smokers are absent from work five days more each year than non–smokers, contributing to 80 million lost working days annually in the United States.

Although many studies demonstrate the links between physical activity and absenteeism, some of these investigations suffer from weak methodologies limiting definitive conclusions. For example, the majority of studies fail to differentiate sick leave from annual leave (O'Donnell, 2002). In addition, self–diagnosed illness creates further difficulties in verifying the reasons behind employee absences from work. Shephard (1991) supposes the Hawthorne Effect is another contributor to reduced absenteeism; this effect suggests that managers who

take an interest in their workforce are providing employees with greater incentives to be at work, and a health promotion programme is a secondary incentive. Despite the difficulties of concluding that reduced absenteeism is a direct result of the implementation of a programme, a number of other recognised benefits to the organisation have been attributed to having healthier employees who have less sick leave; these include increased productivity and reduced health care costs.

2.4.4 Increased productivity

It is well documented that healthier people are generally more productive in most, if not all, aspects of their lives, including their working life (Zwetsloot & Pot, 2004). Researchers suggest a strong link between the health of employees and their greater contributions to an organisation's overall productivity (Burton et al., 2004; Golaszewski et al., 1992). Decreased absenteeism, by means of reduced sick leave, is often cited as one of the more popular reasons for increased productivity. As earlier discussed, a number of studies find correlations between workplace health promotion programmes and reduced absenteeism (Aldana & Pronk, 2001; Stewart et al., 2004).

More recently, the focus has shifted from reducing absenteeism to increasing presenteeism. Presenteeism is a relatively contemporary term used to describe an employee's productivity while they are at work (Burton, Conti, Chen, Schultz, & Edington, 1999). It is defined in terms of the lost productivity that occurs when ill employees come to work and perform below their optimum level because of that illness (Cooper & Dewe, 2008). A recent comprehensive study of 2252 employees working in 24 Dutch organisations found a 45% productivity loss caused by employees coming to work when they were experiencing health problems (Alavinia, Molenaar, & Burdorf, 2009). The policy of organisations offering staff a specific number sick leave days often results in employees becoming reluctant to take time off work when they are unwell. Therefore, although absenteeism may remain relatively unchanged, productivity suffers from the reduced competencies of sick employees who continue to go to work.

Although scholars claim that the implementation of a health promotion programme leads to increased productivity, this association is still somewhat tenuous. The most significant questions hovering over previous studies are the lack of standardisation in measuring

increases in productivity, particularly in white–collar working environments. Secondly, as with absenteeism, questions also arise as to how much of the increase in productivity is a direct result of the programme. Unlike industries and occupations that can measure a set number of outputs before and after the implementation of a programme, many white–collar industries must rely on an overall impression of perceived increases in productivity, as no standardised measures exist (Conrad, 1987a). Kuoppala, Lamminpää, and Husman (2008) address this issue by examining work ability, or an employee's physical, psychological and social capacity to work. Their meta–analysis of workplace health promotion literature found definite increases in work ability among employees participating in health promotion activities, and in organisations where programmes are available to staff.

2.4.5 Reduced health care costs

Keeping employees healthy to reduce health care costs is a frequently cited reason for implementing and developing health promotion programmes (Aldana, 1998; Harris et al., 2009; Poole et al., 2001; Lu et al., 2008). Many public and private sector organisations offer health promotion programmes as an integral part of their cost containment strategy (Gebhardt & Crump, 1990; Aldana, 1998; Poole et al., 2001; Steffick et al., 2006). The programmes are particularly appealing to American organisations that are required to support privatised employee health care costs. Unlike New Zealand, American organisations pay more than one third of the nation's total annual medical costs (Goetzel & Ozminkowski, 2008). Health promotion programmes reduce health care costs by encouraging employees to adopt healthier lifestyles. These lifestyle changes result in employees requiring fewer and less costly health care services (Haynes, Dunnagan, & Smith, 1999).

Cost reductions related to workplace health promotion programmes are typically reported in terms of medical costs, staff turnover and absenteeism figures (Aldana, 1998). In addition to measurable reductions, cost savings are also reported through less measurable processes such as increased productivity and decreased downtime (Van Dongen, 1998). Conservative figures from Shephard (1996) suggest programmes can save employers US$100–$400 per employee each year in medical expenses. Kent (2001) reports that organisations with successful health promotion programmes achieve savings as high as US$500–$700 per employee each year, whereas a study by Serxner, Gold, Grossmeier, and Anderson (2003) involving over 26,000 employees found a net annual saving of US$212 per participating employee. A later study

involving 9666 employees found that participation in health promotion activities saved an average of US$176.47 per person per year between 2001 and 2005, compared with non–participating employees (Naydeck, Pearson, Ozminkowski, Day, & Goetzel, 2008). Discrepancies in cost savings only highlight the lack of standardised measures in health promotion programmes, which make comparisons difficult. However, studies continue to provide evidence of financial savings.

This point is further reinforced by Chapman (2005b) who warns that existing studies reporting financial benefits after the introduction of workplace health initiatives also lack a standardised methodology, which creates difficulties when evaluating the financial returns of one workplace health promotion programme compared with another. Pelletier (2001) also highlights the dangers of inter–study comparisons, judging that this approach is subject to a high degree of variability in operational definitions in costs, space requirements, and paid time for employee participation. Goetzel and Ozminkowski (2008) report comparisons between studies investigating reductions in health care costs are not adjusted for design rigour and therefore the actual savings claimed may be somewhat inflated. With regard to this, Pronk (2003) suggests successful programmes should be measured on how they manifest themselves through a reduction in cost trends; in other words, how the programme impacts on projected forecasted expenditures rather than actual monetary figures.

The short time frame of many studies investigating the cost effectiveness of health promotion programmes at work is also problematic (Aldana, 1998; Costakis, Dunnagan, & Haynes, 1999; Shephard, 1996). Pelletier (2001) states the average length of published workplace health promotion studies is 2.8 years. These short timeframes prejudice the return on investment, as high–risk employees are more likely to have large longer–term negative impacts, and Aldana (1998) suggests the real cost effectiveness to organisations is not recognised for many years. This concurs with earlier research by Conrad (1987a) who considers a 5–10 year period is necessary before cost benefits are evident. As a result, this timeframe limits rigorous research by way of unattractive time commitments for organisations and increased expense and reduced practicalities for researchers. However, as Nyman, Barleen, and Dowd (2009) suggest, despite being unable to standardise exact financial savings, most research supports the conclusion that such savings occur as a direct result of decreased absenteeism.

2.4.6   Increased staff retention

Employees tend to remain with an organisation for 3–5 years (Milligan, 2000). However, a New Zealand Department of Labour study found New Zealand (along with Belgium) had the highest job turnover rates among developed countries (Callister, 1997), suggesting that staff retention an important issue for New Zealand organisations. Workplace health promotion programmes are considered to help employers retain key staff in two distinct ways. Firstly, programmes create positive perceptions of the workplace, which can influence employees who are deciding whether to stay or leave an organisation (Jacobson et al., 1990; Opatz, 1994; Renaud et al., 2008). Secondly, health promotion initiatives increase staff retention by possibly preventing the premature exit of employees through physical or mental illness (Gebhardt & Crump 1990). In other words, the programmes help to reduce the number of employees who are forced to leave the organisation because of preventable health issues.

Previous studies evaluate this benefit by measuring the effect a programme can have on staff turnover rates. For example, a study involving 656 Canadian employees over three years found turnover rates reduced by 54% over that time period (Renaud et al., 2008). Warner, Smith, Smith, and Fries (1996) took a different approach evaluating the benefits of a smoking cessation programme. Their study involved a simulation model, which found a considerable decrease in staff turnover, in addition to a number of benefits being realised by the community, as well as the organisation.

The rate of employee turnover also influences an organisation's willingness to adopt health promotion programmes. Sorensen, Glasgow, Topor, and Corbett (1997) suggest that organisations with higher staff turnovers are more likely to implement smoking cessation programmes, and believe that these types of initiatives should be implemented to address high turnover.

2.4.7   Community benefits

Existing studies support the potential workplace health promotion programmes have in offering valuable health initiatives to large proportions of the adult population (Campbell et al., 2000; Carr, Fairbairn, & Wilson, 2001; Chapman, 1998a; Chu et al., 1997; Fedotov, 1998; Hennrikus & Jeffery, 1996; Kent, 2001; O'Donnell, 2002; Patterson et al., 1998). These

benefits can be expanded to wider sections of the community, including family members, friends and acquaintances, either directly or indirectly, by knowledge sharing through conversations, and hearing about or seeing successful outcomes or accounts (Frisemo, 1999; Pronk, 2005).

Demographic changes, family structures and a significantly larger proportion of women in the workforce create different requirements for effective health promotion strategies (Brodie, 1994). Early research by Spilman (1988) equates the nurturing role of women and a greater sense of personal responsibility over the health outcomes of their families with an increased appreciation of workplace health care benefits. More specifically, workplace nutrition programmes are identified as valuable approaches to educating working parents, resulting in changes to the types of meals served at home (Glanz, Basil, Malibach, Goldvery, & Snyder, 1998, as cited in O'Donnell, 2002). Existing research directly attributing family or community health changes to a health promotion programme at work is limited, yet despite being outside the focus of the current study, it is an area of health promotion with considerable potential.

2.5 Workplace health promotion activities

Health promotion activities vary widely from providing employees with general health information, to comprehensive programmes involving health risk appraisals, interventions addressing dietary and fitness practices, and intensive disease management programmes (Cook, Billings, Hersch, Back, & Hendrickson, 2007). Investigating employee participation in every possible activity or intervention available is beyond the scope of a single thesis. Conversely, focusing on employee participation in a single activity or intervention provides only limited information in the ways managers can maximise participation. Considering this, the current study seeks to focus on nine activities to explore how certain variables affect employee participation. The chosen activities are:

- Fitness testing
- Exercise activities
- Health screening assessments
- Health seminars
- Weight management programmes
- Alcohol and drug assistance programmes

- Counselling services
- Stress management programmes
- Smoking cessation programmes

This list was derived from an extensive literature evaluation of previously investigated activities, and confirmation from eight health promotion practitioners working in Auckland, New Zealand's largest city. These eight individuals were interviewed as part of an initial preliminary study to ensure the current investigation had practical implications for managers. The full outcomes of this preliminary study are presented at the end of the second literature chapter (Chapter 3, Section 3.9).

2.5.1 Fitness testing and exercise activities

The World Health Organisation (2005) rates physical inactivity as one of the leading causes of death in the developed world. Workplace fitness tests are typically provided to employees as an initial or introductory part of a workplace exercise programme. Fitness tests are aimed at providing the employee and the health professionals coordinating exercise activities with the opportunity to assess an employee's baseline fitness. They also provide a means of tailoring future exercise programmes to meet an employee's needs (Grant & Brisbin, 1992).

The American College of Sports Medicine (ACSM) defines health–related physical fitness as a set of attributes that people have or achieve that relates to the ability to perform daily activities with vigour, and the traits and capacities associated with a lower risk of developing diseases associated with physical inactivity (Wilder et al., 2006). The terms 'physical activity', 'exercise', and 'physical fitness' are often used interchangeably (Edelman & Mandle, 2006, p. 262). However, there are subtle differences; physical activity can be defined as the bodily movements produced by the contraction of skeletal muscle, whereas exercise is more correctly defined as a sub–category of physical activity in that it is generally planned, structured and repetitive with the purpose of improving or maintaining physical fitness (Haskell & Kiernan, 2000). Salmon (2001) uses the term physical exercise to demonstrate regular and structured pursuit, whereas physical activity can arise through unstructured domestic or occupational tasks.

The health issues resulting from low physical activity have been well examined and documented. Major health issues include high cholesterol, hypertension, cardiovascular

disease, and obesity–related problems such as Type–2 diabetes. The physical and psychological benefits of taking part in some form of physical activity include decreased resting heart rate, resting blood pressure, increased cardiovascular endurance, and improved weight control. Psychological benefits include reduced stress, increased socialisation, improved self–confidence and the thrill of competition (Hooper & Veneziano, 1995; National Advisory Committee on Health and Disability, 1998).

Workplace exercise programmes were originally developed to assist employees with physically demanding jobs that required various static and dynamic postures, such as holding tools, lifting, pulling and climbing, for long periods of time (Gebhardt & Crump, 1990). In the mid–1950s an association between low levels of occupational activity and poor health complaints, such as heart disease, was identified (Shephard, 1991). Current literature consistently recognises that employees with higher fitness levels have lower absenteeism, are more productive, have increased stamina and work capacity, have fewer accidents, and have a greater capacity for handling stressful situations, compared to employees with low fitness levels (Harrison, 1999; Parore, 1998; Watson & Gauthier, 2003).

Health promotion programmes most often include exercise activities because of the proven benefits of exercise on one's health (Kuoppala et al., 2008). Workplace exercise activities can comprise of a single activity or a combination of activities designed to support increasing employee fitness. The range of components in an exercise programme can include providing information on the benefits of exercising, group activities such as fun runs and walking groups, supervised fitness classes, and investing in exercise equipment and custom built in–house facilities.

Exercise activities are offered to employees either on–site or by way of community facilities. Larger organisations are known to assemble in–house gymnasiums in unassigned office space or to construct separate on–site facilities. On–site fitness facilities are considered to improve participation because employees then accept exercise as part of the normal workplace culture (Brodie, 1994). Furthermore, Opatz (1994) believes on–site facilities, along with management support, give employees greater flexibility in scheduling work and non–work activities, allowing employees to partake in exercise breaks from their daily job requirements.

A novel idea proposed by McAlpine, Manohar, McCrady, Hensrud, and Levine (2007) includes placing stepping machines under employees' desks. Their pilot study found significant increases in employee physical activity throughout the day. They predicted that an overweight employee has the potential to lose 20 kg per year, based on that employee using the stepping device for two hours per day, instead of sitting at his or her desk for that time. Although this particular study demonstrates a somewhat optimistic exercise and weight loss forecast, it does provide further evidence that implementing workplace exercise activities can have considerable benefits for employees as well as organisations.

2.5.2 Health screening assessments

Health screening assessments are designed to create awareness of an employee's personal risk factors, providing an opportunity for an individual to detect potential health problems. Health screening involves the systematic collection of information regarding an employee's individual and family health status, health history and health related behaviours (Faghri, Blozie, Gustavesen, & Kotejoshyer, 2008; Kreuter & Strecher, 1996). This can also include physiological measures, such as weight, height, blood pressure and resting heart rate, as well as cardiovascular screening and blood profile assessments (Reger, Williams, Kolar, Smith, & Douglas, 2002). Health screening assessments have a number of different uses in workplace situations. They benefit employees by providing them with information on their current health; by evaluating variables such as an individual's age, weight, blood pressure, cholesterol, physical activity and smoking status, it is possible to estimate an individual's health risk and predisposition to health problems (Maron et al., 2008). On the other hand, health screening assessments are also used to benefit employers by establishing if employees have used drugs or alcohol, which could affect their work performance or their safety.

In addition to detecting health problems, health screening assessments can indicate a participant's readiness to change, perceived self–efficacy, or other psycho–social factors affecting their capacity to modify unhealthy behaviours (Goetzel & Ozminkowski, 2008). A study by Pai and Edington (2008) involving over 33,000 employees reports that those who participate in health screening assessments are more likely to increase their physical activity and stop smoking.

2.5.3 Health seminars

In the same way that health screening assessments are designed to establish a baseline health status, or identify a health issue, health seminars are also awareness–orientated and designed to educate employees about specific health risks and benefits of adopting healthy lifestyle behaviours. Terry, Seaverson, Grossmeier, and Anderson (2008) define health seminars as education and awareness–building campaigns offered to the workforce regardless of individual health risk status. Workplace health seminars use education and information strategies to increase employee awareness of poor health choices contributing to illness and disease (Naidoo & Wills, 2000). In workplace settings, educational seminars informing employees of the possible risks to their health are considered a successful method to promote positive health behaviours (Cooper & Williams, 1994; Strange et al., 1991a).

2.5.4 Weight management programmes

There is a substantial body of evidence describing the health–related problems attributed to being overweight. Employer–sponsored weight management interventions can include organised on–site weight loss education seminars, weight loss interventions like 'Weight Watchers', and providing employees with weight management information via posters, brochures, pamphlets, and videos (Blanck et al., 2009; O'Donnell, 2002). Techniques to encourage weight control can also include self–monitoring (food diaries), encouraging staff to walk to work, organising exercise activities designed specifically for weight loss, and subsidising gym memberships (Brodie, 1994; Downey, 1996; Hennrikus & Jeffery, 1996; Hersey et al., 2008). Organisations can also encourage healthy eating by stocking on–site vending machines with healthy food selections (Lusk & Raymond, 2002).

A unique advantage of workplace weight management programmes is the potential to offer weight control initiatives to the same population on multiple occasions over time (Hennrikus & Jeffery, 1996). This allows programmes to be tailored to suit particular employee or organisational requirements and then be established as an ongoing intervention.

Another advantage of workplace weight management initiatives is using incentives, competitions, and peer support to help employees succeed in losing weight. Garofalo (1994) suggests an effective weight loss incentive in a workplace setting is to accumulate points and

have employees work in teams, where individual points are accumulated into a team total. This provides additional co–worker support as well as positive peer pressure in continuing with the programme. The approach resulted in 81.5% of the 638 employees who took part in this study losing weight and remaining with the programme for at least ten weeks.

2.5.5   Alcohol and drug assistance programmes

Substance abuse among employees is a major concern for employers (Elliott & Shelley, 2006; Spell & Blum, 2005). However, the workplace provides a unique opportunity and environment to address the entire spectrum of substance abuse problems (Merrick, Volpe–Vartanian, Horgan, & McCann, 2007). Employee Assistance Programmes (EAPs) were established in the 1970s and early 1980s as confidential cost–effective interventions to assist employees with alcohol, drug or other personal, behavioural or family problems that interfered with their ability to function on the job (Conrad, 1988a; Scanlon, 1991). These interventions adopt a rehabilitation approach, meaning substance abuse or personal problems are considered to be treatable medical conditions (Reynolds & Lehman, 2008; Spell & Blum, 2005). EAPs typically involve employees receiving short–term counselling sessions to help with these types of issues (Macdonald, Csiernik, Durand, Rylett, & Wild, 2006). Employees are referred to a programme by their supervisor, or more commonly are self–referred. Services are also often extended to family members (Merrick et al., 2007).

EAPs can involve drug detection policies to identify employees with prior drug use (Macdonald et al., 2006). Drug testing occurs more frequently in organisations where managers are concerned with potential hazards caused by employee substance abuse, and in male dominated industries, where the perception is that men are more likely to use drugs (Spell & Blum, 2005). Employee drug testing and subsequent recommendations to EAP services have been found to reduce significantly the number of employees reporting recreational drug use, particularly marijuana (Carpenter, 2007). Similarly, EAP services are well represented in organisational guidelines against the use of alcohol and non–smoking policies (Merrick et al., 2007). A study by Osilla, Zellmer, Larimer, Neighbors, and Marlatt (2008) involving 365 at–risk employees, found men had a marked decrease in alcohol–related problems after brief interventions offered as part of an EAP service.

2.5.6   Counselling

Approximately 20% of any workforce is affected by personal problems that impact on overall work performance and productivity (Maiden & Levitt, 2002; Scanlon, 1991). The benefits of providing employees with psychological support at work, otherwise known as workplace counselling, have been well documented (Athanasiades, Winthrop, & Gough, 2008). Workplace counselling programmes are defined by McLeod and Henderson (2003) as the provision of brief psychological therapy for employees in an organisation.

As with alcohol and drug assistance programmes, counselling services can also be included as part of the EAP services offered to employees. Contemporary EAP practitioners are no longer limited to chemical dependency issues, but now include assisting employees with a wide range of emotional issues stemming from mental discord, family dysfunction, care of dependants, anxiety and depression, stress or job, career or health issues (Merrick et al., 2007; Maiden & Levitt, 2002). The services are in–house, with counsellors provided by the organisation to assist employees on–site, or external and outsourced to private associations. Private EAP services have shorter waiting times for employees to meet with a counsellor but often set restrictions on the number of employees who utilise the service (Macdonald et al., 2006).

2.5.7   Stress management programmes

Stress alters an individual's normal state of well–being and is caused by an imbalance between the physical and psychological demands made on an individual and their ability to meet those demands (Darby & Walls, 1998; Kendall & Muenchberger, 2009). There is a growing awareness that psycho–social stress at work results in considerable costs to the organisation in higher absenteeism and reduced productivity (Lazuras, Rodafinos, Matsiggos, & Stamatoulakis, 2009; Siegrist, 2002; Vagg & Spielberger, 1998). The cost of stress at work is estimated at €20 billion in the European Union (Daniels, 2004), and over $150 billion in the United States of America (Lazuras et al., 2009; Riedel, Lynch, Baase, Hymel, & Peterson, 2001). Stressed employees have an average of 46% higher health care costs compared with employees who have little or no stress (Goetzel et al., 1998).

The physical and psychological effects of prolonged stress include headaches, muscular tension, anxiety and panic attacks, mood swings, fatigue, emotional issues, depression, reduced enthusiasm, memory failure, indigestion and appetite changes, shortness of breath, low self–esteem, and reduced job performance and productivity (Murphy & Cooper, 2000). Stress factors directly attributed to the workplace can include long working hours, a lack of recognition or positive feedback, uncertainty regarding performance expectations, discord among peers, colleagues and supervisors, potential accident hazards or dangers, poor management, workplace conflict, narrow or limited job content, monotonous, repetitive or under–stimulating work, a lack of personal autonomy, low participation in decision–making, interpersonal conflict between work and home responsibilities, uncertain or stagnant career development, poor career status, and role task ambiguity (Altman, 2000). A study of New Zealand police officers by Huddleston, Stephens, and Paton (2007) cites insufficient resources, unreliable equipment, budget restraints, and shift–work as the greatest contributors to workplace stress. Another study involving 437 New Zealand dentists found treating difficult patients, constant time pressures, and maintaining high levels of concentration are also significant workplace stressors (Ayers, Thomson, Newton, & Rich, 2008). Workplace bullying has been identified as a major contributor to perceived stress. An investigation of 123 New Zealand doctors found half of all respondents had experienced workplace bullying in the previous year. This was manifested not only in increased stress, but also in decreased job satisfaction, and increased depression, anxiety, and absenteeism (Scott, Blanshard, & Child, 2008).

Stress management programmes, as part of a workplace health promotion initiative, commonly include seminars and workshops designed to educate employees on the physical and psychological dangers of prolonged stress, and provide techniques employees can adopt in order to prevent or reduce their perceived stress. EAP services also provide employees with counselling to help them recover from challenging and stressful circumstances (Kirk & Brown, 2003; Sidle, 2008).

In New Zealand, workplace stress reduction interventions are now governed under occupational safety and health legislation. Hazard identification under the Health and Safety in Employment Amendment Act 2002 requires an employer to take all practicable steps to minimise potential workplace stressors. Obligatory initiatives include measures such as redesigning tasks to reduce uncertainty, establishing more flexible working schedules,

promoting employee involvement in decision–making, encouraging employees in their career development strategies, establishing clear job roles, building cohesive teams to facilitate peer support, and providing social support and feedback (Department of Labour, 2003). However, stress management programmes are examples of activities that fall under the umbrella of both occupational safety and health, and workplace health promotion. The 'causes' of stress are not limited to the workplace, but can affect an employee's performance at work. Therefore, an employer may provide employees with stress management programmes to help manage potentially stressful situations at work, and at home.

2.5.8   Smoking cessation programmes

Smoking cessation programmes are useful in New Zealand where an estimated 4500 people die prematurely from smoking each year. This equates to approximately 12 deaths per day (National Heart Foundation of New Zealand, 2003). This country ranks ninth out of 30 OECD countries in the prevalence of adult smokers (Wilson, Thomson, Edwards, 2008). Furthermore, in 2002, an estimated 300 New Zealanders died of second–hand smoke inhalation with over 100 of these deaths attributed to second–hand smoke inhalation at work (Wilson & Thomson, 2002). To combat the alarming mortality figures attributed to smoking, the Smoke–free Environments Amendment Act was passed in 2003 banning smoking from all New Zealand restaurants, bars and indoor workplaces (Wilson et al., 2008). A considerable number of studies demonstrate that policies that ban smoking from workplaces significantly increase the number of employees who take part in workplace smoking cessation initiatives, in addition to an overall reduction in cigarette consumption (Bauer, Hyland, Li, Steger, & Cummings, 2005; Braverman, Aaro, & Hetland, 2008; Chapman et al., 1999; Heloma & Jaakkola, 2003).

Workplace health promotion investigators clearly establish the workplace as a beneficial setting for individuals to give up smoking through the availability of occupational support, peer pressure and peer support (Cahill & Perera, 2008; Nishiura et al., 2009). Moreover, when made available at work, these programmes offer the advantages of increased convenience, reduced stigma, reduced costs if sponsored by the organisation, and the opportunity to participate with friends and co–workers rather than strangers or alone (Fagan et al., 2003). Group therapy treatment offers the advantage of reduced costs, as well as utilising

normal group pressures and providing increased encouragement and support (Cahill, Moher, & Lancaster, 2008).

Workplace smoking cessation programmes are often part of broader initiatives to eliminate smoking in the workplace. These include anti–smoking health campaigns, total smoking bans, and messages sent to employees via company newsletters, email, posters, and pamphlets (Willemsen, De Vries, Oldenburg, & Van Breukelen, 1999). Other ways to implement smoking cessation programmes include self–help information such as manuals and pamphlets, and financial incentives (Jason, Salina, McMahon, Hedeker, & Stockton, 1997).

2.6   Chapter summary and direction of the study

The purpose of this chapter was to introduce the concept of workplace health promotion, and how it differs from other occupational safety and health requirements. This chapter demonstrated the benefits to organisations of implementing health initiatives, and presented a detailed examination of nine key activities commonly implemented in New Zealand organisations as part of a workplace health promotion programme. These nine activities were: fitness testing activities, exercise activities, general health assessments, health seminars, weight management programmes, stress management programmes, counselling programmes, alcohol and drug assistance programmes, and smoking cessation programmes.

The following chapter will extend this understanding further by introducing the reader to the concept of participation. It will also present the variables predicted to influence participation in health promotion programmes, demonstrate how specific factors can influence participation in different activities, and illustrate how managers can use this information to maximise the participation rates in their organisations.

CHAPTER 3: EMPLOYEE PARTICIPATION

3.1   Chapter outline and structure

This literature review chapter concentrates on employee participation in workplace health promotion programmes, and examines the evidence provided by previous researchers on the variables that are thought to be associated with participation.

This chapter begins by introducing the concept of employee participation in workplace health promotion programmes and follows with a description of how the ecological approach to participation is applied in this study. This approach provides an effective way of grouping the relatively large number of variables investigated. These variables include demographic indicators, health status, stress, job satisfaction, co–worker and supervisor support,

organisational climate, job flexibility, health knowledge, health belief, work and family commitments, trust in supervisors, and programme scheduling.

The final section of this literature review will focus on workplace health promotion programmes in New Zealand. The information presented here was gained through a preliminary study which was carried out before conducting the main data collection. This preliminary study was designed to explore whether the literature could be translated into a practical study from a New Zealand perspective. Eight workplace health promotion practitioners were interviewed. The outcomes of these interviews are presented at the end of this chapter, rather than as a separate 'results' chapter, because the objective of the preliminary study was to directly confront issues raised in the literature with practising workplace health promotion professionals. It was important to establish the need for the current investigation in a practical sense, and confirm or challenge how predominantly international literature is applicable to the New Zealand context.

3.2   *The importance of employee participation*

Employee participation is considered to be a pivotal factor in a workplace health promotion programme's success or failure (Busbin & Campbell, 1990; Dishman, DeJoy, Wilson, & Vandenberg, 2009; Dishman et al., 1998; Fedotov, 1998; Goetzel & Ozminkowski, 2008; Heaney & Goetzel, 1997; Jacobson et al., 1990). Despite the importance of employee participation in health promotion initiatives, existing research exploring the factors that influence participation is limited (Grosch et al., 1998) and literature continues to highlight the lack of research identifying the variables associated with participation (Robroek et al., 2009).

The need for managers to maximise employee participation in activities that make up a health promotion programme is fundamental in the success and cost–effectiveness of implementing such initiatives. In order to achieve the established benefits discussed, the programme must be comprehensive enough to have a measurable impact on the health and well–being of a workforce. A comprehensive programme requires a range of complementary activities, and the environmental conditions by which employees are able to take part in those activities, thereby requiring a considerable financial investment by the organisation. The monetary return on investment of implementing a programme is strongly contested and the subject of a number of conflicting and inconsistent studies described in the previous chapter. That said,

regardless of the exact financial returns, managers are still required to justify any such investment. Therefore, low employee participation has a considerable effect on that return on investment.

Workplace health promotion programmes are voluntary and there are no legislative requirements for organisations to implement programmes, or for employees to participate in them. Consequently, employers and managers are confronted with the challenge of encouraging voluntary employee participation and, in most cases, cannot reprimand or chastise employees who do not take part. Actual participation rates vary, but the voluntary nature of these programmes results in low participation rates and high attrition (Janer, Sala & Kogevinas, 2002; Poole et al., 2001; Shephard, 2000; O'Donnell, 2004). Due to various measurement approaches and methodologies, no standardised participation rate exists; however, Busbin and Campbell (1990) and Crump et al. (1996) estimate participation rates average 15–20% of an organisation's workforce.

Employee participation in health promotion programmes can be considered from a variety of approaches. Many investigations focus largely on assessing the availability of specific initiatives and single activities or interventions, rather than determining the extent to which employees make use of them (Grosch et al., 1998). Furthermore, very few investigations compare the characteristics of programme participants with non–participants (Glasgow, McCaul, & Fisher, 1993; Grime, 2004). The present study is important because it is designed to address this considerable gap in our understanding by exploring how certain variables affect both employee participation and non–participation in a range of different activities. No existing study is known to have achieved this.

3.3   Defining participation

Reports on existing research involving employee participation in health promotion programmes use various conceptual and operational definitions to classify participation (Heaney & Goetzel, 1997; Thompson, Smith & Bybee, 2005). Moreover, a sizable body of work, particularly studies investigating multidimensional programmes, does not supply actual participation rates or measures of participation (Davis, Jackson, Kronenfeld, & Blair, 1984; Emmons et al., 1996; Mavis et al., 1992; Linnan et al., 2001). The shortage of studies

providing consistent clear definitions further emphasises the complex nature of the concept of participation (Wilson, 1990).

In addition to inconsistent definitions of participation in the existing literature, what constitutes participation has numerous definitions depending on the type of activity being investigated. Programmes requiring minimal involvement and no behavioural change, for example a nutrition seminar, are able to satisfactorily classify employee participation in terms of registration or attendance. In contrast, programmes requiring greater personal commitment and a behavioural change, for example a smoking cessation or exercise programme, need to specifically classify employee participation in terms of the number of interventions attended or whether the programme was successfully completed in order to effectively measure the level of involvement.

Self–reported statements of intent to participate are frequently used to identify employee participation rates, which means employees are regarded as participating by registering their interest or enrolling in a particular programme or activity (Chan & Heaney, 1997; Thompson et al., 2005). Authors examining participation in exercise–related health promotion initiatives frequently use the number of employees who enrol in a fitness centre as a measure of participation (Burton, McCalister, Chen & Edington, 2005; Heaney & Goetzel, 1997; Steinhardt & Young, 1992). Similarly, other studies define employee participation as registering for an initial health risk assessment, screening or workshop (Alexy, 1991; Goetzel, Kahr, Aldana, & Kenny, 1996; Goetzel et al., 1998; Kobayashi et al., 2008). Defining employee participation in terms of registration or enrolment is straightforward from a practical viewpoint; however, the problem with evaluating the intent to participate is that employees frequently report a willingness to take part in a programme, but later fail to participate (Glasgow et al., 1993). Dishman et al. (1998) suggest measures of participation must distinguish between participants and non–participants, to avoid employees who intend to participate but then choose not to. This current study measures participation in retrospect after the health promotion activity has taken place, thereby classifying employees who actually took part in the activity as participants, and employees who did not take part, regardless of their intentions, as non–participants.

Other studies, particularly those investigating workplace fitness programmes, define employee participation as the frequency of attendance or programme involvement over a

certain period of time (Lewis et al., 1996; Orman & King, 1998; Wilson et al., 1994). In the same way, studies exploring employee participation in smoking cessation programmes commonly define involvement as adherence to a programme, as well as the actual number of sessions an employee attends (Glasgow, Hollis, Ary, & Lando, 1990; Sussman et al., 1989). Steinhardt and Young (1992) go further by classifying attendance on three levels. Low active participation involves an employee attending an activity less than six times in six months, moderately active participation is attending at least six times in six months, and highly active participation involves actively engaging in the activity three times per week. Although somewhat inconsistent between studies, a definition of participation that includes attendance is regarded as considerably more useful than merely enrolment. Evaluating employee participation over certain periods of time is useful in identifying patterns related to maintenance or attrition rates; however, adopting this definition and measure could detract from the objectives of this investigation, which are concerned with the initial decisions to participate in health promotion programmes. Similarly, this study does not intend to identify the factors associated with the maintenance or attrition rates of employee participation in workplace health promotion programmes.

The extensive range of types and modalities of programmes and activities available in individual workplaces further complicates how participation is defined. What constitutes participation is also dependent on the type of programme available and the intervention. Programmes requiring minimal involvement are able to satisfactorily explain employee participation in terms of enrolment and attendance. In contrast, programmes requiring higher personal commitment need to describe employee participation by the number of interventions attended. For example, defining participation as enrolment is inadequate for high–level health promotion initiatives like smoking cessation programmes. Actual attendance is necessary for the programme to have any impact on the smoking habits of an employee, and enrolment in these types of activities is, at best, the intent to partake in the activity and does not guarantee further involvement. Defining participation as adherence to an activity is also restrictive as, for example, initiatives such as nutrition seminars require the employee to listen to a presentation, and there is little active involvement. Furthermore, what constitutes the completion of a health promotion activity, particularly a high–level activity, has generally been overlooked. Such oversights further limit research outcomes regarding health promotion effectiveness by failing to consider whether a desired behaviour change or level of awareness was achieved or not.

Considering these perspectives and that participation can be measured along a continuum of effort or commitment; Glasgow et al. (1993) define employee participation as any appropriate level of employee involvement for that health promotion activity confirmed by their enrolment, attendance and completion in the activity. This definition is considered the most stringent and useful for the current study because it recognises that different levels of participation are appropriate for different health promotion activities.

3.4 The ecological approach to participation

The ecological approach allows the multitude of factors associated with employee participation in health promotion activities to be categorised into groups with different degrees of external control. Determining which factors are most significantly associated with participation will provide managers with an additional decision–making tool to maximise participation in the health promotion initiatives available to employees.

The ecological approach has been used in this study as a way of categorising the variables thought to be associated with participation. This approach to participation was originally based on the Ecological Systems Theory (Bronfenbrenner, 1977; 1989) and has since been adopted and modified by a number of authors to establish which factors are associated with participation in health–related initiatives (Duncan & Mummery, 2005; Sallis, Johnson, Calfas, Caparosa, & Nichols, 1997). The ecological approach considers the influences of health behaviours as groups of influence, which emphasise "the pervasive effects of the multiple environments in which people live" (Sallis et al.. 1997, p. 345). The groups of influences that affect a person's health–related behaviour include their individual characteristics, their social support, their environment or surroundings, the community they live in, and the prevailing political situation (DeJoy & Southern, 1993). In essence, the ecological approach views health promotion not only in terms of the specific health–related behaviours of individuals, but also more broadly as "a dynamic transaction between individuals, groups, and their socio–physical milieu" (Stokols, 1992, p. 8). This means that both individual and environmental factors influence a person's ability to adopt and maintain healthy behaviours.

McLeroy et al. (1988) define individual variables as the personal dispositions or characteristics of an individual employee; social influences consider the influence of colleagues, co–workers, supervisors, peers, family and friends; and organisational factors

address organisational or environmental influences, including an employee's job requirements and responsibilities, and the actual programme design, implementation and structure. Quinn, Thompson, and Ott (2005) include organisational norms, incentives, cultures, management styles, structure, and communication networks to their list of organisational factors associated with participation, and Riley, Taylor and Elliott (2001) incorporate resources, processes and leadership as additional organisational factors.

Identifying the variables that have strong associations with participation is crucial in establishing the ways managers can maximise participation rates in their organisations. In the current study, the ecological approach provides a sound structure for the categorisation of the number of variables proposed to influence employee participation. Spence and Lee (2003) suggest using the ecological approach as a conceptual framework to guide research investigations or to group variables. They also believe it is not necessary to include all five groups of influences in a single study. This thesis is concerned with determining the ways in which managers can maximise employee participation. Therefore, the focus of this investigation under the ecological approach is to include individual, social and organisational factors associated with participation, whereas community and political factors associated with participation are not included. This decision has support from previous studies that focus on the variables influencing participation that offer the most practical relevance to managers (McLeroy et al., 1988). Figure 3.1 illustrates the individual, social and organisational variables thought to influence participation.

Categories of variables believed to be associated with employee participation in workplace health promotion programmes

INDIVIDUAL variables predicting participation

- Demographic indicators
- Perceived health status
- Stress
- Job satisfaction
- Health satisfaction

SOCIAL variables predicting participation

- Co–worker support
- Supervisor support

BARRIERS to employee participation

- Health knowledge
- Self–efficacy
- Family commitments
- Trust in supervisors
- Programme scheduling

ORGANISATIONAL variables predicting participation

- Organisational climate
- Job flexibility

Figure 3.1: *Visual representation of the proposed variables associated with employee participation in workplace health promotion programmes*

The difficultly for researchers investigating the factors associated with employee participation nowadays is the enormous number of variables that could affect an employee's decision to take part in an activity. Similarly, the range of possible activities that could be implemented in a health promotion programme and the varying extent to which an employee can take part in these activities is limitless. Consequently, as earlier discussed, this investigation does not attempt to identify every possible factor influencing participation in every possible activity,

45

but rather it seeks to test the leading individual, social and organisational variables recognised in the literature as having the greatest likelihood of being associated with participation. Judgements on the key variables of interest originated from the literature and the outcomes from the consultant interviews in the preliminary study.

A number of alternative theories addressing health behaviour exist in health and health promotion research. Widely used health behaviour theories include Bandura's Social Cognitive Theory (Bandura, 1998), the Theory of Planned Behaviour (Ajzen, 1991), and Transtheoretical Stages of Change Model (Prochaska, 1997). Spence and Lee (2003) consider Bandura's Social Cognitive Theory as the closest framework to the ecological approach, particularly in that it relates to the social aspects of the ecological perspective. Social Cognitive Theory is designed to facilitate an understanding of human emotion, by considering the relationships and interactions between individuals and their social environment (Kemm & Close, 1995; Nutbeam & Harris, 2004). The Diffusion of Innovation Theory is another possible alternative theoretical framework. This theory considers the ways in which groups of people adopt new ideas, and evaluates why some individuals embrace and adopt new ideas quickly while others do not (Oldenburg, Sallis, French, & Owen, 1999). It recognises that different interventions take different time periods to be accepted by the majority of a target population. Predicting the success and speed of the adoption of new ideas is associated with the characteristics of potential adopters, the rate of adoption, the nature of social systems within the group, the characteristics of the initiative, and the characteristics of change agents associated with that initiative. An awareness of these characteristics is considered to facilitate the development and implementation of health promotion programmes within communities (Nutbeam & Harris, 2004).

The decision to adopt an ecological approach, over other theoretical frameworks, was based on three reasons directly associated with the benefits of this framework: the first was that the approach addresses the multiple layers of influence on health behaviours. Many alternative theories and approaches focus predominantly on the individual influences associated with participation. However, the reasons people modify their behaviours are facilitated or constrained by social, cultural, economic and environmental factors (Ball, 2006). Bensberg (2004) continues this point suggesting researchers who focus solely on the individual reasons why people continue with certain behaviours can lead to the risk of 'victim blaming', when failure to modify a particular behaviour is considered an individual failure rather than

recognising the impact of external social and environmental forces on the person. Quinn et al. (2005) agree that victim blaming is a major limitation associated with traditional individual–orientated approaches, which ignore how health is shaped by social structures and conditions. The ecological approach allows for this limitation by considering a multitude of influences, which are not effectively addressed in many of the dominant theories that give little or no consideration to external social and environmental factors (Quinn et al., 2005).

The second reason for adopting an ecological approach was that it recognises the many levels of influence associated with not only health behaviours, but also health–related decisions (Pikora, Giles–Corti, Bull, Jamrozik, & Donocan, 2003; Richard, Gauvin, Potvin, Denis, & Kishchuk, 2002). Dishman et al. (1998) believe studies investigating workplace health promotion interventions are ineffective by not considering the workplace environment and organisational factors associated with the individual's decision to participate. Dishman and his colleagues emphasised that the next generation of workplace health promotion studies must employ a multileveled approach considering individual, social and organisational factors. In the same way, Goetzel and Ozminkowski (2008) add that sophisticated employers, as well as researchers, are becoming increasingly aware that improving the health and well–being of workers by encouraging greater participation in workplace health promotion activities, can only be achieved by addressing the ecological elements of the workplace, rather than focusing on a single level of influence.

The third reason for adopting an ecological perspective to categorise the variables associated with participation was that it enables potential facilitators and barriers to participation to be specifically targeted (Grzywacz & Faqua, 2000). This is of particular interest in the current study. The ecological approach provides managers with a greater understanding of which types of variables are associated with employee participation in workplace health initiatives, and allows them to easily assess which variables they can modify, and which variables they have no control over. Gyurcsik, Bray and Brittain (2004) suggest the ecological approach has a clear advantage in identifying the external barriers to participation. Classifying variables related to participation and non–participation allows for the development of targeted interventions designed to increase variables found to facilitate participation and reduce perceived barriers accordingly. Figure 3.1 presents the variables thought to be associated with employee participation in workplace health promotion programmes. The variables thought to predict participation in different health promotion activities have been kept

separate from the suspected barriers to participation. The rationale for this includes the marked differences in the number of studies investigating the variables facilitating participation and the characteristics of participants, compared to the barriers to participation and the characteristics of non–participants; and the view that an employee can have all the required factors that enable their participation, but will not participate because of perceived obstacles preventing their involvement.

3.5   Individual variables associated with participation

The following section will address the proposed variables that predict participation in health promotion activities. The individual variables investigated in this study are demographic indicators, perceived health status, perceived stress, and perceived job satisfaction.

Strange et al. (1991a) suggest that understanding the individual variables associated with participation in health promotion programmes assists with developing ways to increase employee involvement. Previous investigators have sought to identify individual characteristics and factors linked with employee decisions to participate, and this study will expand on what is already known by investigating social and organisational associations with participation to provide managers with a more complete picture. As previously discussed, the variables associated with any health behaviour include external elements, such as a person's social support, or the environment in which they work. However, despite these contributors, an individual's decision to participate in a health promotion activity is ultimately their own. Therefore, understanding the individual factors related to participation is of considerable importance and can support managers in deciding which activities would best complement the demographic make–up of their workforce.

3.5.1 Demographic indicators

Demographic indicators are one of the most frequently studied variables relating to employee participation in health promotion programmes at work (Thompson et al., 2005). The association between gender and participation has been widely investigated. However, among the extensive investigations, the outcomes are conflicting. Several studies demonstrate that female employees have statistically higher participation rates than their male colleagues (Hunt, Stoddard, Kaphingst, & Sorensen, 2007), particularly in health screening assessments

(Lewis et al., 1996; Stein, Shakour, & Zuidema, 2000), and exercise activities (Burton et al., 2005; Wilson et al., 1994). However, an equal number of investigations suggest men are significantly more likely to participate, particularly in exercise activities (Bagwell & Bush, 2000; Dishman et al., 2009; Davis, Jackson, Kronenfeld, & Blair, 1987; Glasgow & Terborg, 1988; Sloan & Gruman, 1988; Wu & Porell, 2000). Conflicting outcomes are predominantly because of the actual modality of the exercise activity being investigated, with men being more likely to take part in team–orientated sports activities and women preferring individual exercise (yoga, walking groups) where participation is with others, but not as a team.

Similarly, studies investigating the association between age and employee participation also yield inconsistent findings. Grosch et al. (1998) and Lewis et al. (1996) conclude that employees aged 21–30 years of age have higher participation rates than other age groups. Wilson et al. (1994) had a similar finding among employees participating in exercise activities, and Steinhardt and Young (1992) also suggest older employees are less likely to participate in exercise activities. However, in contrast, an early study by Shephard et al. (1980) followed with a later examination by Mavis et al. (1992) found middle–aged employees are more likely to participate in exercise activities and health seminars. Subsequent work by Shephard (2000) provides further support, suggesting diminishing physical abilities and an increased susceptibility to both acute and chronic disease make some health promotion initiatives more attractive to older employees. Again, inconsistencies most often stem from variations in the modalities of the exercise activities being investigated. More vigorous activities such as contact sports attract younger employees, while less vigorous forms of physical activity, golf for example, and are more likely to appeal to older employees. As with gender, no known investigation has categorically established the associations between an employee's age and their readiness to participate in a range of different health promotion activities.

3.5.2 Perceived health status

An individual's perceived health status is explained by their personal description or measurement of their health quality at a particular time (Nutbeam, 1998). Several studies have found that employees with a higher perceived health status are more attracted to workplace health promotion programmes and are more likely to participate (Conrad, 1987b; Springett & Dugdill, 1995; Strange et al., 1991b). This association is also found in health

screening assessments (Lewis et al., 1996) and smoking cessation programmes (Fielding, 1982).

Investigating perceived health status is often preferred over actual health status as a possible predictor of participation. Actual health status is often a tangible measure, while perceived health status is an employee's individual opinion or perceptions of their current health state. An employee may be unaware of their actual health status and, therefore, more likely to be influenced by what they believe their health to be rather than what it actually is. Lewis et al. (1996) suggest employees who participate in workplace health promotion activities are seldom representative of those who would benefit most and are more likely to be healthier employees. However, this area of research is another with conflicting results. Early research by Orlandi (1986) suggests healthier employees view health promotion programmes as effective ways to support and maintain existing healthy lifestyle behaviours; however, Emmons et al. (1996) argue healthy and active employees prefer to participate in activities outside of work and are, therefore, less likely to participate in interventions while at work.

One of the most frequently cited reasons associated with participation, particularly in exercise activities, is "in order to feel better" (Shephard, 2000, p. 467). Early research by Zavela, Davis, Cottrell, and Smith (1988) found employees who suffered a serious health episode in the previous year were more likely to express an interest and intent to participate. Further evidence is provided by Davis et al. (1987) and Sloan and Gruman (1988) who believe a person's dissatisfaction with their current health state predicts increased participation in health promotion initiatives. This is particularly evident in weight and stress management programmes, exercise activities, and alcohol management initiatives. A much later investigation by Wandel and Roos (2006) suggests reduced strength and the loss of general health and fitness caused by age is a major reason for taking part in physical fitness activities at work.

An individual's knowledge and understanding of the benefits of good health practices are considered to relate to their participation. Early research by Davis et al. (1984) suggests that more knowledgeable employees are more aware of risk factors to their health. As a result, they are more likely to have a greater interest in their health, and more likely to participate in health promotion activities. This was particularly evident in weight and stress management programmes, and exercise activities. Subsequent research by Sloan and Gruman (1988) found

employees who are more aware of potential health risks are considerably more likely to change an unhealthy behaviour, while Lewis et al. (1996) found employees who completed a health risk assessment are more likely to participate in activities because of an increased understanding and awareness of their health status. Furthermore, a study involving 291 Spanish women found that a lack of health knowledge as well as a fear of finding a potential problem, were associated with choosing not to participate in a breast–screening detection initiative (Garcia, Perez, de Rojas, Carreno, & Nogales, 2009).

Studies investigating the relationship between perceived health risks and subsequent participation frequently concentrate on smoking behaviours. For instance, participants in workplace health promotion programmes are significantly less likely to be smokers (Macaskill, 1998; Rost, Connell, Schechtman, Barzilai, & Fisher, 1990). However, Glasgow et al. (1990) suggest heavy smokers are just as likely as light smokers to participate in workplace smoking cessation programmes. This contradicts earlier research from Klesges et al. (1988) who report that heavier smokers are the more likely cohort of employees to participate in smoking cessation initiatives, but the less likely to complete the programme and stop smoking, when compared with lighter smokers.

3.5.3 Perceived stress

Excessive workloads, responsibilities, the pace of work, job complexity, shift work, and monotony, have all been identified as factors adding to workplace stress and stress–related health issues (Chang & Lu, 2009; Hoge, 2009; Lazuras et al., 2009). More recently, workplace violence and bullying have been recognised as major workplace stressors, particularly among health care workers (Chamberlain & Miller, 2008; Hogh, Sharipova, & Borg 2008; Niyama et al., 2009).

Employees' perceived stress can affect their willingness to participate in health promotion programmes at work, including stress management programmes (Munz & Kohler, 1997). However, although existing studies continually find associations between stress and participation, they vary in how stress is related to participation. Early studies suggest perceptions of greater job stress are strongly associated with participation in exercise programmes, weight loss and stress management programmes (Davis et al., 1987). In contrast, Sloan and Gruman (1988) found the influences of stress on participation operate in

opposite directions: employees with high perceived stress are either more motivated to engage in health promotion behaviours in order to alleviate their stress, or they are just as likely to believe their stress is a barrier to participation. This influence is further complicated by an employee's job description; for example, Wu and Porell (2000) identified that white–collar workers with more stressful jobs are more likely to engage in regular light physical activity, while blue–collar workers with high stress engage in vigorous exercise, but not light exercise activities. This is consistent with a more recent Canadian study involving 270 employees, where stress was found to be associated with participation in a three–year programme called "Take care of your health"; employees with both high and low perceptions of their stress were equally likely to take part in health promotion activities (Renaud et al., 2008).

3.5.4 Perceived job satisfaction

Job satisfaction has been identified as a factor influencing an employee's readiness to participate in health promotion activities at work. As discussed in the previous chapter, a number of studies show that employees who participate have increased job satisfaction (Parks & Steelman, 2008; Serxner, Gold, Anderson, & Williams, 2001). However, considerably fewer studies consider how job satisfaction influences employee decisions to participate in health promotion initiatives.

As with studies of other predictors, existing research outcomes differ in how job satisfaction is associated with employee participation. Early research by Kotarba and Bentley (1988) found that health promotion activities are more appealing to employees who become bored or indifferent to their current workload, and participating in a health promotion initiative serves as a break from the monotony of their current work task. Similarly, Spilman (1988) identified overweight men who lack enthusiasm for work, are considerably more likely to participate in workplace weight management programmes. However, later conflicting research by Kinne, Probart, and Gritz (1996) found older employees with greater job satisfaction are more likely to participate in cancer–risk–related interventions. In contrast, Shephard (2000) found no significant differences between participants and a control group of non–participants in perceived job satisfaction and participation in workplace fitness activities. These are clear examples of the difficulties in comparing factors associated with participation when a single activity is investigated. Outcomes are narrowly focused and, therefore, the factors that can be associated with specific activities are difficult to determine.

3.6   Social variables associated with participation

The social variables associated with employee participation in workplace health promotion programmes have been extensively investigated.   However, as with individual variables associated with participation, previous studies have yielded a range of results.   The social variables of interest in this study are perceived co–worker support, and perceived supervisor support.

3.6.1   Co–worker support

Health promotion programmes conducted in occupational settings may be more effective than community and clinical interventions because of the ongoing social interaction and reinforcement from peers and colleagues (Hennrikus & Jeffery, 1996).   The workplace is considered an ideal location for health promotional efforts as it is "a defined community with access to populations and social support" (O'Donnell, 2002, p.14).   Duncan and Mummery (2005) suggest that social support is an important influence on participation in health promotion activities.   Similarly, Orleans et al. (1991) found successful participants in smoking cessation initiatives report more positive support from friends and family, and are more likely to remain non–smokers.

Early research recognises social support through modelling behaviour as a way of increasing participation, particularly in exercise activities (Sallis et al., 1989).   Employees, who are aware of a co–worker's success after participating in a health promotion programme, are more likely to participate themselves.   This awareness is created, for instance, by showing before and after photos of people who have lost weight, or marketing an employee who has successfully stopped smoking (Brownell & Jose, 1991).   These 'spill over' effects are particularly evident among non–participating employees who witness the achievements of others (Hennrikus & Jeffery, 1996).

Informal competitiveness among colleagues and co–workers is acknowledged as having a positive effect on employee participation.   This competitiveness, contributing to increased commitment and a greater participation rate, is particularly obvious in weight management interventions (Brownell, Cohen, Stunkard, Felix, & Cooley, 1984; Hennrikus & Jeffery, 1996).   However, research by Foshee, McLeroy, Sumner and Bibeau (1986) warns that

competitiveness among participants in weight loss initiatives generally diminishes over time, making longer–term weight control and maintenance more difficult.

Trade unions have influential roles in initiating the implementation of, and subsequent employee participation in, health promotion programmes at work (Busbin & Campbell, 1990; Johansson & Partanen, 2002; Yassi, 2005). The marked effect of trade unions is also frequently cited in studies investigating health screening assessments (Fisher, Golaszewksi, & Barr, 1999). Another point made by Glasgow and Terborg (1988) suggests programmes are negatively received if union members perceive health interventions as attempts by managers to absolve themselves from health–related responsibilities.

Social support is not always appreciated by employees, and Coventry (1992) suggests that the most common response for non–attendance in activities, especially on–site fitness facilities, is employees having an aversion to exercising with co–workers. This is found to be more prevalent among female managers, who feel uncomfortable working out with their male counterparts. Similarly, some managers also sense a perceived loss of leadership and authority by dressing, exercising and showering with their employees. In the same regard, social support is also viewed negatively if employees feel pressured into participating. Perceived peer pressure results in employees feeling forced to participate in a particular activity or reform an unhealthy behaviour (Chapman, 1998b), which translates into a reluctance to participate at all.

3.6.2 Supervisor support

The management style of an organisation plays a crucial role in implementing health promotion programmes (Eisenberger, Cummings, Armeli, & Lynch, 1997; Strange et al., 1991a; Witte, 1993). Early publications recognise the importance of effective leadership in the success of a programme, particularly for workplace exercise activities (Haskell and Blair, 1980). Subsequent studies report that employee participation is considerably higher when there is a high perception of managerial support (Busbin & Campbell, 1990; Chapman, 1998b; Crump et al., 1996; Goetzel & Ozminkowski, 2008; Pelletier, 2001). This is particularly evident in smoking cessation programmes (Glasgow et al., 1990) and weight management initiatives (Hersey et al., 2008).

Perceived supervisor support is greater when managers are actually seen to participate in activities and interventions, thereby providing employees with role models, which encourage increased participation (Allen & Leutzinger, 1999; Lovato & Green, 1990). Chu and Dwyer (2002) believe managers act as change agents when they adopt proactive approaches to health interventions, as well as encouraging a workplace culture that supports employee participation (Goetzel & Ozminkowski, 2008).

Early researchers identified the link between supervisor support and the health of blue–collar workers (Wells, 1982). This is still an important issue when blue–collar workers are continually identified as those who are least likely to participate, but who are most likely to be exposed to hazards at work (Marcus, Pinto, Simkin, Audrain, & Taylor, 1994; Morris et al., 1999). Similarly, Sorensen et al. (1995) highlight the difficulties faced by front–line workers when they leave their posts to participate in activities, because of delays in production which occur in their absence. Morris, Conrad, Marcantonio, Marks, and Ribisl (1999) also found some supervisors will refuse workers permission to participate during company time when production is behind schedule.

3.7   Organisational variables associated with participation

The organisational variables associated with employee participation in workplace health promotion programmes are primarily assessed in terms of how they can be used to support and reinforce individual behaviour change and facilitate successful programmes (DeJoy & Southern, 1993). This group of variables is increasingly recognised as having a substantial influence on the health and health–related behaviours of individuals (McLeroy et al., 1988).

Much of the literature on ecological perspectives uses environmental and organisational factors interchangeably. However, the current study has chosen to adopt the term 'organisational' to describe those groups of variables considered to be associated with participation over which a manager has some relative control. The term environmental could have been used in the same way, however, a person's environment can be considered as extremely broad by definition. As Eakin (1997) explains, it is also considerably more difficult to attribute the physical environment of an employee's workspace directly to health–related behaviours. This is because the characteristics of an individual's employment situation and

surroundings are confronted with a mass of social elements and individual traits, such as a person's perceived class or even their gender.

Despite these difficulties, Baker et al. (1994) believe organisational variables, in addition to individual and social characteristics, should be considered when developing and implementing health promotion programmes at work. In terms of our understanding on how to achieve this, Pelletier (1984) judged that any investigation of employee participation must include organisational variables, as participation is influenced as much by organisational characteristics as the personal health–related characteristics of the employee. Research by Sloan and Gruman (1988) adds that while individual characteristics of employees are important, their impact can be hindered by the characteristics of the workplace itself.

Few studies have investigated the associations between organisational variables and employee participation in health promotion initiatives. Emmons et al. (1996) observe that organisational variables influencing employee participation remain largely unknown and unclear. Moreover, many previous studies considering organisational variables are limited to smoking policies or time–limited activities such as health assessments (Crump et al., 1996).

The organisational variables investigated in this current study are the perceived organisational health climate and job flexibility. If these variables are found to have a direct influence on employee participation rates, a manager has a greater ability to take action using this information to encourage further participation.

3.7.1 Organisational climate

Previous studies exploring organisational climate and participation have identified the concept of 'climate' as an important environmental influence on employee participation (Basen–Engquist et al., 1998; Sloan & Gruman, 1988), particularly health risk and screening assessments (Bagwell & Bush, 2000). Organisational climate is defined by Basen–Engquist, Hudmon, Tripp, and Chamberlain (1998) as a set of internal characteristics that distinguishes one organisation from another. The way employees perceive the social and interpersonal aspects of their work situation affect how they perceive their organisation's climate which then influences their behaviour (Wilson et al., 2004).

An organisation with a healthy climate is defined as one where employees believe that their organisation values their health, where there are supportive supervisors and co–workers, and where there are clear organisational norms for practising healthy behaviours (Morris et al., 1999). Therefore, the notion of climate is the extent to which the organisation and immediate workgroup support the opportunities that exist and contribute to work–related activities (DeJoy, Schaffer, Wilson, Vandenberg, & Butts, 2004). Sloan et al. (1987) refer to organisational climate as the psychological assessment an employee experiences in the workplace. Put more simply, it is the "employees' shared perceptions of organisational events, practices, and procedures" (Patterson et al., 2005, p. 380) or the social and interpersonal aspects of the work situation (Wilson et al., 2004). Hofmann and Morgeson (1999) suggest if employees perceive the organisation to be supportive of their general welfare and well–being, they are more likely to believe that the organisation values their health. Despite literature examining the concept of organisational climate, very few studies consider any links between climate and employee participation in health promotion initiatives (Mearns & Hope, 2005).

There are differences between organisational climate and organisational culture; however, the differences remain a source of confusion (DeJoy et al., 2004). Consensus in this area is not easily achieved and the terms are frequently used interchangeably. The concepts are similar in that they describe an employee's experience of their organisation; however, Patterson et al. (2005) distinguish climate as behaviour–orientated, meaning safety climate represents a pattern of behaviour that supports safety, while culture is more apparent when employees are asked why a pattern exists. Gershon, Stone, Bakken, and Larson (2004) distinguish the two concepts by referring to organisational culture as the defined norms, values and basic assumptions of a given organisation, whereas organisational climate more closely reflects the employee perceptions of an organisation's culture. They believe organisational climate is easier to measure because it involves tangible elements such as organisational policies, procedures and reward systems that are more easily assessed. In comparison, organisational culture involves assessing an organisation's values and beliefs, which are more intangible.

Bagwell and Bush (2000) suggest the need to examine organisational climate as a way of increasing employee participation rates. Existing studies involving organisational climate and workplace health promotion programmes largely investigate the effects on organisational outcomes such as attendance, absenteeism, productivity and job satisfaction (Basen–Engquist

et al., 1998). Few studies have considered the links between organisational climate and health promotion (Mearns & Hope, 2005), and even fewer have assessed the effect of perceived organisational climate on participation compared with non–participation in health promotion activities, or assessed participation in multiple programmes.

3.7.2 *Job flexibility*

Job flexibility is typically characterised by non–standard working hours, varied workspaces and flat organisational hierarchies, which invite worker autonomy and decision–making responsibilities (Frenkel, Korczynski, Donoghue, & Shire, 1995; MacEachen, Polzer, & Clarke, 2008). Previous studies indicate employees with greater job flexibility are more able to improve their health by participating in workplace health promotion programmes (Costa, Sartori, & Akerstedt, 2006; Craig, Congleton, Kerk, Amendola, & Gaines, 2006; Gronlund, 2007).

An early study by Palank (1991) suggests employees with higher job flexibility are considered to be more likely to participate in a range of health promotion activities including exercise, smoking cessation programmes and weight management initiatives. Crump et al. (1996) subsequently found a strong association between job flexibility and participation in exercise activities, particularly among female employees, minority groups, and those in lower level positions, indicating that these groups generally have less overall occupational flexibility. However, few other studies have defined the relationship between job flexibility and participation, and the current investigation seeks to characterise this association.

3.8   Barriers to participation

The barriers limiting or restricting employees' participation in workplace health promotion activities are not as well understood as the factors influencing their decisions to take part. Existing studies indicate that a number of variables might be perceived as obstacles to participation; however, our current understanding is limited by studies which focus on a single activity or lack standardised measures of assessing the barriers to participation (Schwetschenau, O'Brien, Cunningham, & Jex, 2005).

It is important to consider the factors that deter employees from participating separately, from the factors that influence employees' to participate in health promotion programmes at work; variables associated with their decision to participate are different to those influencing their decisions not to take part. For example, having the support of friends and family often facilitates participation in a variety of health interventions, but some individuals will still participate if they have no social support networks. In other words, social support may facilitate participation but the lack of such support is not necessarily a barrier to an individual's participation.

The possible barriers to participation that are reported in previous research and further investigated in this current study include work and family commitments resulting in a real or perceived lack of time, a lack of self–efficacy, a lack of trust in supervisors, and activities scheduled at inconvenient times.

3.8.1 Commitments and a lack of time

One of the most frequently cited barriers to employee participation is a perceived lack of time (Bowles, et al., 2002; Chapman, 1998b; Emmons et al., 1996; Mavis et al., 1992; Shephard, 1996; Strange et al., 1991a). Employees with excessive commitments (work, family or other) are less likely to participate in health promotion activities.

Family commitments are frequently cited as the most significant barrier to participation in health promotion interventions, including workplace health promotion programmes. Supportive social environments created by family, friends and co–workers transmit particular norms and expectations of health behaviours (Grzywacz & Faqua, 2000; Redland & Stuifbergen, 1993). Therefore, it is not surprising that health promotion interventions are more effective with friends, family and co–worker support (Sallis, 1996).

Women without children are more likely to participate in workplace health initiatives than women with children (Tavares & Plotnikoff, 2008). An investigation by Marcus et al. (1994) cites that dependent children also significantly dictate how, and when, women take part in exercise activities. Similarly, Wu and Porell's (2000) study of 6435 workers participating in exercise activities identifies childcare responsibilities as being a significant constraint on women participating. Further evidence is provided by Booth, Bauman, Owen, and Gore

(1997) in a study involving 2298 Australian employees. The authors report that workers with children are considerably more likely to cite a lack of time or a perceived lack of time as a reason for not participating in exercise activities at work.

3.8.2   Lack of self–efficacy

Self–efficacy is an individual's belief in their ability to succeed in a chosen activity or challenge. The concept was originally described as part of the Social Cognitive Theory (Bandura, Adams & Beyer, 1977). This theory proposes that an individual's belief in their personal capabilities will predict their subsequent behaviours. Studies investigating the variables associated with employee participation consistently acknowledge self–efficacy as a powerful predictor of participation in workplace health promotion programmes (Alexy, 1991; Desmond, Conrad, Montgomery, & Simon, 1993; Hunt et al., 2007).

Low self–efficacy has been identified as a barrier to participation. Previous studies suggest smokers are generally aware of the negative health risks of smoking but choose not to participate in smoking cessation programmes because they feel completely unable to stop smoking (Emmons et al., 1996; Klesges et al., 1988). Redland and Stuifbergen (1993) believe past experiences have the greatest influence in shaping a person's self–efficacy and future expectations. In other words, negative past experiences in health promotion activities reduce a person's belief in their own future success, thereby creating a barrier to their future participation (Kotarba & Bentley, 1988; Miller, Ogletree, & Welshimer, 2002).

A similar recognition of how perceived self–efficacy influences participation can be found in other models. The Health Belief Model (Becker & Maiman, 1975) is designed to investigate why people who are without apparent illness take preventative measures to protect their health, whereas others fail to take any action at all (Glanz, Lewis, & Rimer, 1997). The Health Belief Model predicts that individuals will adopt health behaviours if they perceive themselves to be susceptible to a condition, believe the condition is serious, that taking action will reduce the condition, and that the benefits of taking action will outweigh the costs (Nutbeam & Harris, 2004).

Existing research outcomes regarding an individual's belief in their ability to modify their behaviours are mixed. An early study by Shephard et al. (1980) examining employee

participation in fitness activities, found no correlation between personal self–belief and subsequent participation, which suggests a change in health attitudes and a belief in one's capabilities do not always affect a person's behaviour. However, another report by De Geus, De Bourdeaudhuij, Jannes, and Meeusen (2008) reports individuals with high self–efficacy are more likely to participate in physical activities. This indicates a connection between how strongly an employee believes they will achieve positive health outcomes and their actual ability to achieve those outcomes. The extent to which an employee believes in their ability to complete an activity can either enhance or restrict their participation; more importantly, a person's belief that they are unable to do something has a negative influence on their participation.

3.8.3 Lack of trust

An employee who does not trust their confidential health information with a manager can be reluctant to take part (Baker et al., 1994; Chapman, 1998b). This is because some employees feel a manager has no business in an employee's personal and private life outside work (Conrad, 1987a). As a consequence, some employees view health promotion initiatives as intrusive and jeopardising their privacy (Fries et al., 1993). Goetzel and Ozminkowski (2008) suggest this barrier to participation occurs when employees feel their employer is interfering with their private life and lifestyle habits.

The question of trust is raised when employees consider health promotion interventions to be in breach of what is considered a private matter and, therefore, of no concern to their employer or the organisation for which they work. Conrad (1987a) suggests the boundaries of public and private employee health behaviours are particularly distorted in North American workplaces, where it is mandatory for employers to finance health insurance premiums. Therefore, employers consider they have a right to be concerned with the private health habits of employees. Conversely, early research by Tait (1984), who studied this idea in New Zealand workplaces, found New Zealand managers believe an employee's personal life and working life have no relationship to each other. However, later research by Lamb (2000b) reports that employers attribute low performance to employee health and lifestyle habits, and that the two areas are inseparable. This might suggest that a manager has the right to know specific health information about the employee and intervene if necessary.

In addition to these legitimate fears, employees with significant health risks do not participate in health–related activities for fear of exposing those health risks to their managers and colleagues (Goetzel & Ozminkowski, 2008). Some employees worry that their future opportunities for promotion or professional development within the organisation are jeopardised if their manager knows they suffer from a health ailment that could potentially hinder their work performance.

3.8.4 Inconvenient scheduling

Activities scheduled at inconvenient times are commonly–cited barriers to participation, as employees frequently have other commitments outside the workplace (Chapman, 1998b; Emmons et al., 1996; Mavis et al., 1992; Shephard, 1996; Strange et al., 1991a). A number of studies suggest participation is increased when activities are made available during the day, and during work hours (Lovato & Green, 1990; Spilman, 1988). Scheduling activities during work hours also demonstrates that the organisation is committed to improving the health of employees (Feldman, 1985).

Scheduling becomes less of a barrier to participation if employees are given time off work to take part. Crump et al. (1996) found the ability to leave their work stations in order to participate and having on–site activities are useful for encouraging employees to take part in exercise activities; this was particularly evident among minority groups and employees in lower level positions.

The current study seeks to identify whether these barriers to participation relate to all of the health promotion activities investigated, or whether certain barriers are more likely to hinder specific activities. This information corresponds with the objectives of this research: to clarify and extend our understanding of what influences employee participation in health promotion programmes, and to provide managers with targeted ways they can maximise participation rates in such activities in their organisations.

3.9   The New Zealand context: Practitioner interviews

In the early stages of conducting this literature review, few studies were found investigating workplace health promotion programmes in New Zealand. Even less information was available on the factors associated with employee participation in local programmes. In order to explore the concept in a New Zealand context and to gain a better understanding of the New Zealand situation, a small preliminary study was conducted using semi–structured interviews with eight workplace health promotion practitioners in the greater Auckland area (refer to Appendices A and B).

The preliminary study outcomes are presented here rather than as a separate results chapter because the purpose of this part of the investigation was to confirm that there was a practical and valuable need for the current study, and to ensure the terminology, key variables, and general understanding from the literature were applicable in a New Zealand context. Presenting the outcomes of the preliminary study here is also considered to provide a more temporal depiction of how the data collection process developed.

A complete account of how the eight practitioners were identified and recruited, and how the data were analysed, is explained in Section 4.2 of the methods chapter.

Each practitioner was asked to comment on:

- How workplace health promotion programmes are characterised in New Zealand;
- The most commonly implemented activities in New Zealand organisations;
- Their perceptions on why employees participate;
- What they perceive as barriers or restrictions limiting employee participation;
- Ways to motivate and encourage participation.

The decision to interview health promotion practitioners was based on three factors: first, the literature surrounding workplace health promotion programmes was predominantly on overseas organisations, particularly North American companies. In order to identify the variables associated with participation in different activities, it was important to ensure the activities investigated in this study were commonly available to employees in New Zealand. For example, workplace health promotion programmes in North American organisations often

include education campaigns on the importance of vehicle safety–belt use (Bertera, 1991; Eddy, Fitzhugh, Wojtowicz, & Wang, 1997). This type of health initiative would not be included in a workplace health promotion programme in New Zealand, as it is a legal requirement to wear a safety–belt while driving in this country.

The second reason for interviewing practitioners was based on the limited information available on the perceived barriers to employee participation. Existing studies identify the problems of low employee participation rates, but few offer feasible explanations as to why this is so, or provide workable ways to address this problem. It was hoped that workplace health promotion practitioners would add to what little is known by providing first–hand examples of their experiences into why employees choose not to participate when activities are made available.

The third reason for undertaking the interviews was to identify the organisations in Zealand that were known to offer a broad range of health promotion activities to staff. The current study was designed to investigate the factors affecting employee participation in a number of activities, it was therefore important to ensure that the employees invited to take part had an adequate range of activities available to them. Practitioners were asked to provide a list of known organisations with comprehensive health promotion programmes, which proved to be an effective and practical way of accessing employees to participate in this study.

3.9.1 *Insights and relevant information provided by practitioner interviews*

The following section presents the main findings resulting from the eight practitioner interviews. Each practitioner was allocated a number (P1–P8) which has been used to identify the source of each transcribed interview extract used in this section.

Each practitioner was asked to provide his or her own definition of a workplace health promotion programme. The overwhelming majority of responses clearly distinguished health promotion efforts, which are aimed at improving personal health, from those that simply manage legislative safety requirements. This theme supported the definition adopted in this study, focusing on the notion that activities are designed to improve employee health rather than simply maintain their existing health. One practitioner (P3) effectively summarised

workplace health promotion programmes as "promoting the responsibility of employees to improve their own personal health outcomes".

Each practitioner was asked their opinion on the most commonly–implemented health promotion activities and interventions offered in New Zealand organisations. The purpose of this question was to confirm that the activities extracted from the literature for further investigation were commonly available. The general consensus was that educational initiatives, such as health improvement seminars and health screening assessments, were the most readily implemented and popular with staff. Two practitioners also stressed that employee assistance programmes and counselling initiatives were often included in even the most basic programmes. Health promotion activities implemented by managers were often aimed at dealing with key organisational performance issues such as attracting and retaining quality employees, and reducing absenteeism. Typical examples included health screening tests, stress management and counselling interventions.

Despite distinguishing workplace health promotion programmes from mandatory occupational health and safety initiatives, the most commonly–implemented activities in New Zealand had strong connections to legislative requirements. Amendments to the occupational safety and health legislation to include stress and fatigue as occupational hazards, were introduced in the 12 months prior to these discussions. Consequently, a number of references were made to activities that both improved employee health and well–being, and also met the organisation's legal requirements. The most frequently–cited examples were stress management programmes and health seminars that focused on stress management strategies.

Practitioners also referred to the holistic nature of workplace health promotion activities with intangible benefits. These types of initiatives were more frequently implemented compared with interventions designed to target specific health complaints. Holistic initiatives tended to include health seminars promoting the importance of work/life balance and general health awareness. These were considered 'lightweight' in terms of achieving actual behavioural or lifestyle changes, but were popular among employers.

Each practitioner was asked a number of semi–structured questions regarding the facilitators and barriers to employee participation in workplace health promotion programmes. The value

of these questions is demonstrated throughout this current study. Table 3.1 presents a summary of the factors the eight practitioners believed facilitate and restrict participation.

Table 3.1

Summary of the factors facilitating and restricting employee participation in workplace health promotion programmes described by health promotion practitioners

Factors facilitating participation	n	Factors restricting participation	n
Social support (friends, family, colleagues, supervisors)	6	Fear of unknown illnesses	7
Organisational culture and climate	4	Confidentiality of health information	3
Personal value	3	Lack of trust in managers	3
Convenience	3	Work commitments	3
Available continuously/on a regular basis	2	Embarrassment	3
Healthier employees/higher perceived health status	2	Family commitments	2
High job flexibility	2	Inconvenient scheduling	2
High job security	1	Fear of procedure (needles)	2
		Negative stigma of some activities	1
		New Zealand culture	1

Practitioners were asked their views on what influenced employee participation in health promotion programmes. Questions probing this discussion topic were intended to establish any similarities between the variables suggested in the literature and experiences of health promotion consultants and practitioners. As Table 3.1 illustrates, practitioners believed social support and the organisation's culture and climate were the main contributing factors relating to participation. P5 effectively summarised the influence of social support stating, "some people say, no, I don't want to do this and we're not sure why, but once they get going and other people come back and say that was great, they change their mind". P3 noted the extent to which external support structures facilitated participation in health promotion activities, but, if certain support structures were apparent, that could also limit the use of workplace health services: "if you have a good, sound family structure then you are more likely to use

that structure, and if you've got a doctor that you've had for donkey's years, you'd rather go to him or her than use the company health provider".

Ensuring the activities were appropriate for the organisation's culture was cited as a strong facilitator encouraging participation. P2 used an example of an organisation she was currently involved with:

> [Company X] is an example where they have a pretty unique viewpoint of the employees' health issues from a human resources point of view. Their workforce are predominantly Samoan; therefore most of the organisation strategies, including any health promotion strategies we try to introduce, have to be designed to fit in with the organisation's culture, which is strongly influenced by the Samoan culture.

P8 added further strength to this point stating:

> The key is to create an environment and organisation's culture where participating is acceptable and just another normal day–to–day thing. It means those high–risk employees can feel a part of it all and actually get some help.

Another common theme related to employee participation cited by three practitioners was that employees were interested in taking part in an activity "primarily if they see some personal value for themselves", that is, when they were able to easily establish what they would achieve from participating (P7).

Three practitioners also stated, in their opinions, the convenience of activities strongly influenced participation: "sheer convenience is a biggie. It's at their workplace, they don't have to go to a doctor or a clinic. It's just there and often getting that sort of service when they are working full–time is quite difficult" (P7).

In addition to discussing the factors facilitating participation, each practitioner was asked their views on what limits or restricts participation, and why some high–risk employees are reluctant to take part in initiatives designed to improve their health. Seven out of the eight interviewees referred to issues surrounding employees being in denial of a particular health concern, or fearing a previously unknown health issue is present. These comments were frequently in reference to health screening assessments and appraisals, but practitioners also stated these barriers to participation existed for weight management and smoking cessation

programmes, counselling initiatives, and fitness testing activities. Some employees preferred to deny that a health issue existed, and therefore chose not to participate for that reason. P5 commented, "some people don't want to know the result. If they've got an issue they just don't want to know". P1 agreed, asserting, "people are scared to have a health issue identified". P8 commented "they are often the ones who know they have a serious health risk but don't want to face it", while P6 stated, "people don't want to be shown up as having something obviously wrong".

Other barriers to participation included privacy and confidentiality issues: P4 stated, "some people worry about the 'big brother', the confidentiality of results and the results getting back to the employer". Similarly, a lack of trust in managers was another frequently–cited barrier, with a common belief that health issues weakened an employee's potential for promotion: "you don't want to be seen as having a weakness when you're climbing the corporate ladder" (P6).

Work commitments and simply 'being too busy' were cited by three practitioners. P2 stated, "it is made too difficult; in other words, if they attend they'll have extra work to do at the end of the day. They're given no time off work, and one has to cover for the other to take part".

The New Zealand culture was referred to as a barrier. P3 believed, "there is still an ethos in the New Zealand culture that you can fix it yourself, particularly with males". He went on to say, "New Zealand isn't a culture where you gallop off to professionals, it's a number eight wire attitude where you fix it yourself, or you talk to family or your mates or whatever".

Disliking the methods used in an activity was mentioned by P5, who said, "some people are needle phobic and no matter what it is, they don't want to do it…they don't like needles, they don't even like the pin prick of a blood needle [in reference to a glucose test]".

In 2005, when the interviews were conducted, only a small amount of information was available on workplace health promotion programmes in New Zealand, and no known studies had explored the problem of low participation. It was clear from the literature that international studies had highlighted the need to investigate the issue but it was unclear whether or not New Zealand managers thought low employee participation was a problem. Practitioners were not asked directly if they thought managers were aware of the problem of

low participation, primarily because at the time of the interviews, the lack of empirical evidence relating to low participation indeed supported the need for the current study. Despite not directly asking the question, suspicions were confirmed in the interviews with each practitioner, who all considered employee participation to be an obvious factor in the success of a programme. For example, in a conversation centred on health promotion programmes taking a strategic direction within a company, P1 stated, "Absolutely, managers know that they have to run things from both a profitable and humane front, and that includes participation". In another conversation with P7 regarding concerns managers have about high–risk employees who choose not to participate, she said, "Yes, they are concerned, but it's extremely difficult for them to manage it". Similarly, P3 was quoted as saying, "It's very difficult for managers when people ignore it all. Programmes are an invitation only and not enforced, so there are always employees who managers think should be participating. It's a real hard one for them [the managers]". In another exchange on the type of employees who are most likely to participate, P5 spoke of low participation among high–risk, unhealthy and unfit employees stating, "They stay away, that's a known thing".

Interviewing the eight health promotion practitioners confirmed that the definition of workplace health promotion programmes adopted in this study was appropriate in the New Zealand context. The interviews also confirmed the nine health promotion activities investigated in this current study were often available to employees, and, of most importance, that opinions and perceptions of what influences employee participation vary widely, further supporting the need to explore a range of factors influencing participation in multiple health promotion activities.

3.10 Summary of the literature

The purpose of this study can be rewritten in the form of three overriding research objectives:

- How do selected variables influence employee participation in workplace health promotion activities?
- What are the barriers to participation?
- How can managers maximise employee participation in workplace health promotion programmes?

The previous two literature chapters provide the justification for the need to answer these research objectives. The first literature review chapter (Chapter 2: Workplace Health Promotion) explained the definitions of workplace health promotion programmes, the major benefits of these programmes, and introduced the reader to the nine activities investigated. They are: fitness testing, exercise activities, health screening appraisals, health seminars, weight management programmes, alcohol and drug assistance programmes, counselling, stress management programmes and smoking cessation programmes.

The second chapter of the literature review (Chapter 3: Employee Participation) introduced the concepts surrounding employee participation in health promotion programmes. This chapter evaluated and justified the choice of applying an ecological approach to categorise the possible individual, social and organisational variables purported by existing studies to be associated with participation, and provided explanations on why each variable was included. This chapter also confirmed the need and relevance of this study in a New Zealand context.

The literature review chapters have highlighted the need to improve our understanding of the factors influencing employee participation in different health promotion activities, and of the barriers preventing participation. Understanding these influences will enable managers to make more informed decisions regarding ways to maximise participation in the health promotion programmes available to their workforce.

The following chapter will demonstrate how the variables influencing participation were assessed in the current study. This chapter will illustrate the entire data collection process, ethical considerations, and the measures and instruments used in the three separate studies to investigate participation.

CHAPTER 4: METHODS

Outline of Chapter Four:

4.1   Research design rationale

The existing literature highlighted the need to find ways in which managers can increase employee participation in workplace health promotion programmes (Grosch et al., 1998; Klesges et al., 1988; O'Donnell, 2004; Poole et al., 2001; Shephard, 2000). What influences a person to take part in any health–related initiative is subject to a myriad of individual, social and environmental variables. The present thesis did not seek to identify all the possible factors influencing an individual's health behaviour decisions but rather to apply a non–experimental, cross–sectional approach to determine whether the major variables identified in the literature and preliminary study (practitioner interviews) were associated with participation in different health promotion activities. It was envisaged that improving our understanding of how key variables are associated with employee participation might enable managers to make better decisions as to how they can maximise participation in the health promotion programmes in their organisations.

This chapter describes the data collection process. The data were collected via three separate studies:

1. Preliminary study: Eight semi–structured interviews with workplace health promotion practitioners. These outcomes were presented at the end of the previous chapter (Section 3.9).

2. Questionnaire: Online survey completed by 883 employees in five organisations with comprehensive health promotion programmes available to them at work.

3. Interviews: Face–to–face, semi–structured interviews with 20 employees from a single organisation, who did not take part in the questionnaire.

The research design, measures and procedures used in all three data collection phases are presented in the following chapter. A brief summary of the data collection process is illustrated in Figure 4.1 on the following page:

A search of public directories for workplace health practitioners in the greater Auckland area

12 practitioners were approached and 8 agreed to be interviewed

Interview questions were developed from literature sources

A semi–structured, face–to–face interview was conducted with each practitioner

Preliminary Study

Interview outcomes included a list of 18 organisations with comprehensive workplace health promotion programmes readily available to staff

Each of the 18 organisations suggested by the practitioners was invited, by phone and letter, to participate in the study

5 organisations agreed to take part.
Total population = 3634 employees.
Sample size = 883 employees.

A questionnaire was created and designed to measure the variables believed to influence participation.

A pilot study was conducted to ascertain the questionnaire's ease of use and understanding

Questionnaire

Employees were emailed a link to their personal email address inviting their participation, and directing them to the online questionnaire

Once the questionnaire was completed, employees were asked to 'submit' their responses online. All questionnaire responses were automatically sent and stored on a third–party database for subsequent analysis.

A new organisation was approached to recruit 20 employees for a face–to–face interview

Interviews

Questionnaire results were used to develop face–to–face interview questions

Interviews were carried out and outcomes analysed.

Figure 4.1: *Data collection methods used to gather information about the factors and barriers influencing employee decisions to participate in workplace health promotion programmes.*

4.2 The preliminary study

The results of the preliminary study are presented at the end of the previous literature review chapter. However; the data collection methods are presented here to aid the reader in understanding the complete data collection process, and to facilitate future researchers intending to replicate parts of the current study.

The practitioners who were interviewed in the preliminary study were identified through the Auckland telephone directory. The search was confined to the Auckland region for practicality and cost purposes. It was thought that confining the interviews to practitioners in the Auckland area would not jeopardise the scope of information collected: Auckland residents make up more than one–third (33.5%) of the total population of New Zealand (Statistics New Zealand, 2010). Consequently, the number of workplace health specialists operating in the Auckland area is considerably greater than in other parts of the country: the city accounts for 13.1% of all New Zealand's businesses and 16.2% of all New Zealand's jobs (Eriksen, 2008).

Twelve practitioners with specific expertise and currently working in the area of workplace health promotion were identified and approached by phone. The purpose of the study and the extent of their proposed involvement was explained to each practitioner (refer to Appendices A and B). Eight practitioners agreed to participate. At the time of the preliminary study in mid–2005, workplace health promotion and corporate wellness consultants were in high demand. Two practitioners did not participate citing a lack of time due to current work commitments, one practitioner was interested but unavailable within the allocated data collection period, and one practitioner expressed an interest but came from an occupational nursing background and admitted her expertise was in occupational health and safety rather than workplace health promotion.

The duration of each interview ranged from 45 minutes to 3 hours, depending on how much information each practitioner had to offer. Each discussion question (refer to Appendix C) was driven from the theories found in the literature. The questions were designed to be probative and often took the form of a general conversation. This was intentional because, at the time of the initial preliminary study, the information available on workplace health promotion programmes in New Zealand was extremely limited. All interview proceedings

were audio–taped with the written permission of each practitioner, along with their written consent for any information they divulged to be included in the current study. No other party was responsible or involved with transcribing the recorded discussions.

Content analysis was applied to the transcripts and used to identify recurring themes. Recurrent statements or themes were identified, and interesting or relevant statements were documented and presented in Section 3.9. Discussions with the eight practitioners confirmed the importance and practicality of this study, and provided assurance that the questions asked in the main data collection instruments, the questionnaire and in–depth interviews, would be understood and feasible in a New Zealand context.

4.3   The questionnaire

Previous studies cite questionnaires to be an effective and successful way of gathering information relating to workplace health promotion programmes (Addley, McQuillan, & Ruddle, 2001; Campbell et al., 2000; McMahon, Kelleher, Helly & Duffy, 2002; Partanen et al., 2002; Petterson, Donnersvard, Lagerstrom, & Tommingas, 2006). Most of the organisations identified as having comprehensive health promotion programmes available to staff had offices located throughout the country; therefore, a questionnaire was considered the most appropriate and efficient way of collecting data from a large group of employees with the potential of generalising the findings. In addition, using a questionnaire did not limit the data to one geographical location, and provided a functional and cost–effective way of collecting as much information as possible from employees working in all parts of New Zealand.

Using a questionnaire was also considered to be an effective way for employees to provide health–related information anonymously. Past research shows that some individuals tend to provide socially desirable answers when they are asked about their health behaviours; they are more inclined to provide what they believe to be an acceptable or 'right' answer, and less likely to admit to an unhealthy behaviour (Alvik, Taldorsen, & Linderman, 2005; Ong & Weiss, 2000). In reference to this, using an anonymous emailed questionnaire was considered an effective way of getting the most accurate responses from employees, and minimising the number of socially desirable answers.

4.4   Questionnaire participants

Each of the eight practitioners involved in the preliminary study was asked if they were aware of any organisations in New Zealand that offered comprehensive health promotion programmes to staff. Previous studies provide various definitions of a comprehensive health promotion programme: Haynes et al. (1999) suggest that comprehensive programmes are those offering employees multiple health promotion activities and services, whereas Cook et al. (2007) describe comprehensive programmes as those which focus on risk reduction for high–risk employees. In this study, the approach adopted by Haynes and colleagues (1999) has been used. Comprehensive programmes were considered to be those offering at least five of the nine activities investigated in this study. Chapman (2005a) refers to them as multi–component programmes; his meta–analysis of 42 peer–reviewed articles defined multi–component programmes as those that include a minimum of three health promotion activities.

Utilising information gained from the practitioner interviews, a list of 18 organisations with comprehensive health promotion programmes was established. It was not surprising that the list comprised predominantly large multi–national organisations, as past research has found that larger organisations are more likely to implement comprehensive health promotion programmes by offering a greater number of activities to employees (Fielding & Peserchia, 1989; Springett & Dugdill, 1995).

Each of the 18 prospective organisations was scrutinized using the organisation's web site and existing publications detailing their specific health promotion programmes were sought. Organisations were considered suitable if they offered at least five of the nine health promotion activities to staff. The Human Resource Manager, or equivalent, for each organisation was contacted to discuss the specifics of their health promotion programmes. In this conversation, the manager was also told the purpose of the study, and subsequently invited to participate where applicable (refer to Appendix D). Six of the 18 organisations approached agreed to take part. However, unfortunately, one of the six organisations (a Government Department) had to be excluded because Ministerial authorisation was required and approval could not be granted within the timeframe allocated for data collection, thus resulting in five participating organisations.

Table 4.1 presents the activities available to staff in each of the five organisations involved in the study. Two of the five organisations offered all nine of the health promotion activities investigated, one organisation offered seven activities, and two organisations offered five activities.

Table 4.1

Activities available to staff in the five organisations involved in administering and completing the questionnaire

Activity	Company A	Company B	Company C	Company D	Company E
Fitness Testing	✓	✓	✓	✓	
Exercise Activities	✓	✓	✓	✓	✓
Health Screening	✓	✓	✓	✓	
Health Seminars	✓	✓	✓		✓
Weight Management Programme	✓		✓		
Alcohol and Drug Programme	✓	✓	✓	✓	✓
Counselling	✓	✓	✓	✓	✓
Stress Management Programme	✓	✓	✓		✓
Smoking Cessation Programme	✓		✓		

A questionnaire was completed by 883 employees (24.3 %), from a sample population of 3634 employees working in five organisations. Table 4.2 provides the response rate from each organisation.

Table 4.2

Response rate for each organisation involved in the quantitative study

	Total Possible Respondents	Respondents	Response Rate
Company A	807	220	27.26%
Company B	942	228	24.20%
Company C	318	131	41.19%
Company D	914	206	22.54%
Company E	653	98	15.01%
Total	3634	883	24.30%

The response rate for Company E was lower than originally anticipated. The Human Resource Manager of Company E confirmed the reason was due to the unfortunate timing of the questionnaire being administered at the same time as the company was changing the internal intranet communication service provided to staff. The questionnaire could have been re–administered, however; this may have introduced some bias or duplicate respondents. The response rates from the other four organisations were acceptable and the overall response rate was sufficient to warrant subsequent analysis. Table 4.3, on the following page, provides the demographic information for the sample.

Table 4.3

Demographic information of questionnaire respondents

		% of Sample
Gender	Male	32.9
	Female	67.1
Position	Senior Management	3.5
	Middle Management	18.6
	Team Leader/Supervisor	17.6
	Non–Managerial Employee	56.5
	Other/not specified	3.8
Status	Permanent Employee	96.9
	Temporary or Fixed–Term Employee	2.1
	Fee for Service Contractor	0.8
	Other/not specified	0.3

The age of survey participants ranged from 17 years to 71 years, with a mean respondent age of 38.8 years (SD = 11.0 years, N = 768).

In order to ascertain that the resulting sample was free from major systematic response bias, it was important to determine whether the 883 employees who completed the questionnaire were representative of the entire workforce of the organisations involved in the study. All five organisations were asked to provide information relating to the gender ratio, average age of employees, employment status and position. Three of the five organisations had this information readily available. Table 4.4 shows, where information was available, the sample demographics were relatively similar to the overall demographic characteristics of the three organisations. One exception was the gender breakdown of Company C. However, this information referred to the entire organisation, which had a large engineering and manufacturing division. The gender comparisons for the Head Office employees, who were invited to complete the questionnaire, comprised of 63.2% female and 36.8% male employees.

Table 4.4

Demographic comparisons of questionnaire respondents and company profiles

		% of Sample	Company A	Company B	Company C
Gender	Male	32.9	40.8	35.2	67.5
	Female	67.1	59.2	64.8	42.5
Status	Permanent Employee	96.9	n/a	98.2	97.0
	Temporary Employee	2.1	n/a	1.8	3.0
Average Age (years)		38.8	32.6	33.0	36.0

The organisations operated in a variety of industries including retail (two companies), insurance, travel and tourism, and finance. Unfortunately, it would be relatively easy for a reader familiar with those industries to identify at least two of the organisations involved in this study if more specific information were given. Therefore, to protect the identity of the companies and their employees, the actual industry which relates to each of the five organisations has not been provided.

Information relating to whether or not each of the five organisations offered incentives to staff in order to encourage their participation was not sought. The reason for this decision was based on the preliminary study. Each of the eight consultants interviewed in the preliminary study was asked, "Do you think incentives encourage participation? What type of incentives?" (refer to Appendix C). Strong evidence was provided which demonstrated that it is rare for companies in New Zealand to provide incentives for employees to participate. For example, one leading practitioner (P1) stated, "It's not been the sort of thing that companies do. They have to pay money in the first place for the services to be provided so they don't provide incentives on top of that". A reason for not providing extra incentives to participate was given by P5 who believed, "New Zealanders are reasonably intelligent and they realise the benefits [of participating]". Any incentives given were more generic enticements, such as lunch being provided by the company, time off work to take part, or simply that "everyone else is doing it" (P2).

4.5   Questionnaire materials

An online questionnaire was designed and distributed via personal staff email addresses. The questionnaire was designed to investigate how the key variables identified in the literature and preliminary study influenced an employee's initial participation in nine health promotion activities. These activities were: fitness testing activities, exercise activities, health screening assessments, health seminars, weight management programmes, stress management programmes, counselling, alcohol and drug assistance programmes and smoking cessation programmes (refer to Appendix E).

The ecological approach assisted in grouping the variables thought to be associated with employee participation. As presented in the previous literature chapter, this approach categorised the predictor variables into individual, social and organisational factors. Corresponding with this way of categorising the variables, the questionnaire was also divided into those three categories. The individual variables measured were demographic factors and perceived health status, stress, and job satisfaction. The social variables included supervisor and co–worker support, and the organisational variables explored perceived health climate and job flexibility.

The barriers investigated in the questionnaire included inconvenient scheduling, awareness of the activity, work and family commitments, embarrassment, self–efficacy, and trust.

The following section will discuss how each of the variables was measured and used in the questionnaire to determine whether there was an association between each variable and the nine activities investigated.

4.5.1   *Measuring the dependent variables*

As discussed in earlier chapters, the concept of employee participation in workplace health promotion programmes has been subject to a myriad of definitions and subsequent measurement techniques (Heaney & Goetzel, 1997; Linnan et al., 2001; Thompson et al., 2005). This was evident from the literature, and further confirmed by the practitioner interviews conducted in Auckland.

Concept definitions include:

- Expressing an interest by enrolling in a particular activity but not necessarily taking part (Burton et al., 2005; Conrad, 1988b; Eakin et al., 1988; Heaney & Goetzel, 1997; Steinhardt & Young, 1992);

- Involvement in a particular activity over a certain period of time (Dishman & Ickes, 1981; Follick, Fowler, & Brown, 1984; Lewis et al., 1996; Orman & King, 1998; Wilson et al., 1994);

- Continuous attendance until the activity or intervention is completed (Rhodes & Dunwoody, 1980; Glasgow et al., 1990; Sussman et al., 1989);

- Taking part in the initiative in some form (Davis et al., 1984; Emmons et al., 1996; Mavis et al., 1992; Linnan et al., 2001).

To add to the challenge of measuring participation, the manner in which an individual takes part in a health promotion activity is also dependent on the type of activity and how it is implemented within an organisation (Grosch et al., 1998). For example, a health seminar requires attendance but not necessarily completion of specific tasks, whereas a smoking cessation or stress management programme can require completion of a set of specific objectives.

Considering the range of definitions and the multiple ways an employee can participate in an activity, participation was measured on five separate levels. There, for each of the nine activities included in the questionnaire, respondents were asked to identify which of the following statements best described their involvement:

1. I enrolled in this activity
2. I attended this activity
3. I completed this activity
4. I did not take part in this activity
5. This activity was not available to me

4.5.2   Measuring the independent variables

Following the ecological approach, each variable was categorised as an individual, social or organisational predictor. The measures used in the questionnaire were previously validated scales taken from existing studies. In most cases the wording of each item was duplicated in order to maintain validity.

4.5.3   Individual variables

The individual variables tested were demographic indicators, perceived health status, perceived stress, and perceived job satisfaction.

Demographic indicators

Demographic indicators are frequently used to establish the type of participants who are more likely to be involved in health promotion initiatives. Correlations between participation, gender and age have been extensively investigated (Glasgow et al., 1990; Grosch et al., 1998; Lewis et al., 1996; Sloan & Gruman, 1988; Stein et al., 2000; Spilman, 1988; Wilson et al., 1994; Thompson et al., 2005). It was, therefore, considered necessary to recognise previous investigations by including questions relating to demographic characteristics in the questionnaire. Respondents were asked their gender, age, position within the organisation, and employment status.

Perceived health status

Ascertaining a relationship between perceived health status and participation in workplace health promotion initiatives was assessed using a single–item measure, "How would you rate your overall health at the present time?" as used by Frank–Stromborg, Pender, Walker and Sechrist (1990). The 5–point responses ranged from 'excellent' to 'very poor' (refer to Appendix E, question 8). DeSalvo et al. (2006) suggest single–item health measures are helpful alternatives to lengthy health–related scales. Mossey and Shapiro (1982) note that studies using a large sampling population demonstrate the ability of a single–item health–rating measure to detect variations in perceived health status in diverse populations. They

also note that a single–item measure captures perceived health status at a particular time rather than individual health changes over time.

Perceived stress

A 4–item version of the Perceived Stress Scale, developed by Cohen, Kamarck and Mermelstein (1983), was used to measure the degree to which situations in an employee's life were considered stressful. There are three versions of this commonly used scale: a 14–item, a 10–item and a 4–item adaptation (Taylor–Piliae, Haskell, Waters, & Froelicher, 2006). The 4–item version was considered useful in situations requiring as few items as possible (Cohen, 2000). Questions included, "In the last month, how often have you felt that you were unable to control the important things in your life?" and, "In the last month, how often have you felt confident about your ability to handle your personal problems?" (refer to Appendix E, Question 11).

The scale adopted an ordinal response format: never, almost never, sometimes, fairly often, and very often. The 4–item scale contained two items with negative wording. An overall score was obtained by reversing the codes for those two items and adding them to the positively worded items. The higher the overall score, the higher level of perceived stress the respondent is considered to have; however, there is no cut–off score dichotomising 'being stressed' from 'not being stressed' (Morais et al., 2006). In developing the scale, internal reliability coefficients were found to range between .84 and .86 (Cohen et al., 1983).

Job satisfaction

Job satisfaction was determined using a single–item overall job satisfaction measure, originally developed from a 15–item measure by Warr, Cook and Wall (1979) and then further developed by Scarpello and Campbell (1983). This item asked respondents, "Taking everything into consideration, how do you feel about your job as a whole?" (refer to Appendix E, Question 7). Responses were measured using a 7–point Likert format ranging from 'extremely satisfied' to 'extremely dissatisfied'. This measure has been used extensively in many research areas, as job satisfaction is one of the most commonly studied organisational psychological topics (Dunnagan, Peterson & Haynes, 2001).

Dolbier, Webster, McCalister, Mallon and Steinhardt (2005) investigated the reliability of this single–item job satisfaction measure in relation to workplace health promotion, concluding that the internal reliability coefficients ranged between .73 and .90. Wanous, Reichers and Hudy (1997) suggest that the benefits of adopting a single–item measure are brevity and space constraints. Further, they regard this single–item measure of job satisfaction as the most applicable measure across multiple occupations.

4.5.4   Social variables

The social factors thought to be associated with employee participation in workplace health promotion programmes, and subsequently assessed in the questionnaire, were perceived co–worker and supervisor support.

<u>Co–worker support</u>

Co–worker support was measured using a 9–item measure devised by Mearns and Hope (2005) in their investigation of health and well–being among employees in off–shore environments. The scale was derived from the 69–item Worksite Health Climate Scale designed by Ribisl and Reischl (1993). The co–worker support measure in the original scale was designed to assess the amount of support employees received from their co–workers, and variations are evident in existing investigations evaluating workplace health promotion programmes (DeJoy et al., 2004; Morris et al., 1999; Park et al., 2004; Wilson et al., 2004). The 9–item scale used in the current study applied 5–point Likert responses ranging from 'strongly disagree' to 'strongly agree'. Statements included, "My colleagues would be supportive of me if I started exercising" and, "My colleagues share health information with me" (refer to Appendix E, Question 4). Mearns and Hope (2005) found this 9–item measure to have an appropriate internal reliability coefficient of .85.

<u>Supervisor support</u>

Perceived supervisor support was measured using an 8–item scale developed by Kottke and Sharafinski (1988). The 8–item scale was derived from the larger 36–item Perceived Organisational Support Scale (Eisenberger, Huntington, Hutchison, & Sowa, 1986). The larger scale is utilised in a variety of research fields to measure the extent of supervisor

support as a predictor variable for general absenteeism, entrepreneurship, knowledge sharing, social identity, workplace violence as well as employee health related disciplines such as burnout and workplace stress. Rhodes and Eisenberger (2002) conducted their own literature analysis on the usefulness of the complete 36–item scale. They found perceived organisational support was evident when there was a consistent pattern of agreement from respondents to the questionnaire, demonstrating that employees perceived their supervisors or managers as supportive when they appreciated their contributions and treated them well.

The questionnaire in the current study adopted Kottke and Sharafinski (1988) change to the original scale, in which the word 'organisation' was replaced with the word 'supervisor'. Using factor analysis, this substitution was found to have no effect on the overall reliability coefficient of .89. Statements for consideration included, "My supervisor really cares about my well–being" and, "If given the opportunity, my supervisor would take advantage of me" (refer to Appendix E, Question 6).

4.5.5   Organisational variables

In this current study, the organisational factors predicted to influence participation were perceived health climate and job flexibility.

Health climate

A lack of a theoretical basis for many climate instruments has resulted in varying climate dimensions being employed for different health climate measures (Patterson et al., 2005). Wilson et al. (2004) note that previous studies commonly measure how an organisation's climate is influenced by the introduction of a workplace health promotion programme. The purpose of this current study is to investigate how an employee's perception of their organisation's health climate influences their participation in workplace health promotion programmes, rather than how workplace health promotion programmes influence an organisation's climate.

The current study adopted the Health Climate subscale to measure how employee perceptions of a healthy work environment influenced participation in health promotion initiatives. The subscale was developed by Basen–Engquist et al. (1998) as part of their larger Worksite

Health and Safety Climate scale. The measure was chosen as it differentiates health climate from safety climate measures and was developed specifically for a workplace health promotion smoking cessation programme. The authors found a positive perception of organisational climate helped support the implementation and subsequent participation in smoking cessation programmes in 114 worksites involving 5947 respondents. The 5–item health climate scale adopts a 5–point Likert response format ranging from 'strongly disagree' to 'strongly agree' and was found to have a usable internal reliability of .74. Statements for consideration in the questionnaire included, "Most employees here are very health conscious" and, "At my workplace, sometimes we talk with each other about improving our health and preventing disease" (refer to Appendix E, Question 5).

Job flexibility

Job flexibility was measured using a subscale developed by Clark (2001). The subscale was part of a more comprehensive measure designed to evaluate aspects of work culture, including job flexibility. The complete 18–item scale included measurements for temporal flexibility (the ability to have discretion in one's work schedule) and operational flexibility (control over one's work conditions) as well as supportive supervision. Only the temporal flexibility scale was included in the questionnaire because an employee's control over their work conditions, as measured by the operational flexibility scale, is more strongly related to participation in occupational safety and health initiatives with hazardous working conditions (Sorensen et al., 1995). As workplace health promotion programmes differ from mandatory occupational safety and health initiatives, the operational flexibility scale was considered unnecessary in the questionnaire.

The temporal flexibility subscale adopted a 5–point Likert response format ranging from 'strongly disagree' to 'strongly agree' and had an inter–item reliability coefficient of .84. A varimax rotation of the complete scale found temporal job flexibility to be distinct from operation flexibility and supportive supervision, and confirmed the discriminant validity of the three scales (Clark, 2001). Statements for consideration in the questionnaire included, "I am able to arrive and depart from work when I want" and, "I am free to work the hours that are best for my schedule" (refer to Appendix E, Question 3).

4.5.6   Barriers to participation

Determining the reasons why employees are reluctant to participate in health promotion programmes was the second research question addressed in the current study.

The reasons for employees not taking part in health promotion activities when they were made available to them were assessed by asking respondents to consider the eight reasons presented, and then to provide their own personal reasons for not taking part. The potential barriers to each activity were selected for inclusion on the basis of the outcomes of previous studies, as detailed in the literature review, as well as from input from the eight workplace health promotion practitioners interviewed in the exploratory investigation stage outlined in the previous chapter. The wording for each potential barrier to participation was developed with reference to the 43–item Exercise Benefits/Barriers scale (Sechrist, Walker, & Pender, 1987). The Exercise Benefits/ Barriers scale was developed to evaluate the role of cognition and perception as mediating factors in habitual exercise. Therefore, the wording of some items was changed to be more applicable to each of the nine activities investigated in the questionnaire. For example, the original item, "I feel embarrassed to exercise", became "I feel embarrassed to take part". It was understood that modifying the items so that they would be relevant to each of the nine activities would affect the psychometric properties of the original scale. However, the full scale was judged too lengthy and time–consuming because the same reasons for not participating would be applied to each of the nine activities investigated.

The online format of the questionnaire meant that not all respondents were asked this question. If a respondent indicated that they did not participate in one of the activities available to them at work, they were subsequently asked if any of the following reasons contributed to their non–participation:

- The activity schedules are inconvenient;
- I don't know enough about it;
- Taking part means too much time away from my family commitments;
- Taking part means too much time away from my work commitments;
- I feel embarrassed to take part;
- I don't believe it will work for me;
- I don't trust my supervisors with information about my health;
- I don't need to take part.

If a respondent chose not to specify the available activities in which they did not participate, the online questionnaire format directed them to the next question and they were not asked to comment on any of the eight proposed barriers to their participation.

All respondents were asked a final open–ended question in relation to the barriers to participation, "Is there anything you feel restricts or limits you, in any way, from taking part in the health promotion activities available to you at work?" All respondents were directed to this page on the online questionnaire, including those who did not answer the previous question. This open–ended question was considered the best way to gather information from the multiplicity of responses predicted, and to identify other possible reasons for non–participation that previous investigations may have overlooked or found to be less relevant. This approach was also adopted by Mavis et al. (1992).

4.6   Questionnaire procedure and analysis

4.6.1   Pilot study

A pilot study was carried out before the questionnaire was administered to employees at the five participating organisations. The pilot study by a local city council was conducted to determine how easily the questionnaire was understood by different groups of potential respondents. The feedback suggested that the questionnaire was easily understood, and that respondents could easily navigate the questionnaire in an online format.

One change was made to the activities included for investigation. The original questionnaire did not include counselling initiatives and drug and alcohol programmes in the list of health promotion activities assessed. The rationale was that in some instances, an employee is required to attend mandatory counselling sessions or an alcohol and drug assistance programme, removing the voluntary nature of their participation. However, respondents in the pilot study questioned why these initiatives were not included. This indicated that counselling and drug and alcohol programmes were regarded as well–known workplace health promotion initiatives, despite the fact that participation is not always voluntary.

4.6.2 Questionnaire distribution

The questionnaire was distributed to participating employees through an online Internet link emailed to their personal work email addresses. Employees working in the Head Office of each of the five participating organisations were invited to complete the questionnaire. All of these employees had email and Internet access. Email technology is considered to be the most prevalent communication channel in most organisations (Fang, 1998), and a logical data collection method to limit disruptions to other workplace activities (Hersch, Cook, Dietz, & Trudeau, 2000). The decision to use an online questionnaire and email prospective respondents was based on personal knowledge of typical workplace characteristics, feedback from family members, friends and colleagues working in the types of organisations participating in the study, and positive responses from the pilot study, which was conducted prior to approaching the organisations involved. Jones and Pitt (1999) investigated the response rate, speed of responses, validity, and costs of conducting health questionnaires in workplaces using postal questionnaires, email, and Internet technology among 500 University staff. They concluded that email and Internet questionnaires were "easy, quick and inexpensive to administer" (p. 556). Jones and Pitt (1999) admitted they did find higher response rates in postal questionnaires; however, their data collection was conducted in 1997. More contemporary research by Muhl (2003) noted that the widespread use of the Internet and email has transformed the way business is conducted where communication channels are almost instantaneous.

The Human Resource Manager, or equivalent, at each of the participating organisations was emailed a message and the questionnaire link, which was then forwarded to all staff members, including senior and middle managers, permanent employees, and contract staff. The message contained a cover letter, which explained the research objectives, the employees' rights as participants, and what would happen to the data provided. Potential respondents were invited to participate and asked to click on the web page link attached to each email. This link automatically directed respondents to the online questionnaire. Respondents could complete the questionnaire at a time convenient for them.

After completing the questionnaire, respondents were asked to click 'submit' which transmitted the non–identifiable data to an Access database for subsequent analysis. The date, time and length of completion time were also automatically recorded for each questionnaire

submitted. It was estimated the questionnaire would take respondents no longer than 10 minutes to complete, which proved to be a correct assumption in the majority of cases.

The questionnaire was formatted for online use by a website development company in Auckland, which also hosted the database of completed questionnaires. Submitted responses were immediately available to access and a password was required to access the submitted responses. The web developer, who designed the online component of the questionnaire, was the only other person privy to this password.

An additional advantage of using an online format was that it allowed for data collection on the perceived barriers to participation in specific activities. Respondents were asked to identify which of the nine activities they did not participate in. The online nature of the questionnaire meant that respondents were then only asked to identify the barriers to those activities. For example, if a respondent stated he or she did not participate in a smoking cessation programme, the reasons for not participating were specifically related to smoking cessation programmes. No existing research is known to have used this method of extracting the reasons for not participating in specific types of health promotion activities. A paper questionnaire could have used a matrix format to gather this information; however, with nine activities and eight major barriers investigated it would have produced 72 possible check boxes.

4.6.3   Logistic regression analysis

Logistic regression, also known as binary regression, was the main analytic method use to determine how the variables selected for analysis were associated with participation. The logistic regression model works by predicting the logit, or natural logarithm of an odds ratio occurring. In this case, it was making the decision to participate or not to participate. Logistic regression ranks the independent variables in order of importance. It is the most appropriate analytical tool for a dichotomous dependent variable and a mix of continuous and categorical predictor variables, as used in this study. Additionally, logistic regression is also a useful analytical tool because it does not require normally distributed data or any assumptions of homoscedasticity (Field, 2005).

Before undertaking logistic regression analysis, it is necessary to establish any substantial and significant correlations between the independent variables predicted to be associated with participation. Logistic regression is most likely to be successful if there are low or insignificant correlations between the independent variables (Kinnear & Gray, 2006). Pearson's correlation was used to assess any relationships that may be present. One weak positive and statistically significant correlation was found between job flexibility (M = 2.83, SD = .95) and perceived health status (M = 3.79, SD = .75) r(803) = .072, p = .041. However, this association was considered weak enough to justify including job flexibility and perceived health status as separate variables in the logistic regression model. Larger correlations could have led to issues of multicollinearity or variables being too closely associated to warrant them being considered individually (Field, 2005).

Cases available for logistic regression models

Logistic regression requires an absolute minimum of 10 cases per variable to produce a stable model (Field, 2005). Using this criterion, a minimum of 90 cases was required for each of the nine activities included in the questionnaire and analysed using a logistic regression model. Table 4.5 shows the number of cases available for each activity for analysis using logistic regression models. One activity had a sample size that was considered too small to justify conclusive results. The total number of respondents for alcohol and drug programmes was 82 cases. As a result, alcohol and drug programmes were omitted from further individual analysis.

Table 4.5

Number of available cases analysed using logistic regression to determine variables associated with participation in health promotion activities

Activity	Number of Available Cases
Fitness Testing	96
Exercise Activities	225
Health Screening	116
Health Seminars	178
Weight Management Programmes	107
Alcohol and Drug Programmes*	82
Counselling	366
Stress Management Programmes	246
Smoking Cessation Programmes	166

* = removed from further logistic regression analysis

The number of cases (participants and non–participants) available in the logistic regression analysis was determined using SPSS statistical software. No cases were manually deleted because there appeared to be no obvious or significant patterns indicating cases with enough missing data that would warrant their exclusion from the data set. However, as Table 4.5 demonstrates, some cases were automatically deleted by SPSS when the logistic regression models were administered. When no obvious pattern is detected by a researcher, no manual action is required. This is because SPSS software will remove any cases that do not have sufficient values for the variables used in the logistic regression analysis (Tabachnick & Fidell, 1989).

In addition to the nine single activities, the data were combined to make three groups of activities or 'composite variables' that could be investigated using logistic regression: total participants, total participants in education–orientated activities, and total participants in behavioural change activities. The reason for the groupings was first to combine the data in a way that could easily be compared to previous studies, where participant numbers were assessed for non–specific activities. Second, grouping activities made better use of the large sample size (883 respondents) available for analysis. Third, grouping the activities into

education or behaviour–orientated activities allows the results to be more easily applied to real–life situations. The range of activities available to employees varies considerably; therefore, grouping similar activities provides managers with more useful information, which can be applied to their unique situations.

The sample for the group of total combined participation was formed by allocating those respondents who participated in at least one of the nine activities as 'participants' and those who did not participate in any of the nine activities as 'non–participants'. The second sample group, participation in education–orientated activities, was formed the same way but only using participation in the activities considered to be more education–orientated and generally designed to create awareness of a particular health or lifestyle behaviour, rather than actively seeking to change that behaviour. In the current study, these were fitness testing, health screening, health seminars, weight management programmes and stress management programmes. The third group was participants in behavioural change activities, which were exercise activities, counselling, alcohol and drug, and smoking cessation programmes. The justification for categorising each of the nine activities stemmed from Hennrikus, Jeffery and Lando's study (1995) where the authors noted certain activities require greater involvement and often more intense behavioural and lifestyle changes for the participant. The specific categorisations included in the current study were derived from supporting literature and the knowledge gained from interviewing the eight workplace health promotion practitioners in the preliminary study (presented in Sections 3.9 and 4.2). The interview findings added valuable insight into the modality of how each of the nine activities was typically implemented in New Zealand organisations. For example, one practitioner interviewed in the preliminary study (P1) commented, "health education activities are the most popular [among employees] because they are light–weight – blood and health screening types of programmes are always popular". Hence their subsequent categorisation as either primarily education or behaviour–change orientated.

Table 4.6 shows the number of available cases for the three groups of activities for subsequent analysis using logistic regression. The valid cases that were applied to each logistic regression model ranged from 404 to 662 employees.

Table 4.6

Number of available cases analysed using logistic regression to determine variables associated with participation in groups of health promotion activities

Grouped activities	Number of Available Cases
Total combined activities	662
Education activities	404
Behavioural change activities	652

Goodness–of–fit for logistic regression models

The logistic regression process is carried out in two stages. The first part of the process measures the goodness–of–fit of the overall model, which indicates the degree of success in predicting participants and non–participants. Logistic regression models in SPSS produce a number of ways of evaluating the goodness–of–fit. One method is the Omnibus Test of Model Coefficients. This test is particularly useful in complex logistic regression models as it provides a test of the joint predictive ability of all the covariates and an absolute measure of the validity in each of the models (Meyers, Gamst, & Guarino, 2006).

Table 4.7 illustrates that all of the logistic regression models applied in this study performed well. This is demonstrated by p–values being < 0.05, which indicates significance.

Table 4.7

Omnibus test of model coefficients indicating goodness–of–fit

Activity	Chi–square	df	Significance level
Fitness Testing	18.284	2	p < .001
Exercise Activities	29.534	3	p < .001
Health Screening	4.705	1	p = .030
Health Seminars	6.663	1	p = .010
Weight Management Programmes	14.475	2	p = .001
Counselling	20.203	3	p < .001
Stress Management Programmes	7.791	1	p = .005
Smoking Cessation Programmes	4.607	1	p = .032
Total combined participation	51.248	4	p < .001
Education activities	25.401	4	p < .001
Behavioural change activities	59.413	4	p < .001

The second stage of the logistic regression process examines how much each independent variable increases the likelihood of someone belonging to one group or the other. In this case, logistic regression was used to determine how much the individual variables increase the predictability of an employee participating or not participating in a health promotion activity. Forward stepwise regression was used, as the variables were considered equally relevant. It is also considered as the most appropriate method for carrying out exploratory work (Field, 2005). The logistic regression model is formed by adding each significant variable one step at a time. The model begins with predicting the observed data using a set of arbitrary values for the regression coefficients; it then changes the regression coefficients to make the likelihood of the observed data, participating or not participating, greater under the new model (Field, 2005).

The Wald statistic was used as an indicator of how statistically significant the contribution was of each predictor variable on the logit, or natural logarithm, of participation occurring in association with one unit change in the predictor variable. Field (2005) notes large regression

coefficients can cause the standard error to become inflated, resulting in the Wald statistic being underestimated. However, this situation did not occur in the current study.

The questionnaire results are presented in Chapter 5 of this thesis.

4.7   Interviews

The third stage of data collection, 20 qualitative semi–structured, face–to–face interviews, was driven by the results of the questionnaire. Qualitative research adds a depth and richness to a data set that is difficult to achieve by solely relying on quantitative data collection methods. In addition, a qualitative approach allows participants to put forward their own opinions and perceptions, in their own words, which helps to further illuminate and scrutinise quantitative data results (Patton, 2002). Furthermore, triangulating the outcomes of multiple methods of data collection is also frequently used to increase confidence in research results (de Groot, Robertson, Swinburn, & de Silva–Sanigorski, 2010).

4.7.1 Interview participants

Twenty employees were interviewed from one organisation in the construction and service maintenance industry. This organisation was known to offer a number of health and wellness activities and initiatives to staff.

The Human Research Manager was approached by email and invited to be involved in the study. This invitation was readily accepted as the company had experienced low participation in some activities and no effective solutions had been found. Approval was then sought and granted by the General Manager. A meeting was arranged with the General Manager and Human Resource Manager to discuss the finer points of the study and the company's involvement. A detailed Information Sheet was provided to the two managers at this meeting (refer to Appendix G).

Each prospective employee was invited to participate via email. An Information Sheet was included explaining the research objectives and their proposed involvement (refer to Appendix H). Twenty–one members of the organisation (from a possible 57) responded to

the invitation to participate; however, this number fell to 20 when one participant was physically unavailable to attend an interview within the allocated time frame.

The organisation involved in the interviews had a total of 270 employees, 57 of which had office positions and 213 were service men and women working out in the field with limited availability for an interview.

Table 4.8

Demographic information of the 20 interview participants

		n	%
Gender	Male	13	65.0
	Female	7	35.0
Position	Senior Management	3	15.0
	Middle Management	7	35.0
	Team Leader/Supervisor	4	20.0
	Non–Managerial/Administrator	6	30.0
Age	61 – 70 years old	1	5.0
	51 – 60 years old	8	40.0
	41 – 50 years old	7	35.0
	31 – 40 years old	3	15.0
	21 – 30 years old	1	5.0

The purpose of this part of the data collection process was to gather narrative–rich data and 20 participants successfully provided this information. Other studies using semi–structured interviews to investigate participation in workplace health promotion programmes have been found to use similar numbers. Nohammer, Schusterschitz, and Stummer (2010) interviewed 19 employees in their study of participation in workplace health promotion programmes in German organisations. Similarly, Person, Colby, Bulova, and Eubanks (2010) also interviewed 19 employees in their investigation of barriers to participation in a 10–week healthy lifestyle programme called 'Wellness Wednesdays'.

4.7.2 Interview guide

The interviews were conducted and arranged in a face–to–face semi–structured format. This was considered the most effective method of gathering candid but also in–depth information on the perceptions, observations and opinions on factors that currently prevent them from participating in the health activities available, and to gain more extensive insight into how managers can increase participation rates among staff.

The interview questions were based primarily on the results of the questionnaire, in an effort to triangulate those results and enhance the richness of the data (refer to Appendix I).

The interview guide was structured around four main themes, and subsequently divided into four main sections: factors that would facilitate their involvement in different health promotion activities; factors that would limit their involvement; how managers can maximise their involvement; and how managers can maintain their involvement over a longer term. Questions included: "What type things would make it easy for you to participate?"; "What type of things would make it hard for you to take part?"; "Participant numbers in workplace health promotion programmes are typically low. Why do you think this is the case?" and "What do you think managers should do to keep people interested in health promotion activities?" Questions were asked to encourage interview participants to speak freely on their perceptions regarding these four themes. Donovan and Sanders (2005) advocate this approach, suggesting, "initial questions do set the key, but from then on the direction and content of conversation tends to vary" (p. 517).

Improving the reliability of the interview process was achieved, in part, through carefully transcribing the tape recordings after each interview. No other party was involved or responsible for transcribing the taped interviews. Although the punctuation, spelling and detail of transcribed recordings falls largely under the jurisdiction of the person transcribing the data, and how it is subsequently analysed, it was still considered a more reliable method of recording information compared to the interviewer's memory or hand–written notes.

4.8 Interview procedure and analysis

4.8.1 Pilot study

A small pilot study was conducted prior to commencing the actual interviews. Two of the organisation's staff members were interviewed to ensure the interview questions posed no threat or embarrassment. The pilot interviews also confirmed the interview questions were appropriate and easily understood. Written consent was sought at the beginning of each interview and Information Sheets were provided. The two interviewees were then invited to provide feedback on the interview questions and appropriateness. Both pilot interviewees made very positive comments on the need and importance of the study, and no questions were amended as a result of their feedback.

4.8.2 Conducting the interviews

The interviews were held in an unused office at the company's central office location. The organisation had two main premises; however, the one used for the interviews was the head office where most office staff were located. Staff from the other premises who were involved in the interviews regularly travelled to this location as part of their normal working week, so it was not considered to pose any undue inconvenience. Green and Thorogood (2004) suggest an interview setting can affect the kind of data generated depending on where it is held, and believe interviewing a person in 'their space', in this case at their desks, can be intrusive for some people. Therefore, interviewees were requested to come to the unused office rather than be interviewed at their workspace.

The interviews were conducted over a three–week period. Each interview was designed to take approximately 30 minutes. This was considered an appropriate length of time to discuss the questionnaire findings in relation to the barriers to participation, and the interviewees' opinions and perceptions regarding ways to facilitate participation rates. After meeting with the General and Human Resource Managers, 30 minutes was also judged to have minimal impact on the existing work commitments of each staff member. The duration of each interview was between 28 and 46 minutes.

Each of the 20 interviews began with a full explanation of the research objectives and scope. This was the same information provided to each participant in the Information Sheet, which was emailed prior to the interview.

Every effort was taken to ensure the interview participants' comments and opinions remained anonymous. Each participant was asked to provide their written permission for the interviews to be recorded, in the knowledge that no other person would be involved with transcribing the interviews or have access to the tape recordings. All 20 participants gave this permission, and no participant requested the tape recorder be turned off during their interview. Participants were provided with a written transcript of their interview, at their request, and all were emailed the results of the collated and analysed interviews.

A cited shortcoming of the interview process is that in one–off interviews, such as the 20 conducted in this study, the interviewer can spend a large proportion of the allocated interview time developing a rapport with the interviewee (Green & Thorogood, 2004). Further follow–up interviews can improve rapport between the interviewer and interviewee, however, time constraints for this study and the individual participants did not allow for a secondary interview. Another important consideration in the interview process is the impact of social differences between an interviewer and interviewees. Green and Thorogood (2004) suggest social differences such as age, gender, race and class influence how an interviewee responds to the questions being asked of them. This point was noted as a reason for conducting a large quantitative questionnaire as the main data gathering tool, particularly as socially desirable or acceptable questions are less of a concern in an anonymous questionnaire. Although Green and Thorogood (2004) suggest researchers should take notice of the possible effects social differences may have on interview outcomes, they also explain these differences should not be seen as an obstacle, but rather a way of better providing further understanding about individual perceptions and how people behave, and there is a general acceptance that any interview account is situated and contextual.

Participants were guaranteed that no personal information or statements which would identify them would be used in this thesis. To further protect their identity, each participant was given a codename and identified by a number M1 to M13 and F1 to F7.

4.8.3   Analysing the interview transcripts

Content analysis followed by a thematic approach was applied to the interview transcripts to identify items relating to the four main themes designed in the interview guide. Content analysis is the first stage in the thematic approach and involves identifying codes to categorise the data (Donovan & Sanders, 2005). Open–coding was used to categorise and subsequently code the information gained from each interviewee. This process began with a word–by–word analysis, which was designed to fracture the data and then group it conceptually, focusing on the dimensions that were relevant to the words or phrases (Grbich, 1999). It also allowed categories to emerge from the data, rather than attempting to impose already constructed groupings. Thematic analysis involved identifying all data that related to the classified patterns and themes in the open–coding process. The identified patterns were then expanded and developed to illustrate how they integrated into other already identified patterns of thought and behaviour (Aronson, 1994).

Identifying patterns in the data through a thematic process was achieved in three main stages: coding the text; developing descriptive themes; and generating analytical or global themes (Attride–Stirling, 2010; Thomas & Harden, 2008). Thomas and Harden (2008) continue by stating that developing analytical themes is the most difficult to describe and can potentially be the most controversial, since they are dependent on the judgement and insights of the researcher reviewing the data. Nevertheless, the process is still effective in unearthing themes "salient in a text at different levels…and to facilitate the structuring and depiction of these themes" (Attride–Stirling, 2010, p. 387). Zorn (2010) adapts Owen's (1984) approach in providing a practical method of how to identify and generate themes through a thematic analytical process. His approach requires identifying recurrent, repetitive and forceful phrases in the discourse in relation to the research question being asked of each interview participant. This involved reading all the transcripts in their entirety, without undertaking any coding, then transcribing the text into a coded form providing a summary of the opinions, perceptions and events explained by each interview participant. Descriptive themes were then generated categorising the individual codes and, finally, analytical or global themes were identified. The ecological framework used to categorise the variables in the questionnaire, and throughout this study, was applied to the global themes. The same approach was used in a study by Ali, Baynouna, and Bernsen (2010) in their investigation of the facilitators and barriers to participation in weight management programmes among Arab women with Type–2

diabetes. Their research also used thematically–analysed data to identify factors associated with participation. Beresford et al. (2007) also applied an ecological framework to categorise interview outcomes exploring changes in eating behaviours after the implementation of a worksite diet and physical activity programme.

The interview outcomes are presented in Chapter 6 of this thesis.

4.9   Ethical considerations

Despite the best intentions, any study involving human participants may impose burdens on those participants, and the current study is no exception. Regardless of the questionnaire respondents and interview participants being highly unlikely to experience any reasonable discomfort (physical, psychological, social), incapacity or risk of harm by taking part, it was still necessary to address any ethical concerns that may have arisen from the data collection methods used.

For the questionnaire, the main ethical considerations were the issues surrounding the respondents' well–being, obtaining informed consent for the online questionnaire, ensuring the security of online data and the anonymity of respondents, and to make certain the health–related questions did not cause any undue offence.

It was important to ensure that the personal well–being of all those involved in this study was respected. When the online questionnaire was emailed to prospective employees, they were given an outline of the research objectives and a summary of their rights, should they choose to click on the questionnaire link and take part. Employees could choose to either consider taking part by looking at the link, or they could delete the email. Prospective respondents were then also provided with a comprehensive information sheet detailing their rights. The issue of informed consent was overcome by making it known from the beginning that submitting the questionnaire indicated consent for their information to be used in this study (refer to Appendix F). Similarly, interview participants in the preliminary study and in–depth interviews were provided with information sheets detailing their rights. All participants were informed they had the right to refrain from answering any question and would not be subjected to coercion, force or manipulation.

The information provided by employees who completed the questionnaire, and participated in the interview process, was kept secure. A password entry was required to access the data hosted by the web development company. There was the possibility of another person hacking into the host site; however, besides being an unlikely event, the consequence of this move would be innocuous, as the data were downloaded and displayed in a way that would make little sense to anyone.

The five organisations involved in the questionnaire were assured that every effort would be made to protect their anonymity. Each organisation had no knowledge of the other four involved in the study. The identity of the organisation involved in the interview data collection phase was also kept confidential. The names and any identifying attributes of each organisation were not included in any way. Research participants in both the questionnaire and the interviews were also guaranteed anonymity. Assurances were made that any findings would not be specific to an organisation or employee, and would not enable the identification of any individual organisation or its members.

The questionnaire was extensively piloted to ensure that the wording of health–related questions was unlikely to offend respondents. This was necessary as, despite being anonymous, respondents may have felt unduly offended by being asked to provide information about personal feelings, behaviours and habits. The interview questions were also piloted on two employees prior to commencing the actual interviews, to ensure the questions posed no potential undue harm or embarrassment. All interview participants were given the opportunity to withdraw from the study until December 2010. No participant withdrew their involvement.

Separate full ethical approval was applied for and granted for both the quantitative and qualitative studies by the Massey University Albany Human Ethics Committee MUAHEC 04/069 and MUAHEC 10/069 (see Appendices J and K).

4.10 Summary of the methods chapter

This methods chapter has explained the data collection procedures, assumptions and rationale of the study. The decision to use a questionnaire as the main data collection method, followed by in–depth, semi–structured interviews, was considered the most appropriate way of collecting information that would answer the research questions guiding this study: how do selected variables influence employee participation in workplace health promotion activities, what are the barriers to participation, and how can managers maximise employee participation in workplace health promotion programmes?

The measures used in the questionnaire were selected so that subsequent analysis would determine the factors associated with participation in various activities, and the reasons limiting or restricting employees from participating in activities that were made available to them. The questions asked in the interview process were aimed at eliciting deeper insights into the factors facilitating, and barriers preventing, participation and how managers can find ways to maximise and maintain participation.

CHAPTER 5: QUESTIONNAIRE RESULTS

5.1   Results structure

The results of the data collection process are presented in two separate chapters: Questionnaire Results and then Interview Outcomes. The first results chapter will present the findings generated by the 883 employees who completed the online questionnaire. This will begin with an explanation of how outliers and missing data were managed, and how discrepancies in the data were addressed. The reader will then be presented with an analysis of participation trends in the nine activities investigated, the variables associated with participation, and the barriers hindering and preventing employees from taking part.

5.2   Outliers, missing data and scale validation

Respondents completed the questionnaire online, which meant that manual data entry was not necessary. When a respondent submitted their completed questionnaire, the data was automatically transferred onto a spreadsheet and then downloaded from a host database. Therefore, any unusual responses were attributed to the respondent, rather than incorrect data entry.

5.2.1 Processing of outliers in the data

Outliers in the questionnaire responses were checked visually and using z–score transformations.   Visually determining irregularities in the data was a relatively simple exercise, as the information was automatically presented in a spreadsheet table. Responses for each variable were manually assessed to ensure there were no unusual entries outside a reasonable and permissible range. This permissible range was a personal judgement made for each variable. For instance, the age of respondents was considered to fall between 15 and 75 years. If a respondent's age was outside these parameters, that response was considered to be an error and therefore deleted from that respondent's data. One example was a respondent who alleged being 92 years old; this was considered a typing error and therefore their age was deleted from the data.   In addition to visually identifying outliers, z–scores were also calculated using SPSS software. As a general rule, a z–score is considered an outlier if it is less than –3.0 or greater than +3.0 for normally distributed data (Levine, Krehbiel, & Berenson, 2006).   Items identified as outliers were regarded as input errors from the respondent, either intentionally or unintentionally, and subsequently removed.

5.2.2 Processing of missing data

Missing data from the submitted questionnaires was attributed to, or a result of, either the respondent choosing not to answer a particular question, not fully understanding a particular question, or data previously deleted because it was identified as an outlier. Missing data was easily identifiable in the final data set and coded accordingly in SPSS.   The online questionnaire format was designed so that respondents could continue answering questions regardless of whether they had answered a previous question or not.   Some online questionnaires are capable of preventing respondents from continuing with the questionnaire until they have completed each question; this option was not utilised in this study. Evans and Mathur (2005) recommend that respondents be allowed to continue completing a questionnaire despite choosing not to answer a previous question. This approach increases the likelihood of achieving a representative sample by reducing the number of prospective respondents who abandon a questionnaire because they are forced to answer all the questions put forward.

There were various options that could have been applied to address missing data. Pairwise deletion was considered to be the most appropriate choice; when each variable was analysed, it was compared with other valid variables. Listwise deletion would have led to too many cases being removed from the final sample due to the number of variables included in the questionnaire. Similarly, omissions in the data appeared to be distributed in a randomised way. As a result, none of the cases were manually removed from the final analysis because of missing data.

The mean score for each scale used in the questionnaire was calculated using the data available. If no answer was given for an item, the scale for that particular case was calculated using the number of items that were answered. SPSS software allows for such calculations. This method is considered to be particularly useful for summated scales (De Vaus, 2002), such as those used in the current study. An alternative would have been to use answers given for other questions and calculate a possible response for an unanswered item. This can be done by inserting an average response based on the other responses for each item. However, this approach was not applied because it effectively means 'guessing' a respondent's answer.

Scale items with a considerable amount of missing data would have required further investigation. If a large amount of missing data relating to one variable had been found, an analysis would have been undertaken to determine whether those respondents who chose not to answer that question had any identifiable characteristics, such as gender–specific or age–related issues. As missing data appeared to be randomly spread throughout the questionnaire, there was no need to investigate any of the scale's items.

5.2.3 *Processing of data for employees who did not need to participate*

Respondents were asked to comment on the reasons for not participating in an activity. Some respondents answered they had no need for a particular health intervention, and that was why they did not take part in it. For example, a non–smoker has no need to participate in a smoking cessation programme. In the list of potential barriers to each activity, one option was, "I don't need to participate". Therefore, employees who fell into this category were easily identified and subsequently omitted from the logistic regression analysis relating to that particular activity. The reason for removing this data was to avoid any bias in the analysis. This was because the variables associated with participation are not applicable to an employee

who does not participate in an activity because they simply have no need to take part. Lewis et al. (1996) adopted the same approach by removing non–smokers from their analysis of variables influencing employee participation in a smoking cessation programme.

Table 5.1 presents the number of employees who did not participate in a particular health promotion activity because they believed they did not need that activity. This is compared with the total number of respondents for each activity. As column three demonstrates, the intervention that had the greatest number of employees with no need to participate was alcohol and drug programmes (44.3%). Counselling and smoking cessation programmes were also activities that employees believed they had little need for (39.5% and 36.2%, respectively).

Table 5.1

Employees who did not participate in an activity because they considered they did not need to take part

Activity	Did Not Need to Participate		Total Respondents
	n	%	n
Fitness Testing	7	5.7%	123
Exercise Activities	13	4.8%	270
Health Screening	14	9.1%	154
Health Seminars	12	5.5%	219
Weight Management Programme	41	24.0%	171
Alcohol and Drug Programme	81	44.3%	183
Counselling	295	39.5%	746
Stress Management Programme	96	24.9%	385
Smoking Cessation Programme	108	36.2%	298

5.2.4 Processing of discrepancies found in the data

Extreme outliers and missing data did not appear to pose a problem in this current study. However, one unforeseen ambiguity did arise. In the first question respondents were asked to indicate their level of participation in the nine health promotion activities – whether they

enrolled, attended, completed, did not participate, or thought the activity was unavailable to them. Towards the end of the questionnaire, in Question 12, respondents were asked a similar question regarding which of the nine activities was available to them, in which they chose not to participate. Both questions should have produced the same responses. However, some respondents indicated in the first question that an activity was not available to them, but went on to indicate it was available but they had not participated when asked a second time (refer to Questions 1 and 12 in Appendix E).

Possible reasons for this discrepancy were that some respondents could have misread the question, or realised that an activity was available at their workplace but, because it might have incurred a cost, or been unavailable to them for personal reasons, they had not participated. Questions 1 and 12 were designed to collect different data; question one was designed to gather information as to what programmes were considered the most popular among employees, while Question 12 was designed to gather information about specific barriers to each activity not participated in, rather than confirm the answers supplied in question one.

The differences in each question ranged from 0.6%, for smoking cessation programmes, to 23.1%, for counselling activities. Further investigation revealed the difference between answers for counselling activities was predominantly because respondents stated they did not need a particular activity and were removed from the logistic regression analysis. Questions 1 and 12 were designed to be analysed separately, therefore, no changes were made or cases deleted from either question. This was considered to be more appropriate than attempting to corroborate answers by speculating which response was correct.

5.2.5 Validation of scales used in the questionnaire

The scales used in the questionnaire were adapted from previously tested and validated measures. Despite these reassurances, Field (2005) is one of many who advocate testing the reliability of scales used in any new questionnaire, to gauge how well each scale consistently reflects the construct it is measuring. Considering this, Cronbach α coefficients were used to verify each scale used in the questionnaire. Generally, a Cronbach α value of above .80 is considered acceptable (Munro, 2001). However, Kline (1999) considers a cut–off point of .70 is also acceptable, particularly when dealing with psychological constructs. Cortina (1993)

110

further suggests that even lower Cronbach α values are considered respectable, and reliable, if the number of items on the scale is low.

Table 5.2 presents the Cronbach α reliability scores for each scale used in the questionnaire. As the second column in the table shows, each scale was found to have good internal reliability considering the number of items for some measures. Internal reliability scores ranged from .67 to .91. The health climate scale had an internal reliability coefficient of .67, which was considered acceptable for a scale with only five items (Cortina, 1993). A longer scale with a greater number of items would have possibly increased the internal reliability; however, the 5–item scale used in the questionnaire to measure health climate was judged the most appropriate, when considering the overall length of the questionnaire. It was more important to achieve the biggest sample possible, being essential for the logistic regression analysis used to examine the data.

Table 5.2

Cronbach α internal reliability scores for the scales used in questionnaire

Scale	Cronbach's α	Number of Items in Scale	Number of Respondents
Job Flexibility	.79	5	811
Co–worker Support	.88	9	798
Health Climate	.67	5	804
Supervisor Support	.91	8	796
Perceived Stress	.77	4	784

5.3   Participation data

The first objective of the questionnaire was to establish the activities in which employees most readily participated. Respondents were asked if they participated in fitness testing, exercise activities, health screening, health seminars, weight management programmes, alcohol and drug programmes, counselling, stress management interventions and smoking cessation programmes. Employees who chose not to participate in a particular activity because they did not need that activity were removed from the analysis identifying variables influencing participation.

When the questionnaire was developed, the intent was to capture the different ways an employee could participate in different activities. Respondents were asked if they enrolled, attended, completed or did not participate in each activity. The purpose of this measure of participation was to recognise that different activities require different levels of participation. For example, participating in a health seminar activity requires an employee to attend a health–related talk, whereas participating in a smoking cessation programme requires greater intensity and commitment by completing the programme.

It was hoped that this broad measure of participation would identify the various ways employees participate in different activities. Unfortunately, small participation rates for some activities meant separating participation into groups who enrolled, attended or completed the activity was ineffective as the numbers of participants were too small to provide any meaningful information. As a consequence of this, the difficult decision was made to combine the levels of participation. Respondents stating that they enrolled, attended or completed an activity were categorised as a 'participant' in that activity. Respondents who stated that they did not take part in that activity were categorised as a 'non–participant'. This was considered necessary for this study. However, adopting a more definitive measure of participation recognising the different levels of involvement is theoretically strong and future studies with larger samples would successfully benefit from this approach.

5.3.1   Participation trends for the nine individual activities

Table 5.3 offers the results of the employees who participated and did not participate in the nine health promotion activities investigated. The activities with the highest participation

were exercise activities (55.3% of respondents) and health seminars (41.4%).   The percentages were calculated from the number of participants and non–participants in each activity, shown in the last column of Table 5.3, when that activity was available to them at work. The second column shows employees who did not participate in an activity when it was available to them. Smoking cessation initiatives had the highest proportion of non–participants (95.3%), followed by alcohol and drug programmes (93.1%). The final column, total participants and non–participants, shows that counselling is the health promotion initiative most known and commonly available to employees, followed by stress management interventions and exercise activities.

Respondents participated in an average of 1.8 activities each; 21% of respondents participating in at least one activity, 9.1% in two activities and less than 0.1% participated in more than five activities; 24.9% of respondents did not participate in any of the nine activities investigated.

Table 5.3

Employees who participated and did not participate in the nine health promotion activities investigated in the questionnaire

Activity	Participants		Non–participants		Total
	n	**%**	**n**	**%**	**n**
Fitness Testing	40	34.5%	76	65.5%	116
Exercise Activities	142	55.3%	115	44.8%	257
Health Screening	48	34.3%	92	65.7%	140
Health Seminars	85	41.1%	122	58.9%	207
Weight Management Programme	27	20.8%	103	79.2%	130
Alcohol and Drug Programme	7	6.9%	95	93.1%	102
Counselling	118	26.2%	333	73.8%	451
Stress Management Programme	61	21.1%	228	78.9%	289
Smoking Cessation Programme	9	4.7%	181	95.3%	190

5.3.2 Participation trends for other activities

Questionnaire respondents were asked if they participated in any other health promotion activities at work. Figure 5.1 demonstrates the most frequently–cited other activities employees participated in were walking–related initiatives. Examples included a '10,000 Steps' programme encouraging employees to wear pedometers, the 'Cape to Bluff' challenge, 'walkathons', the annual 'Round the Bays' event held in Auckland, and lunchtime walks. Despite exercise activities being included in the nine activities investigated, an additional 63 respondents still considered walking as being a separate activity not covered under the umbrella of exercise activities. These were not added to the number of respondents who indicated they participated in exercise activities because after further investigation, it was found that 37 of the respondents had already stated they participated in exercise activities.

Figure 5.1 shows that receiving a flu injection was the second main health initiative available at work (17%, n = 153). A further 8% of respondents cited they had participated in general health and safety initiatives, another 8% had read and acted upon ergonomic information provided to them, and an additional 8% had attended a workshop, talk or health expo.
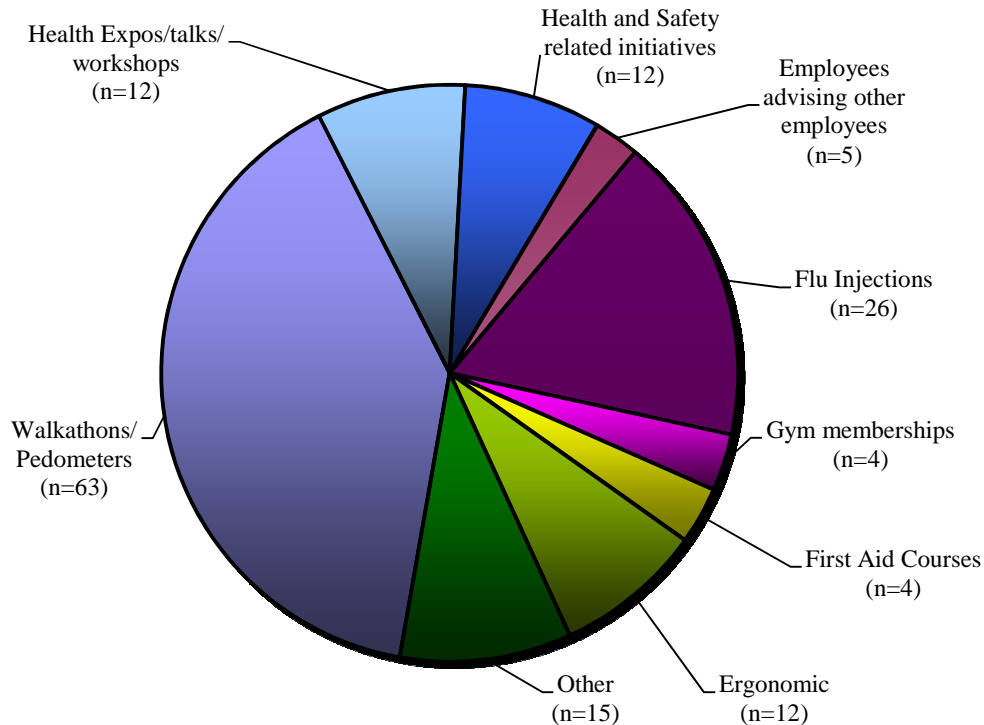
Figure 5.1: *Employee participation in health promotion activities, which were not included in the activities investigated in the questionnaire (n = 153).*

5.4   Variables associated with participation

This investigation applied an ecological approach as a way of categorising the key variables thought to predict participation in workplace health promotion programmes. Figure 5.2 presents the individual, social and organisational predictor variables measured in the questionnaire.
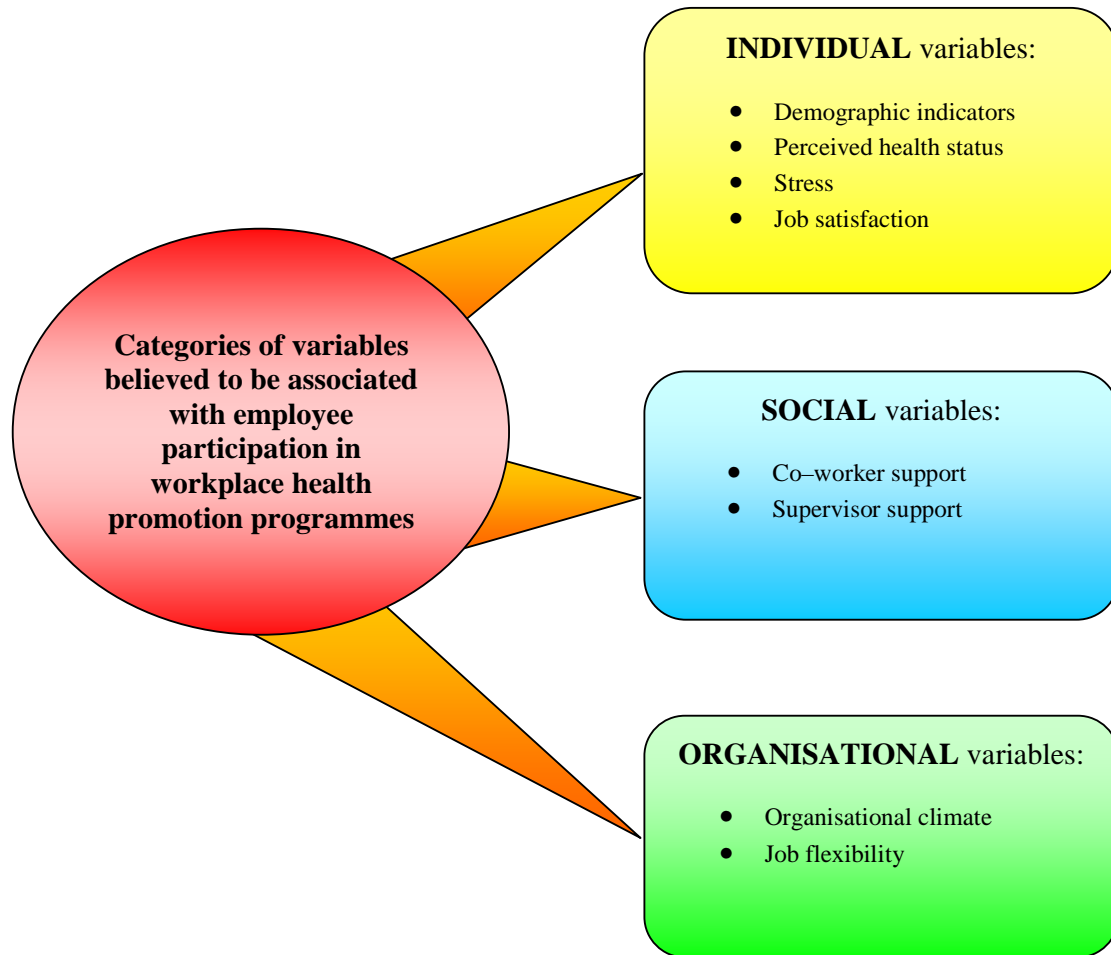
Figure 5.2: *Individual, social and organisational variables investigated to determine any associations with employee decisions to participate in workplace health promotion programmes.*

The previous methods chapter (Chapter 4) outlined the logistic regression analysis procedure used to examine the questionnaire data. The outcomes of this analysis are presented here in two sections. The first section focuses on the variables that were found to be associated with participation in the eight individual activities investigated in the questionnaire (alcohol and drug programmes were removed because the low sample size did not meet the criteria for logistic regression analysis). The second section presents the variables that were found to be associated with participation in the three 'composite variables': total combined participation, participation in education–orientated activities, and participation in behavioural change activities.

5.4.1 Variables associated with participation in specific individual activities

Table 5.4, on page 119, presents the significant findings for each logistic regression model identifying variables associated with each individual activity. The column headed Exp(B) is particularly useful in that it indicates the change in odds. For this study, the change in odds refers to the change in participation; it can be interpreted as one unit change in the predictor or variable increasing or decreasing the likelihood of a particular case being classified as a participant or a non–participant (Field, 2005). In other words, as the predictor changes, the likelihood of an employee participating will increase or decrease as a result. The relationship between a change in the predictor variable and participation is demonstrated by the B–value. Positive B–values indicate that as the predictor value increases, the likelihood of a case being correctly classified as a participant also increases. Negative B–values indicate if the predictor value increases, then the likelihood of participation decreases.

As evidenced in Table 5.4, gender is an obvious predictor of participation. However, unlike the other variables tested, an employee's gender will not change. In situations such as this, correct coding in SPSS and subsequent crosstab analysis is required to identify whether men or women have the greater association with participation. Crosstab tests confirmed that in each instance where gender was associated with participation, it was women who were more likely to participate.

Another useful piece of information drawn from the logistic regression analysis is the model variance. This is indicated by the Cox and Snell and Nagelkerke statistics. These figures can be interpreted as an indication of the amount of variance in the dependent variable (participation) that can be explained by the model. For example, for fitness testing, the model explained between 17.3% and 24.1% of the variance in the likelihood that an employee would participate.

Taking this information into consideration, a number of variables were found to be associated with participation in the eight individual activities analysed. An employee's gender was associated with the largest number of activities. The B–values and Exp(b) statistics demonstrate that women are more likely to participate in fitness testing, exercise activities, weight management programmes, and counselling.

Perceived stress was associated with participation in three of the eight activities: fitness testing, counselling, and smoking cessation programmes. However, as indicated by Table 5.4, the effect of stress on participation depends on the activity. The Exp(b) values demonstrate that when an employee's perceived stress increases, they are almost twice as likely to participate in counselling initiatives, and almost three times more likely to participate in smoking cessation programmes. The opposite is true for fitness testing. Exp(b) values indicate that as an employee's perceived stress increases, they are less likely to participate in a fitness testing health initiative.

Perceived health climate was associated with employee participation in exercise activities and health seminars. As an employee's perceptions of the organisation's health climate increase, they are three times more likely to participate in exercise activities, and twice as likely to participate in health seminars.

As with perceived stress, an employee's age also had a different effect on the likelihood of participating in different activities. Age was associated with participation in exercise activities and health screening initiatives, but in opposite ways. Table 5.4 shows that as an employee's age increases, they are less likely to participate in exercise activities; however, as an employee's age increases, they are considerably more likely to participate in health screening initiatives at work.

Perceived job satisfaction was found to have a positive association with participation in weight management programmes and counselling initiatives. If an employee's perceived job satisfaction increases, they are more likely to participate in counselling initiatives, and twice as likely to participate in weight management programmes.

Perceived supervisor support was found to have a marked association with employee participation in stress management programmes; as perceived supervisor support increases, employees are twice as likely to participate in this type of intervention.

Table 5.4

Odds ratios from logistic regression analyses predicting the effects of different variables on the likelihood of employees participating in workplace health promotion activities

Predictors	B	S.E.	Wald	Sig.	Exp(B)	Participation at 95% CI for Exp(B)	
						CI Lower	CI Upper
Variables associated with participation in Fitness Testing							
Stress	−1.332	0.444	9.012	.003	0.264	0.111	0.630
Gender	−1.463	0.549	7.097	.008	0.232	0.079	0.679
Model variance	0.173 (Cox & Snell)	0.241 (Nagelkerke)					
n	96						
Variables associated with participation in Exercise Activities							
Health climate	1.093	0.268	16.651	.000	2.984	1.765	5.046
Gender	−0.662	0.313	4.478	.034	0.516	0.279	0.952
Age	−0.029	0.013	4.968	.026	0.971	0.946	0.996
Model variance	0.123 (Cox & Snell)	0.165 (Nagelkerke)					
n	225						
Variables associated with participation in Health Screening							
Age	0.034	0.016	4.536	0.033	1.034	1.003	1.067
Model variance	0.040 (Cox & Snell)	0.055 (Nagelkerke)					
n	116						
Variables associated with participation in Health Seminars							
Health climate	0.664	0.266	6.219	0.013	1.943	1.153	3.274
Model variance	0.037 (Cox & Snell)	0.049 (Nagelkerke)					
n	178						
Variables associated with participation in Weight Management Programmes							
Gender	−1.745	0.679	6.611	0.010	0.175	0.046	0.660
Job satisfaction	0.686	0.294	5.462	0.019	1.987	1.117	3.533
Model variance	0.127 (Cox & Snell)	0.198 (Nagelkerke)					
n	107						
Variables associated with participation in Counselling							
Stress	0.553	0.172	10.281	0.001	1.738	1.24	2.436
Gender	−0.793	0.292	7.380	0.007	0.452	0.255	0.802
Job satisfaction	0.276	0.119	5.332	0.021	1.317	1.043	1.664
Model variance	0.054 (Cox & Snell)	0.078 (Nagelkerke)					
n	366						
Variables associated with participation in Stress Management Programmes							
Supervisor support	0.680	0.255	7.095	0.008	1.973	1.197	3.254
Model variance	0.031 (Cox & Snell)	0.048 (Nagelkerke)					
n	246						
Variables associated with participation in Smoking Cessation Programmes							
Stress	1.013	0.464	4.758	0.029	2.754	1.108	6.842
Model variance	0.027 (Cox & Snell)	0.080 (Nagelkerke)					
n	166						

5.4.2 Variables associated with participation in groups of activities

In addition to investigating the factors associated with participation in individual activities, three new groups of activities were also examined. These were total combined activities, educational activities, and behavioural change activities. The rationale for this was to consider whether associations existed for the variables and employee participation in groups of similar activities. An additional advantage was the ability to indirectly include alcohol and drug programmes in this analysis.

Total combined participation included the information for all nine individual activities. The education–orientated activities group included fitness testing, health screening initiatives, health seminars, weight management and stress management programmes. The behavioural change activities included exercise activities, alcohol and drug programmes, counselling, and smoking cessation programmes. As earlier described, the reason behind these groupings was based on the level of intervention and the commitment typically required when participating in each activity. For example, health seminars typically require an employee to attend a lecture designed to educate or create awareness of a particular health issue. Other activities, such as smoking cessation programmes, are designed to create and facilitate a particular behavioural change. These types of interventions require considerably more effort from the employee in order to participate.

Table 5.5, on page 122, shows a number of variables were significantly associated with participation in the three groups of activities. As with the individual activities, an employee's gender was also associated with participation in the combined activities. As with the association between gender and participation in individual activities, women were considerably more likely to participate in all of the grouped activities.

The likelihood of participating in education–orientated activities was influenced by the age of employees. This study found that as an employee's age increases, the likelihood that they will participate in an education–orientated activity is also more likely to increase.

Perceived job satisfaction was associated with participation in the group of behavioural change activities; as an employee's perceived job satisfaction increases, the likelihood of their participation in these activities increases by 1.3 times.

An employee's perceived stress was associated with participation in the total combined activities and behavioural change activities. In both groups, as perceived stress increases, they are more likely to participate.

Perceived health climate was significantly associated with participation in all three of the combined groups. Table 5.5 demonstrates that as perceptions of health climate increase, employees are almost twice as likely to participate in the combined activities and behavioural change activities, and 1.5 times more likely to participate in education–orientated activities.

An employee's perceived job flexibility was also found to influence participation in the groups of total combined activities and education–orientated activities. An increase in perceived job flexibility is likely to result in an increase in employee participation by a factor of 1.3. This differs from the individual activities, where no significant association between job flexibility and participation was identified.

Table 5.5

Odds ratios from logistic regression analyses predicting the effects of different variables on the likelihood of employees participating in grouped workplace health promotion activities

Predictors	B	S.E.	Wald	Sig.	Exp(B)	CI	CI
					Participation at 95% CI for Exp(B)		
Variables associated with participation in total combined activities							
Gender	−0.587	0.181	10.545	.001	0.556	0.39	0.792
Stress	0.452	0.121	14.008	.000	1.572	1.24	1.991
Health climate	0.636	0.142	19.963	.000	1.890	1.429	2.498
Job flexibility	0.259	0.092	7.941	.005	1.296	1.082	1.552
Model variance	0.074 (Cox & Snell)	0.100 (Nagelkerke)					
n	662						
Variables associated with participation in education–orientated activities							
Gender	−0.551	0.238	5.348	.021	0.577	0.362	0.919
Age	0.023	0.009	6.014	.014	10.23	1.005	1.042
Health climate	0.408	0.180	5.106	.024	1.503	1.056	2.141
Job flexibility	0.263	0.121	4.727	0.03	1.301	1.026	1.650
Model variance	0.061 (Cox & Snell)	0.083 (Nagelkerke)					
n	404						
Variables associated with participation in behavioural change activities							
Gender	−0.749	0.198	14.33	.000	0.473	0.321	0.697
Stress	0.637	0.136	22.056	.000	1.891	1.450	2.467
Job satisfaction	0.246	0.092	7.106	.008	1.279	1.067	1.533
Health climate	0.588	0.154	14.673	.000	1.801	1.333	2.433
Model variance	0.087 (Cox & Snell)	0.121 (Nagelkerke)					
n	652						

5.5 Barriers to participation

This section presents the questionnaire results relating to the barriers to participation. Data on what prevents employees from participating were collected in two ways: first, respondents were provided with a list of known barriers to participation and asked to indicate if any of those reasons applied to them; and secondly, respondents were given an open–ended question asking them to comment on any other reason which would prevent or limit their participation.

5.5.1 Specific barriers to individual activities

Questionnaire respondents were presented with the list of nine activities investigated in this study and asked to indicate if they did not participate in any of those activities (Question 12, Appendix E). Only those respondents who did not participate in a particular activity were then asked to comment on what prevented their participation; in other words, their reasons for not participating related to specific activities and not programmes in general. The online questionnaire was designed so that if a respondent did not participate in exercise activities and weight management programmes, for example, they were directed to a question asking them to provide the reasons why they did not participate, first in exercise activities, and then weight management programmes. This may appear repetitive in the paper questionnaire in Appendix E, however, online it was seamless and specific to the respondent's previous answer.

The list of barriers were: the activity was scheduled at an inconvenient time, they did not know enough about the activity, they had too many family commitments or work commitments, they were too embarrassed to participate, they did not believe participating in the activity would work for them, and they did not trust their supervisors with information about their health (refer to Question 13, Appendix E).

Table 5.6 presents the specific barriers to participation in the nine activities included in the questionnaire. For each barrier to participation, a percentage occurrence rate was calculated based on the total respondents who indicated they chose not to participate in a particular activity. Table 5.6 establishes that inconvenient scheduling was the most common reason for not participating in exercise activities (21.8%, n=78), health screening assessments (28%, n=66), health seminars (29.3%, n=58) and weight management programmes (30%, n=40).

Having inadequate information about an activity was another leading reason for not participating in health screening assessments (28%, n=66) and the main reason for not participating in stress management programmes (28.6%, n=63).

Respondents stated family commitments as the main reason for not taking part in fitness testing initiatives (24.2%, n=66) and exercise activities (21.8%, n=78).

Participation in counselling initiatives that were available was found to be hampered by feelings of embarrassment (24.2%, n=124). Low self–efficacy or not believing the intervention would work was the most common barrier to participation in a smoking cessation programme (38.1%, n=21).

Not trusting what a supervisor might do with information about their health was the main reason respondents chose not to take part in alcohol and drug programmes (50%, n=8).

Table 5.6

Reasons given by employees for why they chose not to participate in the nine health promotion activities that were available to them at work

	Reasons for not participating							
Activities	Scheduling %	Knowledge %	Family %	Work %	Embarrassed %	Self–efficacy %	Trust %	Total (n)
Fitness Testing	21.2	21.2	24.2	15.2	7.6	3.0	7.6	66
Exercise Activities	21.8	17.9	21.8	17.9	7.7	6.4	6.4	78
Health Screening	28.0	28.0	12.0	14.0	4.0	6.0	8.0	50
Health Seminar	29.3	19.0	12.1	24.1	5.2	5.2	5.2	58
Weight Management Programmes	30.0	17.5	12.5	10.0	12.5	12.5	5.0	40
Alcohol & Drug Programmes	0.0	25.0	0.0	0.0	12.5	12.5	50.0	8
Counselling	7.3	22.6	7.3	9.7	24.2	9.7	19.4	124
Stress Management Programmes	11.1	28.6	9.5	12.7	11.1	14.3	12.7	63
Smoking Cessation Programmes	4.8	28.6	4.8	4.8	0.0	38.1	19.0	21

It was also possible to use the questionnaire data to investigate whether any other variables were related to the barriers to participation. Non–parametric tests were performed to explore if there were any significant associations between perceived barriers to participation, and the individual, social and organisational variables included in the questionnaire. Chi–square tests for independence and Mann–Whitney U tests, which make no assumption regarding the distribution of an underlying population, were the most appropriate statistical analysis options for the data. The variables were also a combination of nominal and ordinal scales, which are ideal for Chi–square and Mann–Whitney methods of analysis (Pallant, 2005).

Individual variables associated with barriers to participation

Applying an ecological approach, the individual, social and organisational variables were tested to identify if they were associated with the perceived barriers to any of the nine activities explored in the questionnaire. The individual variables tested were age, gender, health status, perceived stress, and perceived job satisfaction.

A significant association was found between gender and an employee's need to participate in a weight management programme $\chi^2(1) = 4.17$, p = .041. This represents the fact that men were 2.5 times more likely to believe they did not have a weight problem, and therefore had no need to participate, compared with women.

Perceived job satisfaction was associated with a lack of need to participate in workplace counselling initiatives $\chi^2(2) = 10.17$, p = .006. Subsequent ratio calculations demonstrated that employees with high perceived job satisfaction were 2.4 times more likely to believe they had no need to use counselling services available at work.

An employee's personal health status also strongly related to a number of barriers to participating in counselling initiatives at work. Having no need to take part was associated with higher perceived health status $\chi^2(2) = 6.94$, p = .031. Employees in good health were 1.5 times more likely not to need counselling. Similarly, employees in very good health were less likely to cite a lack of trust as a barrier to participating in counselling activities $\chi^2(2) = 10.79$, p = .005.

However, employees with lower perceived health status were significantly less aware about the counselling services available to them $\chi^2(2) = 12.59$, p = .002, compared to those who believed they were in very good health. In the same way employees who rated their health as being poor were significantly more likely to feel embarrassed about attending a counselling service compared to those who felt they had fair or very good health $\chi^2(2) = 15.43$, p = .000.

Smoking status was significantly associated with employees choosing not to participate in stop smoking programmes because they had no need to take part $\chi^2(2) = 36.39$, p = .000. Unsurprisingly, non–smokers were more likely to have no need to participate in a smoking cessation programme.

Mann–Whitney calculations provided evidence of a number of other individual variables having a small to medium effect on the barriers to participating in the nine separate activities. The effect size is based on Field's (2005) suggestion that $r > .3$ illustrates a medium effect size, and $r > .5$ should be the threshold for a strong effect size. Table 5.7 demonstrates that an employee's perceived stress was significantly associated with many of the barriers to participation in different activities, most notably in counselling services. Employees with higher perceived stress were more likely to report feeling embarrassed, lacking trust in managers, and not believing a counselling service would work for them.

From a different perspective, earlier logistic regression analysis found that perceived stress was not a strong predictor of participation in stress management programmes; however, as Table 5.7 shows, it was significantly associated with a number of barriers to participating in stress–related interventions. These included a lack of self–efficacy, not trusting managers, and having no perceived need to participate. Employees with higher perceived stress cited self–efficacy and trust as barriers to participating in stress management programmes. However, somewhat predictably, employees with lower stress had less need to take part.

The hours an employee works each week had a small to medium effect on the barriers to participating, particularly in counselling programmes. Surprisingly, employees who worked longer hours per week were found to be less likely to need workplace counselling services.

Table 5.7

Significant associations between individual variables and the reasons for not participating in health promotion activities

Variable	Activity	Reason	*U*	Sig.	*r*
Perceived stress	Counselling	Embarrassed	3058.50	0.000	–0.137
		Inconvenient schedule	1062.00	0.043	–0.142
		Insufficient knowledge	3002.50	0.000	–0.132
		Lack of self–efficacy	1288.50	0.025	–0.209
		No need	11546.00	0.000	–0.261
		Trust	1868.50	0.000	–0.103
		Work commitments	1236.00	0.006	–0.115
	Exercise activities	Insufficient knowledge	396.50	0.016	–0.310
	Stress management	Lack of self–efficacy	301.00	0.005	–0.241
		No need	3247.00	0.003	–0.254
		Trust	390.50	0.030	–0.154
	Weight management	Inconvenient schedule	374.50	0.040	–0.170
Hours worked	Counselling	Embarrassed	3716.50	0.006	–0.203
		Family commitments	1045.50	0.037	–0.112
		Insufficient knowledge	3629.00	0.008	–0.216
		No need	13338.00	0.040	–0.205
		Work commitments	1418.50	0.021	–0.230
	Health seminar	Lack of self–efficacy	43.50	0.034	–0.159
	Weight management	No need	1030.00	0.005	–0.138
Age	Health screen	Inconvenient schedule	257.00	0.002	–0.193
		Lack of self–efficacy	21.00	0.012	–0.187
	Stress management	Lack of self–efficacy	390.50	0.037	–0.101
		Work commitments	360.00	0.022	–0.231
	Weight management	Insufficient knowledge	157.00	0.010	–0.174
Tenure	Alcohol and drugs	Insufficient knowledge	12.50	0.034	–0.224
	Fitness testing	Family commitments	300.00	0.047	–0.292
		Inconvenient schedule	255.00	0.021	–0.259
	Health screen	Inconvenient schedule	272.00	0.004	–0.207

Social variables associated with barriers to participation

Social variables were found to have little effect on predicting participation in the logistic regression model; however, they were related to the reasons for not participating. Table 5.8 illustrates that supervisor support was a relatively small but significant barrier to participation in counselling services, predominantly because of feelings of embarrassment or inconvenient scheduling. In all instances, low perceived supervisor support was a barrier to participating in counselling interventions; however, employees with higher perceived supervisor support were significantly less likely to attend a counselling intervention. The same result was also found for stress management programmes.

Perceived co–worker support had a small to medium but significant association with not taking part in counselling interventions. Again, employees with higher co–worker support were less likely to need workplace counselling, whereas, those with less co–worker support were more likely to cite embarrassment, scheduling, lack of knowledge, and trust as barriers to participating in counselling services, exercise activities, and drug and alcohol programmes.

Table 5.8

Significant associations between social variables and the reasons for not participating in health promotion activities

Variable	Activity	Reason	U	Sig.	*r*
Supervisor support	Counselling	Embarrassed	3747.50	0.006	–0.206
		Inconvenient schedule	906.50	0.013	–0.193
		Lack of self–efficacy	1430.50	0.023	–0.191
		No need	12052.00	0.000	–0.173
		Trust	2868.00	0.003	–0.171
		Work commitments	1090.00	0.002	–0.169
	Smoking cessation	Insufficient knowledge	243.50	0.028	–0.150
		No need	2878.00	0.006	–0.136
		Trust	113.00	0.021	–0.125
	Stress management	No need	3191.50	0.004	–0.123
		Trust	204.50	0.001	–0.114
	Health screen	No need	375.50	0.027	–0.165
	Health seminar	Trust	15.00	0.008	–0.157
	Weight management	Trust	7.50	0.023	–0.096
Co–worker support	Counselling	Embarrassed	3796.00	0.013	–0.254
		No need	12326.50	0.000	–0.251
		Trust	2689.00	0.001	–0.235
		Work commitments	1590.00	0.055	–0.229
	Exercise activities	Inconvenient schedule	485.00	0.015	–0.222
		Insufficient knowledge	399.00	0.017	–0.213
	Stress management	No need	3511.00	0.019	–0.209
	Alcohol and drugs	Trust	46.50	0.009	–0.260

Organisational variables associated with barriers to participation

Table 5.9 reveals that how an employee perceives their organisation's health climate had a small but significant effect on the reasons for not taking part in a range of health promotion activities. Notable reasons included embarrassment, and a lack of trust in managers when considering whether or not to participate in counselling, fitness testing and alcohol and drug

programmes. In each case, a lower perceived health climate was related to the specific barriers to participation in counselling, exercise activities, fitness testing, health screening, smoking cessation, alcohol and drug, and stress management programmes.

Perceived job flexibility was also found to have a small but significant relationship with the reasons for not participating in workplace counselling interventions. A lack of perceived need to take part, and too many work commitments were also related to job flexibility.

Table 5.9

Significant associations between organisational variables and the reasons for not participating in health promotion activities

Variable	Activity	Reason	U	Sig.	*r*
Health climate	Counselling	Embarrassed	3925.50	0.006	–0.261
		No need	13592.50	0.004	–0.244
		Trust	2684.50	0.001	–0.243
	Exercise activities	Insufficient knowledge	327.00	0.006	–0.230
	Fitness testing	Embarrassed	85.50	0.037	–0.226
	Health screen	No need	361.00	0.014	–0.205
	Smoking cessation	Insufficient knowledge	269.50	0.043	–0.203
	Alcohol and drugs	Trust	53.50	0.011	–0.266
	Stress management	Lack of self–efficacy	442.50	0.023	–0.191
Job flexibility	Counselling	Embarrassed	4156.50	0.033	–0.166
		Lack of self–efficacy	1337.50	0.010	–0.151
		Trust	3268.50	0.019	–0.141
		Work commitments	1402.00	0.016	–0.138
	Alcohol and drugs	No need	842.00	0.035	–0.170
	Health screen	Insufficient knowledge	349.00	0.008	–0.127
	Health screen	No need	385.00	0.022	–0.119
	Health seminar	Work commitments	438.00	0.048	–0.117
	Smoking cessation	No need	2951.50	0.006	–0.106

5.5.2   Other barriers to participation

In addition to identifying the reasons employees did not participate in the nine individual activities, the questionnaire also sought information on any other factors that the respondents felt restricted, limited or prevented their participation in any way.   Unlike the previous question, which was designed to identify the barriers to individual activities, this question was open–ended and related to health promotion programmes in general.   This question was put to all questionnaire respondents, even those who might have participated in all the activities available to them. Content analysis was applied to analyse their responses, and, following an ecological approach, the general reasons were categorised as individual, social or organisational factors.

These results were used to develop the next phase of the data collection process: the 20 semi–structured interviews (presented in the following chapter), whereby more rigorous thematic analysis was applied to the entire interview transcripts.

In total, 32 different reasons were identified as 'other' barriers preventing or limiting employee participation in general health promotion programmes.   Table 5.10 demonstrates that organisational factors were most often cited as barriers to participation, making up 73.0% of the reasons given.   Individual factors were the second strongest level of influence (19.1%) and social factors were found to contribute only 7.9% of the general reasons for not participating.

Table 5.10

Reasons questionnaire respondents gave for not taking part in workplace health promotion programmes

Barriers to participation	Frequency	% within category
Individual barriers		
Exercise outside of work	5	17.2
Lack of motivation/laziness	5	17.2
Not being organised enough	4	13.8
Prefer to see own doctor	4	13.8
Injury	3	10.3
Illness	2	6.9
Lack of interest	2	6.9
Pregnancy	1	3.4
Having a disability	1	3.4
Confidentiality issues	1	3.4
Lack of confidence	1	3.4
Social barriers		
Family commitments	3	25.0
Lack of management/supervisor support	3	25.0
Poor attendance by other colleagues	3	25.0
Childcare responsibilities	2	16.7
Pressure from other colleagues	1	8.3
Organisational barriers		
Workload/deadlines	21	18.9
Location	20	18.0
Only available in employee's own time	17	15.3
Lack of information	10	9.0
Staff restrictions on participation	9	8.1
Not offered during work hours	6	5.4
Cost	6	5.4
Too short notice	6	5.4
Mobile job/no permanent office	3	2.7
Lack of facilities	3	2.7
Shift worker/part–time worker/contractor	3	2.7
Lack of communication/promotion	2	1.8
Unusual work hours	2	1.8
Negative culture	1	0.9
Activities too irregular	1	0.9
Small office	1	0.9

Respondents provided some insightful and detailed reasons for not participating. Employees who already exercise regularly cited their current activity levels as a reason for not taking part:

> At present I play hockey twice a week and go to the gym three times a week so do not feel like I would actively participate in any further exercise programmes.

> I am in close proximity to the gym, so pay for a locker/shower there and run around the park in my lunch hour. This is all I really need.

Conversely, other questionnaire respondents were openly honest about their lack of personal motivation to participate:

> I have a real lack of motivation to exercise during the winter months!

> I'm far too poor and lazy to join.

Family commitments, predominantly childcare responsibilities, were barriers to participation. One example of family commitments prevention participation was:

> The company does not offer any incentives to join a gym or participate in sport. In fact, this company makes us work 6 days a week, which leaves one day only for family and other commitments. I have a fairly physical job but after a while work is just work and does not make you fit.

Perceived supervisor support was another cited reason for not participating. One respondent effectively summarised the opinions of others, writing:

> My immediate manager needs to be proactive from the start in promoting these health promotion activities. He needs to take an upfront role in encouraging people to participate, as people often need to be persuaded.

Perceived lack of time was a common barrier, caused by job–related task requirements, heavy workloads and deadlines, and extra–curricular activities and responsibilities. Responses included:

Time, time, time...it waits for no man. There are only so many hours in a day and I am heavily involved both at work and in my personal life (family, church, sporting commitments).

Sometimes tight deadlines mean that you cannot participate, as the deadline is considered more important, because the company comes before personal needs.

Work pressures allow for no downtime. I am not even achieving expectations so the thought of taking time out to do exercise or other activities does not sit easily with me.

I don't participate because of my heavy work volume. To overcome my workload in order to participate I would have to start work earlier and end the day later. If need be, I would even need to come into the office during weekends in order to complete work.

The online nature of the questionnaire meant that participants came from throughout New Zealand. One reason for not participating was the geographical location of health promotion activities. A number of respondents noted that activities were only available in Auckland. Employees working in offices outside the greater Auckland area were considerably disadvantaged:

Often health promotion activities are available at the Head Office in Auckland, but they are not available to those outside of Auckland. We seem to get overlooked.

A number of activities are only practical for larger groups or only available in Auckland so we can't participate in them. We miss out on many of the activities that the Auckland people can be a part of.

When health promotion activities were on–site or located near an employee's workstation, issues with staffing restrictions and staff members leaving their desks or phones was another major barrier to participating:

Sometimes the timing of certain things may not be convenient as we are in a call centre and other parts of the company are not, so it's easier for those staff go to these things and harder for me due to phone calls all day long.

Depending on the organisation and the type of health promotion activities offered, an organisation may cover all expenses and costs incurred, or the employee could be asked to contribute.   Only one of the five organisations involved fully subsidised employee

involvement in all of the health promotion activities available. Considering this, participation in workplace health promotion activities is compromised when an employee is asked to pay for an activity or service. Two similar viewpoints were:

> The cost is a disincentive to participate. If employers want their staff to participate in these activities then it should be fully subsidised.

> I decided not to take part in the lunchtime yoga classes as I'm on a budget and I couldn't afford to go.

5.6   Summary of questionnaire results

This study was designed to identify and assess the variables associated with, and barriers preventing, employee participation in workplace health promotion programmes, and provide ways for managers to maximise employee participation rates in the health promotion programmes in their organisations.

From the nine activities investigated, exercise activities and heath seminars were found to attract the highest proportion of employees, while smoking cessation and alcohol and drug programmes were supported by the fewest employees.

Table 5.11 on the following page provides a summary of the variables associated with participation and the barriers to participation identified in the questionnaire.

Table 5.11

Summary of the variables associated with participation, and the barriers limiting participation, in different health promotion activities

Activity	Variables associated with participation	Barriers preventing participation
Fitness testing	Perceived stress Gender	Family commitments Inconvenient scheduling Lack of knowledge/information
Exercise activities	Perceived health climate Gender Age	Inconvenient scheduling Family commitments
Health screening	Age	Inconvenient scheduling Lack of knowledge/information
Health seminar	Perceived health climate	Inconvenient scheduling Work commitments
Weight management programme	Gender	Inconvenient scheduling
Alcohol and drug programmes		Do not trust supervisors with health information
Counselling	Perceived stress Gender Perceived job satisfaction	Embarrassed
Stress management programme	Perceived supervisor support	Lack of knowledge/information
Smoking cessation programme	Perceived stress	Do not believe it will work Lack of knowledge/information
Total combined activities	Gender Perceived stress Perceived health climate Perceived job flexibility	Inconvenient location Lack of time
Educational activities	Gender Age Perceived health climate Perceived job flexibility	Work commitments Lack of job flexibility
Behavioural change activities	Gender Perceived stress Perceived job satisfaction Perceived health climate	Prohibitive costs Family commitments

CHAPTER 6: INTERVIEW OUTCOMES

6.1   Introduction

The main purpose of conducting 20 semi–structured interviews was to gain a more in–depth insight into the predictors and barriers facilitating and preventing employees from participating in health promotion activities. The second objective was to examine the ideas generated but not fully explored in the questionnaire, particularly surrounding the barriers to participation. The interview questions were guided by the questionnaire results. Therefore, the reader will notice the interview outcomes are presented with references to the nine activities included in the questionnaire, and the barriers to participation measured in the questionnaire. The third motive for conducting a follow–up qualitative study was to consider the reasons why employees initially enrol and then choose to leave an activity. Employee attrition and maintenance levels were measured in the questionnaire (enrolled, attended, completed an activity), however, the interviews provided an additional platform to fully explore these levels of participation.

This second results chapter will begin by presenting an overview of the general interest, awareness of activities and participation expressed by the 20 interview participants. This will help set the scene for the thematic analysis results. Thematic analysis was applied to evaluate the factors facilitating participation in different health promotion activities, followed by a larger, more in–depth account of the barriers to participation. Finally, this chapter will

present the reasons why these employees left an activity after they had joined, and suggestions are given on how managers can maintain participation rates over time.

The 20 employees were given a randomised identity label: M1 to M13, and F1 to F7. These identity codes have been used throughout the results.

6.2   General interest, awareness and participation

The first question interview participants were asked to comment on was the health promotion activities and interventions they were currently aware of and were available to them at work, to confirm whether employees knew what was being offered (refer to Appendix I).

All of the 20 participants interviewed were aware of the Employee Assistance Programmes (EAP services) available to them. Eleven staff members (55%) knew that counselling interventions were also available, either as part of an EAP service, or as an outsourced assistance programme sponsored and approved by the company. Eight staff members were aware of health screening assessments, specifically hearing checks, hepatitis screening and health screening for men. Another five were aware that the company offered annual flu injections. Three employees mentioned the use of health promotional material being visible and available, most often in the form of educational/informative pamphlets or posters in public and visible areas. Only two employees mentioned exercise activities and ergonomics checks. Exercise activities were offered on a divisional basis, which could explain why so few interviewees mentioned exercise. However, ergonomics checks and relevant ergonomic information were available to all office employees.

Other health promotion activities and initiatives referred to by individual participants included a step programme in the Australian office where one interviewee (M5) travelled frequently, first aid courses, bottles of hand sanitiser in the kitchen, bathroom and general office areas, health and safety conferences, and one manager (M6) spoke of one of his older employees bringing bowls of fruit every Monday to share among both the office and service personnel.

With the exception of EAP services, awareness of available activities in this organisation appeared limited to the activities that employees actually participated in. Only three employees referred to promotional or advertising material endorsing activities, which would

suggest that creating an awareness of health promotion activities available within organisations is more effective when employees physically take part in some way. EAP services were well known because just prior to the interviews, all company employees were involved in a 'Safety Day'. This included an exhibition designed to promote health and safety initiatives. Initiatives were presented to employees in numerous ways, for instance, videos demonstrating the outcomes of workplace accidents were shown to reiterate the importance of checking equipment; employees were also tested and provided with immediate blood glucose readings and reminded about the service workers' clinic offering free flu injections. EAP services were also part of the initiatives on display. Despite few employees actually requiring EAP services, all employees were aware of their availability from having attended the 'Safety Day'. This appeared to be an effective way of increasing awareness compared with posters or pamphlets.

Interview participants were then asked to consider a list of the nine activities included in the questionnaire, and comment on how they were involved in each activity. More specifically:

- The activities they currently took part in;
- The activities they did not take part in;
- The activities they would be interested in taking part in, if they were available.

Table 6.1 demonstrates health screening assessments were the most widely utilised health promotion activity. The second most popular activity was weight management intervention, which was surprising as weight control programmes were only offered to staff on a divisional basis.

Conversely, alcohol and drug programmes, smoking cessation interventions, and counselling initiatives were the activities which employees used the least. The most commonly–cited reason for not participating in these activities was a lack of need for these types of initiatives. However, when probed further, two employees said they were smokers but were nevertheless reluctant to take part in an employer–sponsored stop smoking intervention. Both admitted they did not want to give up at the present time. One interviewee (M6) said he was confident when the time came, he could give up on his own without attending a stop smoking programme.

Table 6.1

Employee participation in health promotion activities

Activity	Number of participants	Number of non–participants
Health screening assessments **	5	3
Weight management programmes *	4	3
Stress management programmes **	2	3
Exercise activities *	2	2
Fitness testing	0	0
Health seminars *	1	3
Counselling **	1	8
Stop smoking programmes *	1	10
Alcohol and drug programmes **	0	12

* = Activities offered to employees on a divisional basis

** = Activities offered to all employees

Fitness testing was the only activity included in the questionnaire that was not available to staff in the organisation. However, 16 out of the 20 participants stated they would participate in a fitness testing initiative if it was available. Another notable finding was the number of interviewees who stated they were interested in taking part in a particular activity, but had not done so at the time of the interview. The reasons for their interest, but lack of participation, were largely centred on activities being available in other areas of the business and not currently offered at their location. The company involved in the interviews had separate premises in North and West Auckland. This separation was particularly evident in weight management programmes, which had considerable success in the West Auckland office, but at the time of the interviews, was not available to staff working in the North Auckland office.

Health seminars were available to staff in managerial roles, particularly those involved in ensuring health and safety requirements were being met. However, five interview participants

said they would be interested in attending a health seminar if it was available to all staff. Counselling services were available to all staff members, and, despite overall participation being small, two additional employees stated they were interested in taking part. The reasons why they had not done so included a lack of information about the service: "I'm not sure what it would cover" (M12), and one team leader (M10) stated he was interested in attending to provide further assistance and understanding to team members who are in need of the service in the future. Older employees were more amenable to the idea of counselling. One example was M10, a manager in his fifties, who displayed no awkwardness or discomfort when discussing counselling services. This was in contrast to M12, a younger employee in his thirties, who attached a negative stigma to the idea of workplace counselling.

A further interesting finding was the number of interviewees who remembered certain health promotion activities were available to them after they were shown the list of nine activities included in the questionnaire. For example, only two participants initially mentioned exercise activities being available (M6 and F6) yet another two employees remembered other exercise activities available to them after they were shown the list. Recollections included a recent touch rugby tournament (M2) and a lunchtime walking group (F4). Neither employee took part in these activities. This further demonstrates that awareness is more successful when there are direct reminders rather than traditional passive forms of exposure like posters in restrooms or pamphlets in communal lunch rooms.

The last awareness–related discussion point was whether each interviewee believed that low participation rates were a problem in their company and warranted further investigation. Nineteen out of the 20 interviewees were aware that low participation rates were a problem in their organisation and that managers were aware of the issue. One interviewee (M11) believed managers were oblivious to the problem of low participation. He was a supervisor who spent much of his time out of the office on construction and maintenance sites. After being probed further, he revealed, "No, I don't think they are [aware of the problem of low participation]. If they were, they'd do more to get my guys involved".

Another discovery was the number of managers who alleged that other managers were actually to blame for the problem of low participation. M4, a senior manager who had been with the company for over ten years, remarked, "I think low participation is one of the things that stops managers from actually starting anything new". Low participation was indeed a

problem in this company, which was known to both managers and employees. However, they were uncertain on the best ways to overcome the issue.

6.3 Factors found to facilitate participation

Interview participants were asked to comment on what would make it easier for them to participate in either the health promotion activities they had previously referred to in response to the earlier questions, or other health initiatives not currently available to them but of interest. Applying an ecological framework to classify and categorise each reason, as used throughout this thesis, the factors are presented in Table 6.2 on the following page. Using thematic analysis to code each response, Table 6.2 demonstrates that organisational factors, followed by individual reasons, were found to have the strongest influence on participation.

Table 6.2

Thematic analysis of factors perceived to facilitate participation in the workplace health promotion activities available at work

Facilitator	n	Descriptive themes identified	Ecological influence
Available during work hours	5	Timing	Organisational
Available both in and out of work hours	5	Timing	Organisational
Time off during work to participate	3	Timing	Organisational
Available immediately after work	1	Timing	Organisational
The quality of the activity	3	Activity	Organisational
No financial contribution from employees = free	4	Financial	Organisational
Convenient location	2	Location	Organisational
Management buy–in	1	Management	Organisational
Team/group involvement	3	Group involvement	Social
Family involvement	1	Family	Social
Something I'm interested in	2	Interest	Individual
Confidentiality of information	2	Privacy/trust	Individual
Seeing results	2	Outcomes	Individual

The main organisational theme arising from the thematic analysis was the timing of an activity. Half of the interviewees stated either participating during work hours, or a combination of in and out of regular work hours, made it easier for them to take part. Typical comments included:

> If we can use people's time at work, and it is part of their working day, then we get better participation. If we ask them to come back in their spare time, that would be another huge step (M3).

> If activities are available during work time, you'll get more repetition. You're there for 8 hours a day and you doing something in those 8 hours, it only takes 21 times and then you remember it permanently…activities being made available during work hours also means someone is overseeing it (M5).

> Once people have gone home, it's very difficult to get them back (M9).

It was apparent that activities available during the work day would appeal to considerably more employees. In this company, it was obvious that managers understood and had experienced the difficulties associated with encouraging voluntary participation in any activity (not only health promotion activities) outside of normal work hours. This was supported by employees, who supplied honest reasons for their reluctance to participate in activities in their own time:

> If you have to do it in your spare time, there is always that discipline and there are always more attractive things to do…when I get home in the evening, I don't feel like doing anything. I just want to blob out (M12).

> To be honest, at the end of the day I just want to go home. I don't want to be staying back for anything (F4).

> People aren't working for the love of it, they enjoy the job and feel challenged, but when they go home, it's their time with their families, time for other activities, whatever it may be (M5).

In this company, the managers who took part in the interviews seemed very aware and responsive to the needs of their employees. The three senior managers involved in the interviews had been with the organisation for many years (M4 had been with the company for 21 years) and had entered the company as service engineers before progressing into management roles. The successful timing of activities may have been directly attributed to managers having once worked in a subordinate role; in this case, out in the field as service personnel, with first–hand experience of how those employees operated both in and out of work. At the same time, the senior manager with 21 years' tenure (M4) acknowledged the balance required to offer health promotion activities at work and still maintain productivity, stating, "A mix in and out of work hours is best, to encourage people to get involved".

One counter argument was provided by M13, who had a 15–year history with the company. He commented, "if the company is good enough to pay for these things, then the guys should be prepared to give up some of their own time to do it". This was interesting because it was in direct contrast to other comments. This interviewee had a strong commitment to the company and both respected and admired the General Manager, suggesting that although there was an obvious reluctance to participate outside of work hours, it may be achievable in some organisations where there are strong relationships between managers and employees.

References made to the cost of activities offered further support that, in this company, being familiar with and understanding the needs of employees facilitated participation. Examples of financial issues influencing participation were cited by four interviewees. One manager spoke of how some service personnel manage their finances stating:

> In our industry, it's all financial. Most of the guys live week to week. Paydays are on Wednesday, so by the next Tuesday, they're on their last cigarettes and last 'smoko' money. So, anything extra to pay won't work, it's just the way they've organised their lives (M6).

It was made clear by both managers and employees that any attempts to introduce a financial cost to employees would adversely affect participation rates because of the high proportion of service personnel who worked for the company.

Team or group involvement was cited by three participants, but, as a theme, was not recurring in any of the other discourse around other factors facilitating participation. This was considered an interesting omission because the impression gained throughout the interviews was that this company was very team–orientated. Managers referred to their employees as 'the guys' or 'our team' and there was a positive 'friendly' atmosphere among staff over the three–week interview schedule. Employees in this company worked closely with each other because of the nature of their daily job tasks. For example, it was a requirement that service personnel worked with a minimum of one other person, and administration staff worked in a number of open plan but small offices.

6.4   Factors found to limit or prevent participation

A number of questions were asked during the interviews to gain further insight into the reasons why employees are reluctant to take part in health promotion activities at work. In addition to discussing things that prevented employees from participating, other questions included: why they thought others did not participate; if they thought a level of cynicism existed amongst staff influencing participation; how the programmes should be promoted to staff; and if they thought managers had a right to intervene by strongly encouraging high–risk employees to take part. These questions were often followed with further queries and remarks designed to provide more active feedback and allow for a continued natural conversation in the interviews.

The perceived barriers limiting or preventing the interview participants from taking part in the health promotion activities were more varied compared with the factors which helped their involvement. As Table 6.3 on the following page illustrates, work commitments were the dominant theme for not participating, a point specifically made by 16 out of the 20 participants. Interestingly, three of these 16 interviewees had earlier stated they found it easier to take part when activities were made available during work hours. As with the factors facilitating participation, the timing of activities was also identified as having a major effect on their involvement.

When the ecological framework was considered, a notable difference between the factors facilitating and preventing participation were the social and individual influences which acted as barriers to participation. The most prominent social influence was the effect of family commitments. Individual barriers included feelings of embarrassment, a lack of self–motivation and a lack of interest.

Table 6.3

Thematic analysis of factors perceived to limit, reduce or hinder participation in workplace health promotion activities

Barrier	n	Descriptive themes identified	Ecological influence
Too many work commitments	16	Work commitments	Organisational
Inconvenient scheduling of activities	14	Timing	Organisational
Confidentiality of health information	10	Privacy/trust	Organisational
Organisational culture	5	Culture	Organisational
Inconvenient location	4	Location	Organisational
No one running the programme or driving participation	4	Management	Organisational
Lack of awareness from staff	2	Management	Organisational
Not sold well enough to staff	2	Management	Organisational
No incentives/rewards/'freebies'	4	Incentives	Organisational
Too many family commitments	7	Family	Social
The manager is not supportive/has the wrong attitude	4	Management	Social
No self–motivation	9	Self–motivation	Individual
No interest in the activities available	5	Interest	Individual
Embarrassment	5	Embarrassed	Individual
No personal benefits/health changes	3	Outcomes	Individual
New Zealand culture	2	Culture	Other

The importance of meeting deadlines was a considerable work–related barrier cited by many of the interview participants. Comments included:

> I have too much work on, too many projects. I'd rather meet my deadlines than take part sometimes (F5).

> Time factors are the biggest issue. We have monthly scheduled work, it's not easy to keep on top of that if we have reactionary work as well (M11).

> [Participating] during work is hard, because you get behind. You can structure your work at certain times of the month, but at other times you can't because you're too busy (F4).

This hindrance was stronger among employees rather than managers, suggesting managers in this company may have had more flexibility in their working day compared with employees. Employees were also accountable to their superiors, whereas managers had more autonomy. Two managers specifically referred finding it easier to take time out of their working day to participate in an activity because they were not out in the field.

> Taking people off the job is the biggest barrier. When you're in the office, you can go to a meeting and watch your time; we're not physically being taking off the job in order to do something (M5).

> Guys in the field do their jobs but they get tired doing it. There's a lot of stress for service personnel, some of their jobs require a lot of mental working, setting up jobs, responding to KPIs [key performance indicators], computers and vehicles to manage. There's a lot of demand on them just from their day–to–day activities (M3).

Attention must be drawn to the fact that citing work commitments as a barrier to participation is in direct contrast to comments suggesting activities available during work hours encourage greater participation. Activities available during work hours attracted higher participation, but only among those with greater job flexibility who are also able to structure their day in order to take part.

Being focused on work results was also described as a major work commitment preventing participation. None of the interviewees believed their manager needed to address or lower

their workload, but often described themselves and their colleagues as simply being too busy to participate. Explanations included:

> People are just really busy in their jobs. They want to get their jobs done and then go home (F4).

> In some of our jobs there is more than enough for one person. We are working to full capacity, and, from that point of view, people will say, "I've got to finish this before I take part" (M12).

Despite close working relationships within this company, the Human Resource Manager confirmed that it was difficult for employees to interchange or substitute their roles within the company: if an employee was absent for a short period of time, their workload remained untouched until their return. This lack of substitution had an impact on some staff members' ability and willingness to participate during work hours, when meeting a particular deadline was solely their responsibility.

However, interviewees also stressed that work commitments were often used as an excuse for not wanting to participate, believing if something was important enough, people would always find the time. This belief was not restricted to managers; employees were equally likely to concede that, when necessary, it was always possible to find extra time:

> Saying you haven't got time is a sham; you can always make time, especially once you're in the habit. It's easy to say you haven't got enough time, but I think when you're in a routine you find you can fit these things in (F4).

> People don't know how to manage their workday. They're just not used to managing their time. If they spend an hour doing something personal, then that somehow fits in. Or if they get a job overseas for work, then suddenly they've found three days spare. So when they want to, they can fit it in (M5).

> I think we're a little bit apathetic and we don't make the time (M4).

> If it's important to you, then you'll make the time. So a lack of time is always a bit of an excuse (M11).

Inconvenient scheduling was referred to as a considerable barrier to participating even when activities were offered both during and outside of work hours. Work–related issues were the

most recurring inconvenience when activities were offered during work hours; however, interview participants continually stated activities offered outside of work were just as inconvenient, but for different reasons:

> I want to go home, rest, recharge my batteries and get ready for the next day… participating then [outside of work hours] takes too much of my own personal life and I don't want to give that away (M7).

> Unless they're really into it, if they go home they won't want to come back…for most of us, we've got family – once we've gone home, it's over (M9).

> To be honest, at the end of the day, I just want to go home. I don't want to be staying back for something (P15).

Employees were found to have more commitments outside of work when compared with managers. The managers interviewed were all men and at least 40 years old, perhaps suggesting commitments outside of work affect an employee's ability to take part more than a manager's ability to participate.

Confidentiality issues, and wanting to deal with health concerns independently from the company, emerged as another major theme and barrier to participation. Responses included:

> I'm a very private person. If I feel like I need to do something, then I do it myself. I don't want to discuss it with the whole company (F7).

> It's too personal to take part in this at work [referring to a health screening assessment]. I'm responsible for that myself and I feel that if I have any health issues I will deal with them myself (F5).

> It's something I take care of myself. I want to go to my own doctor (M9).

> I'd rather go to my own doctor, it's a private thing. You don't want people to know about your health (F4).

Confidentiality and trusting a manager with information about their health was another concerning point. Comments made suggesting trust was a major barrier to participation included:

> People have this thought in the back of their head that if it will impact on their career, they may as well just shut up and say nothing (F2).

> Some guys worry about uncovering something that would question if they can carry on working (M10).

> If it has a bearing on the job we are going to do, then it's better to keep as much information away as possible (M6).

> If I had an illness, I wouldn't want anyone else, including my manager, to know about it (F5).

However, some interview participants had completely opposite feelings about trust as a barrier to participation. These comments came from interview participants in both managerial and non–managerial positions:

> I disagree with the trust issue. It's never been an issue that I've seen in this company. Most of us are entrusted with a lot of information that we keep (M13).

> The trust issue doesn't apply. In my crew that wouldn't be an issue, we can all sit around and talk (M9).

> I'd rather go to my own doctor. I trust my manager, but I'd still just rather do it privately (F4).

> Some people are very private, and there's always the possibility that a manager would use it against you, but that's a slim chance. Knowing the managers here, I can't see that happening (F7).

Tenure and personal experience may have had an effect on the level of trust in managers. One employee, who believed a lack of trust was not a problem, had been with the company for a considerable period of time (M13), and another employee had recently returned from a long leave of absence because of a health issue (F7).

The culture of the company was referred to by five of the interview participants as a reason for not participating. Specific points related to culture were varied, but were often directed at the differences between staff working at the two separate depot locations:

> There is a bit of a separatist culture here, which affects participation. When you talk to the guys they really want to get involved, but you find that [one division of the company] won't talk to [another division] and they won't mix. [The two most senior managers] have been trying to break that down over the last couple of years (M6).

> It's the nature of the type of staff involved in this industry, that's just the way it is. Socio–economic backgrounds are different. There is a West culture and a North culture. Over there [West Auckland location], it's all about 'afterwards', the drinking and camaraderie. Over here [North Auckland location], it's more family orientated (P20).

> The culture of involvement and co–operation is what's lacking. The company managers have to come up with innovative ideas to improve that (M2).

Activities held at inconvenient locations were also predominantly because of the company having two separate premises in North and West Auckland. Travelling between the premises for non–work related activities was found to be a major disincentive for staff, particularly if they had to use their own vehicle rather than a company vehicle. Interviewees in managerial positions were aware of this issue and two stated if activities were located away from an employee's main depot, then they tried to schedule them so company vehicles could be used:

> We say to them, "if you're at home, you've got to bring your own car [to an activity scheduled after work] but if you're going from work you can take the company vehicle". So the guys hang around after work and take part because they could take the company vehicles and just go straight there, so they don't have to pay for anything (M6).

Fervent opinions were voiced regarding managers' input and involvement affecting participation rates. This was an interesting outcome as management and supervisor support was not strongly associated with participation in the questionnaire results. However, management buy–in, support and encouragement towards participation was something interview participants felt very strongly about and were vocal in their opinions of managers:

> I think the managers here are part of the problem. You get some managers who say it's just a waste of time. They don't see any benefit to their own business unit so they don't support it (M1).

> It starts with management and it can be knocked down before it gets a chance (M6).

> It's a huge barrier if a manager has the wrong attitude to it. You get resentment from them as it's just another thing coming their way (M5).

Another interesting reflection was all management–related problems were cited by those in management positions. There was some division between managers, particularly managers who had progressed to managerial positions over many years and managers who were employed from other organisations. Managers who had witnessed successful health promotion campaigns in this company were very supportive of newly implemented activities (M6), however, one very disparaging manager (M5) who was relatively new to the company had been involved in an unsuccessful health promotion programme while working for another organisation. Previous success or failure appeared to have longer–term effects on a manager's attitude and enthusiasm about new programmes:

> It takes a lot of effort, energy and enthusiasm from us [managers] to get thing to work. It's all so easy, when they don't work, to say, "well, that didn't work" and it's easy not to persist (M3).

> If it's half–hearted or cheap or boring, it doesn't work. Some of our staff have been around a long–time; they are a wee bit gun–shy now and not that enthusiastic (M4).

The demographic characteristics of the company involved in the interviews meant that many employees, including interviewee participants, had families. Not participating because of family commitments related to wanting to spend more time with their families or, if they were away from their families, working and earning money. One manager was quoted as saying: "Some of our guys have built their working lives around doing overtime and have got used to the extra money, so they don't want to take part because they'd rather be at work getting paid" (M6).

Personal motivation was cited by nine interview participants as a barrier to their own participation, as well as a barrier to their colleagues and other staff, particularly service personnel or team members. Comments made about their own personal motivation included:

> You come away from a talk [health seminar] and you're all motivated, then you go home and it all changes (F1).

> Self–discipline would keep me going, but I know not everyone has that (M13).

> Things on your own are hard to do; you've got to have a whole heap of self–motivation (M5).

When referring to a lack of motivation from others, typical comments were, "there is always going to be some sort of excuse for people if someone isn't motivated" (M8), and "people just can't be bothered" (M10). It was employees rather than managers who commented that a lack of self–motivation was a considerable barrier to participation. The only manager who cited self–motivation as a barrier was also the most outspoken critic of health promotion programmes.

One of the most senior managers within the organisation felt self–motivation was not a barrier to their participation: "this would not be a barrier for me if I want to take part" (M1), which could imply that people who are ambitious or determined in other areas of their lives, such as their working life, are more motivated to take part in activities that would improve their health and wellbeing.

Five employees thought the activities currently available to them were not effectively tailored to fit their needs, expectations or interest. The difficulty of achieving this was effectively summarised by one manager:

> We've got 270 employees, you can't have 270 programmes, so it's hard finding out what would interest people...we have a mixture of servicemen right up to managers, we're not like a professional office in town where you can have a gym membership and everyone goes. We also have such a wide range of socio–economic backgrounds and personal interests, so it's very hard (M1).

Embarrassment issues were raised by many of the interviewees; however, not all agreed that feeling embarrassed was a problem within the organisation that affected participation. Five individual participants stated personal embarrassment was a major difficulty for them. The issue was mentioned by managers and non–managers, as well as male and female interviewees; suggesting those in positions of authority may not want subordinates to be privy to health information or ability, and, in the same way, employees may not want their supervisors to be privy to equally sensitive information. Gender differences may also create

feelings of embarrassment between the different hierarchies within the company. Comments included:

> I can work around the schedule but feeling embarrassed is a lot harder to deal with (F6).

> I'm embarrassed, other people won't admit to it but it exists for a lot of people (M4).

However, one participant (M10) disagreed entirely, stating, "I don't think embarrassment is that high. Everyone is in the same boat, and everyone feels reasonably comfortable here". This particular interviewee openly admitted to having a weight issue and a poor diet, but had been with the organisation for many years, and that had alleviated and minimised feelings of embarrassment.

Two participants were familiar with overseas wellness practices and referred to Japanese workers exercising and performing Tai Chi before work. However, both jokingly acknowledged that it would not work for this particular company, being "full of blokes [men]" (M5). Although these interviewees were both aware of successful overseas practices, they both believed these customs would be inappropriate and probably ridiculed in their company and, indeed, in most New Zealand businesses.

In the questionnaire, respondents who indicated they had no need for a particular activity were removed from further analysis; for instance, a non–smoker was not included in the logistic regression analysis for smoking cessation programmes. However, small numbers of questionnaire respondents were found to indeed be smokers. To explore this issue in more depth, interview participants were asked if it was a manager's role or responsibility to encourage a high–risk employee to take part in a health promotion activity. Over half the interviewees (11 participants) believed a manager had a right to intervene by strongly encouraging a high–risk employee to participate in an activity that would improve that health risk, although many added it was a sensitive topic. Comments included:

> I do think managers have a right to intervene. You might get resistance, but then again, something like diabetes is common so in those situations some people will need to do something about their health (M1).

It's more acceptable to approach smokers, but it's got to be a 'softly–softly' type of approach (M8).

Managers can't make people take part, but they should say they should think about it. You have to be careful how you approach a person, you can't just barge in. But I don't think managers are crossing a line (F6).

I can offer and suggest they take part, but you have to be careful or they will turn around and say, "what are you saying, that I'm fat?" (M11).

However, another five employees thought that managers had absolutely no right to intervene:

No, it's none of their business. Definitely, I'm adamant about that. They are crossing a line. It's nobody else's business but mine (F7).

Our employees are all adults and they are totally aware, or they should be, of the repercussions of that sort of thing [poor lifestyle behaviours]. You can only put the information out there; you can't coerce people into doing it (F2).

Four employees understood that managers had a right to strongly encourage participation but only if it was work–related; otherwise, the individual lifestyle choices and behaviours of employees was none of a manager's business.

Definitely, if there is a performance issue involved. Typically, you'll find it's the Fridays and Mondays from people suffering from too much drink, so there is a need to get involved (M10).

It's not unusual for me to say, "hey, you're putting on a bit of beef. Pretty soon you won't be able to do what I need you to do". This is because a lot of our work involves being cramped in small spaces (M7).

More women felt managers had no right to intervene, and, perhaps somewhat unsurprisingly, more managers felt they did have a right to intervene. Interviewees in supervisor or team leader roles found it easier to intervene when it related to the physical work and machinery required to carry out their daily job requirements. Avoiding injuries to servicemen and women was a considerable focus within this company; therefore, supervisors took the necessary action to avoid potential injuries. There was also a strong camaraderie between supervisors and service personnel which was encouraged by the company's policy of promoting within

the organisation when possible. Managers and supervisors who understood the needs of their employees, having been in those positions themselves, found raising sensitive health issues with their staff more successful.

Following on from this discussion topic, interview participants were asked if they had any cynicism or scepticism concerning the motivations of a manager promoting employee participation. More specifically, did they believe the manager was encouraging increased participation to benefit employees or to benefit the organisation? Twelve of the 20 interviewees believed cynicism existed among employees and it had a subsequent effect on participation, another six said it had no effect, and three were unsure. However, cynicism was predominantly regarded as inevitable, which although present, should not be of great concern to managers trying to encourage employee participation. Comments included:

> The slackers are always going to object to anything. They're always going to think the company's trying to get more work out of them; but on the whole, most people take it on board as a positive thing (M8).

> Yes [there are cynical employees] but I think you can head that off very quickly (M4).

> If the company is honest and tells the staff what is in it for them, then they won't feel they're being lied to (M6).

> You do get some guys who are just anti–establishment, but then you wonder why they bother to come to work at all to be honest (M11).

These comments came from interviewees in management or supervisor positions. Managers in this organisation were open and frank about the success of any new intervention, health–related or otherwise, and the need to address possible critics early in the implementation process. Overall, both managers and employees were confident that cynicism was not a considerable barrier to participation.

6.5   Maintaining participation

The issue of maintaining participation was intended to be measured in the questionnaire. When the questionnaire was designed, it was envisaged that a quantitative logistic regression

analysis could be conducted on the data which may have resulted in different variables being related to different levels of participation. It was originally thought that respondents who enrolled but did not complete a particular activity could be further investigated to determine if any of the variables predicting participation influenced attrition rates. Unfortunately, due to small sample sizes in some activities, this was not possible in the quantitative component of this study. As a consequence, to gain an insight that was unattainable in the questionnaire results, interview participants were asked to comment on why employees stop participating in health promotion activities and how best to maintain participation rates in the long term.

Table 6.4 illustrates that individual influences were found to have the greatest influence on employee attrition rates. Most often, a lack of self–motivation and boredom with an activity were the most recurring themes expressed by the 20 interview participants. Not experiencing enough personal benefits or changes to their health were also commonly–cited reasons for leaving an activity.

Table 6.4

Thematic analysis of the reasons why employees stop participating in workplace health promotion activities

Reason	n	Descriptive themes identified	Ecological influence
Lack of personal motivation	9	Self–motivation	Individual
Boredom	7	Self–motivation	Individual
Priorities change over time	5	Priorities	Individual
No personal benefits	3	Outcomes	Individual
Not enough incentives/'freebies'	3	Management	Organisational
Lack of follow–up/communication	3	Management	Organisational
No one keeping the programme live/visible	3	Management	Organisational
Lack of management support	2	Management	Organisational

Four interviewees cited the term 'human nature' to describe a lack of personal motivation as their reason for leaving:

> It's human nature. Most people start off with a hiss and a roar; but who hasn't decided to do something and then think "that's a bit hard" (F2).

"I just can't be bothered" was another phrase used to describe a general lack of motivation. Interviewees referred to their own lack of motivation and also in general terms, referring to others but not specific people or teams within the organisation. The consensus was that lack of motivation was present among staff members, but expected because of a general agreement that it was "just the way things are".

Becoming bored with an activity was another common reason cited for a lack of motivation and therefore leaving that activity: "people get bored, they start to begrudge the time" (M7), and "it gets boring. The initial fun and excitement goes and it becomes the same old régime" (M8).

Changing priorities were also frequently cited. Employees who were naturally early adopters of a new activity when it was introduced often pursued that new activity at the expense of participating in a previous activity. Changing priorities also included unforeseen changes in circumstances, which meant they were no longer able or willing to continue to take part. This point was effectively summarised by one senior manager:

> People initially start with the best of intentions and think "this will be fun" or "I want to do it" but sometimes priorities change. These are the type of people that jump into everything that comes along. As soon as another new thing comes they jump into that; or they have something else come up that is more important or a higher priority (M1).

However, another manager had a different perception of early adopters, believing the opposite occurred:

> For us it is the reverse, the guys need to see stuff working then they need to get comfortable with it. Our guys have been quite sheltered and always been in their own little world. They let one or two go out there first and see what it's like, and see if it's a have. Then they will join up themselves (M6).

Contrasting opinions suggest tailored activities may not meet the needs of individual employees but may suit teams or departments within an organisation. In a company where there are considerable role distinctions, office workers and service personnel, a single implementation strategy does not allow for the different ways employees adopt and continue to participate in a new activity.

Attrition occurred because of a lack of personal benefit. Personal benefits were referred to in terms of seeing actual results from participating, such as successfully giving up smoking or losing weight: "our people won't devote their time unless they see the benefits to them personally" (M4). One manager referred to his frustration at attrition rates: "no matter how much you try and express to them [employees] that it's for their benefit, sometimes they don't see it and they stop" (M9). Personal benefits and rewards were referred to in both tangible and intangible ways:

> It's good to have recognition rewards. As a manager, you have to look at the monetary side, but recognition is easy and people always want to be praised (F2).

> If managers are going to invest in health promotion programmes, they need to invest in quite a lot in the rewards. If the rewards are too small then there's no motivation for employees to continue" (M8).

> There must be rewards, a pat on the back, or managers can come up with different rewards. You can think of many things, even if it's just a tog back [gym/sports bag]. It's a reward, and it keeps people going (M2).

However, again, opinions differed in terms of how much influence tangible incentives and rewards, such as free t–shirts, had on continued participation: "self–motivation and personal results are much more important that rewards" (F4). Conflicting statements suggest the need for managers to explore and understand what motivates their workforce, in order to secure higher long–term participation.

A lack of follow–up and continued communication was cited as a reason for leaving an activity: "when people are left to their own devices and there is no follow–up, only 20% will take part. Another 30–40% will start off, but then leave because they can't be bothered" (M4).

The negative effect of managers who lacked enthusiasm for the programme was raised by two non–managerial employees. One forthright statement was, "my manager lacks enthusiasm. It rubs off on us, so we just lose interest" (M13).

Individual influences were found to be the most recurring reasons why employees left an activity once they had joined. However, when interview participants were asked to comment on factors that would influence their ongoing participation, organisational influences were the most important. Some of the ways of maintaining participation were directly related to why they left an activity. Continually changing an activity to prevent boredom, was the most frequently–cited suggestion. Offering more tangible incentives was also a common idea. In the same way, continuous communication and someone driving the programme were important for maintaining participation, but not frequently–cited reasons for leaving an activity. The social influences, which included adding a competitive element to the activities and ensuring there was some form of group involvement, were effective ways of maintaining participation, but earlier interview responses determined that employees would not leave an activity if these group or team elements were missing. This demonstrates that the reasons employees in this particular company leave an activity are different from what would motivate them to remain with the programme.

Table 6.5

Thematic analysis on recommendations for how managers can maintain participation in workplace health promotion activities

Recommendation	*n*	Descriptive themes identified	Ecological influence
Change it on a regular basis	9	Change	Organisational
Offer rewards/incentives/'freebies'	8	Incentives	Organisational
Continuous updates/communication to staff	6	Communication	Organisational
Someone continually keeping the programme live/visible	5	Communication	Organisational
Obvious ongoing commitment from managers	2	Management	Organisational
Competitive element	3	Group involvement	Social
Make activities group related	1	Group involvement	Social

One participant in a non–managerial position was very specific about changing the programme on a regular basis to prevent boredom, pragmatically stating:

> Unless it's something new, people see it as a hassle to continue on with something. If the programme is spread out and different things happen then it keeps people's interest. If it keeps changing people don't think "here we go again" rolling their eyes. It's something different. Maybe it's held in a different location, or things are added on once people have being going for a while, like going for a lunch somewhere (F7).

Continually changing the programme was also referred to as a way of keeping things 'fun' and 'interesting', again, to prevent boredom. One manager commented "exercise should always be kept fun and the weight management should be an ongoing challenge but in a fun way" (M13).

The idea that health promotion programmes should be marketed to employees in a 'fun' or enjoyable way was then further explored through additional questions put to each interviewee

to continue that discussion point. Twelve people believed fun was an important element and, therefore, had an effect on participation. Comments included:

> With our guys, always fun. If you don't keep them interested, then after 15 min they'll just switch off (M6).

> If people stop and think about it and there's no fun or enjoyment, they won't take part (M8).

> It has to be fun, because if it's serous, no one wants to be confronted with something serious (F6).

Only three of the 20 employees thought that health promotion activities should be serious. This belief was held by both managers and employees. One staff member commented, "the fun element is important to a certain extent, but it only goes so far, because they are serious issues" (F1). No obvious distinctions were identified between staff members who believed the programmes should be fun and those who believed they should be serious, suggesting personal preferences or other information not explored in the interviews could account for the different viewpoints.

Five interviewees thought the activities were often of a serious nature, but enjoyment was a major contributor to participation nevertheless.

> When you're pushing the serious side, you only arrive at that when people have been through the phase of enjoying it (M2).

> It needs to be a mixture of both. I feel as a responsible employer these days you've got to do something, but if it's all about the serious stuff then who will want to be involved? (M5).

Managers were aware not only of the serious nature of some health promotion activities and interventions but also the need to keep the activities as enjoyable as possible. The strong health and safety focus in the company contributed to the seriousness of certain health promotion activities, such as health screening assessments, and the propensity for workplace injuries among the service personnel if health and safety standards were not followed.

Increased contribution or input from managers was a strong theme relating to how participation could be maintained over time, in fact, increased communication from managers

was the most common suggestion. This was an interesting outcome when other communication–related issues, for example, the lack of awareness of an activity (found in the questionnaire), were not apparent among the interviewees. Communication strategies were simple, including talking with employees to determine whether they were happy with an activity. One team leader said: "talk to them, ask them about improvements, and get people involved. Otherwise it's the same old thing; you need to keep a spark in it to get them to come back" (M9).

Keeping the programme 'live' or visible, which included constant communication, was also cited by five of the 20 interview participants. For instance, one manager responded:

> If things like this aren't kept live, they don't last the distance. There's personal motivation of course, but if you want something to last the distance, you've got to keep it live. Otherwise you'll probably only get one in 10 people who keep going. Things on your own are hard to do; you've got to have a whole heap of self–motivation. So, for us, when we're implementing something like this, it's how can we keep it live, what's our intention, and how long is it going to last? (M5).

A lack of tangible rewards and incentives was cited by three participants as a reason why they withdrew from participating in an activity; however, eight interviewees said rewards were fundamental in maintaining participation in the long–term. One manager believed, "as soon as those rewards disappear, then so does the programme" (M5). Another manager said, "anything extra that's free is good. We're trying to break down that mentality that every time they should expect something extra for free, but that's the way a lot of my guys think" (M6). While yet another manager commented, "you'd need to have a reward type of system for continued attendance. It could be kilos lost, or heart or blood pressure that you could monitor and measure. Rewards need to be quarterly: three, six and nine months. It's recognition from the company saying ,"good on you" (M8). Interviewees in non–managerial positions had the same perceptions "throw in free stuff, like a barbeque, make it social, then we feel we can get something more out of it" (F3).

Tangible rewards were also referred to as a way of continually changing an activity to maintain interest: "they [employees] start off and then the interest dies and gradually people drop away. When that happens, the firm has to come up with new ideas to try to keep that momentum going, whether it be rewards, goals or targets" (M4).

It could be argued that each of the themes relating to attrition and maintenance have strong connections with personal motivation. This suggests that managers should identify and understand what motivates their workforce, whether it is tangible incentives or personal benefits, and develop ways to minimise boredom, through continually changing the programme, if they want to increase and maintain high participation rates among staff.

6.6   Summary of interview outcomes and comparisons with questionnaire results

The 20 face–to–face semi–structured interviews provided key insights and a further level of depth towards understanding the factors which facilitate and prevent employee participation in various workplace health promotion activities.   In addition to adding richness, the interviews were also intended to triangulate the questionnaire results. The final section of this chapter presents the comparisons made between the questionnaire results and the interview outcomes. These comparisons are then examined in the following discussion chapter.

The popularity of activities was similar between the overall survey results, the five individual organisations involved in the questionnaire, and the company involved in the interview stage. With the exception of weight management programmes being particularly popular among the 20 interview participants, the activities attracting the greatest proportion of participants, regardless of the organisation, were exercise activities, health screening assessments, health seminars, and fitness testing.

Following an ecological approach, a summary of the individual, social and organisational influences affecting participation among the 20 interviewees can be effectively displayed in Figure 6.1, on the following page. The graph represents the combined number of individual, social and organisational reasons from the Tables presented in this results chapter.   The frequencies were then converted into percentages to provide a comparable illustration of the weight of each level of influence.
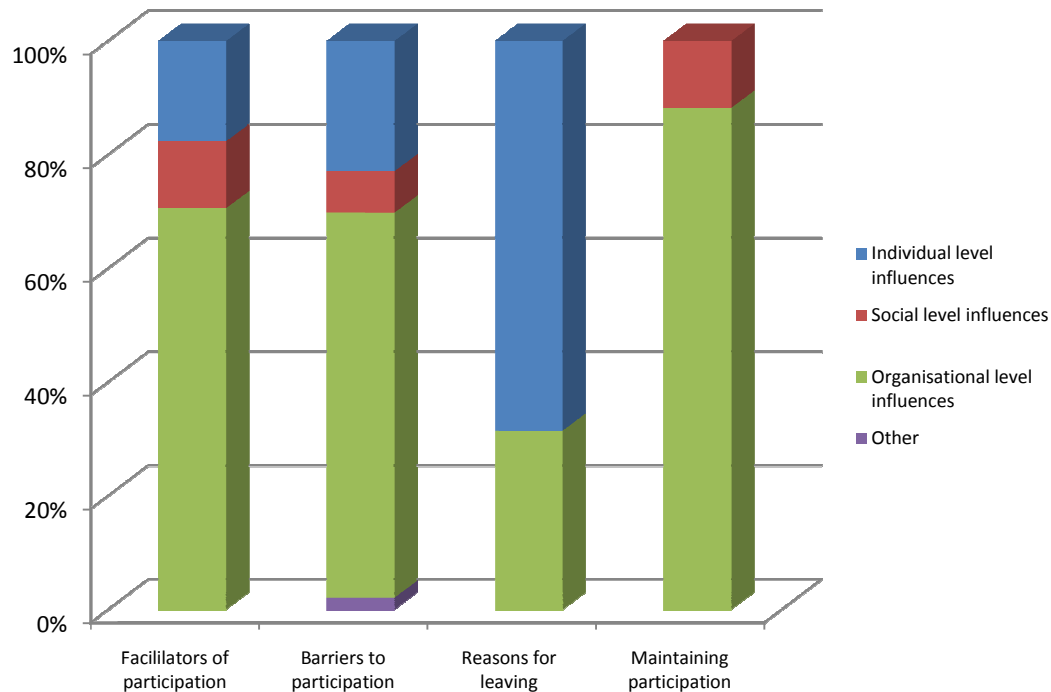
Figure 6.1: *Individual, social and organisational influences affecting participation among the 20 interviewees.*

Figure 6.1 clearly demonstrates that organisational factors were found to have the greatest influence on initial participation in health promotion programmes, and maintaining participation over time. This was remarkably similar to the questionnaire findings, where both predictors and barriers to participation were also dominated by organisational factors. In contrast, individual factors were found to most strongly relate to why employees chose to leave an activity.

The main factors predicting participation in the questionnaire were gender, age, perceived stress, perceived health climate, job satisfaction and supervisor support. Interview responses were considerably more varied, with the timing of activities being the most influential. Timing issues were dominated by scheduling activities either during work hours, or offering the same activity both during and after work. Social factors, including co–worker and supervisor support, had little influence on participation among the questionnaire respondents. However, supervisor support, in the forms of management buy–in and providing employees

with time off work in order to participate, were considered to be more important by the 20 interviewees.

Both the questionnaire and interview participants were found to have very similar barriers limiting or restricting their participation. For both the questionnaire and interviews, barriers included excessive work commitments, activities scheduled at inconvenient times, inconvenient locations, family commitments and a lack of personal motivation.

Another similarity relates to the association between participation and perceived organisational climate. A positive perception of an organisation's climate was a significant predictor of participation among the questionnaire respondents. However, organisational culture was cited as a barrier to participation among the interviewees.

A notable difference between questionnaire and interview participants was in confidentiality, privacy and trust issues. These were strong barriers to participation among the 20 interviewees but less evident in the questionnaire results.

The questionnaire was unable to differentiate between the different levels of participation (enrolled, attended, completed) and, despite not having quantitative results to triangulate, exploring employee attrition rates and ways to maintain participation were still major discussion points in the interviews. Individual factors were found to dominate the reasons why employees chose to leave an activity. This was most often due to a lack of self–motivation and boredom. However, when asked how their participation could be secured over time, organisational factors were most often recommended. Suggestions included ensuring activities were changed on a regular basis to retain interest and enthusiasm for the programme, offering rewards and incentives to participants, and maintaining regular communication with staff.

The following chapter will present discussions of both the questionnaire and interview outcomes. It will include an examination of where questionnaire and interview results were triangulated in the same way or where they differed. The following discussion chapter will also include how both sets of results can assist managers seeking to maximise employee participation in the health promotion programmes available to employees in their organisations.

CHAPTER 7: DISCUSSION

Outline of Chapter 7:

7.1   Overview of the study

The purpose of this research was to explore the factors influencing employee participation in health promotion activities, and address many of the limitations identified in earlier studies. Low employee participation has challenged researchers and managers alike, and previous outcomes investigating this problem provide limited applications or solutions. Existing studies are confined to a narrow (single activity) focus, and fail to consider not only factors encouraging participation but also those preventing or discouraging employees from engaging in these workplace activities (Grosch et al., 1998; Robroek et al., 2009). This current study, therefore, chose to investigate a range of variables as predictors of, and barriers to, participation in nine different health promotion activities.

A summary of the data collection method involved first identifying variables thought to influence participation. Ensuring the variables found in the literature were applicable in New Zealand was confirmed in a preliminary study consisting of semi–structured interviews with eight health promotion practitioners. This confirmation was followed by developing and administering an online questionnaire to employees in five large organisations offering comprehensive health promotion programmes to employees. Data from the questionnaire were used to help understand the reasons why employees did or did not participate in the health initiatives offered in their workplace. These results were then used to shape a qualitative study involving 20 semi–structured interviews with managers and employees from one additional organisation not involved in the questionnaire.

An ecological approach was adopted throughout this thesis to categorise the variables associated with participation into individual, social or organisational influences. This approach recognises that changes made to one level of influence also have an effect on other levels of influence, and that health behaviours are not limited to individual factors (Spence & Lee, 2003). This categorisation of variables was adopted to provide a logical underpinning for the research design, and emerged as a simple but effective tool for managers to tailor their health promotion programmes to best suit the characteristics of their workforce.

The current study clearly identifies that different variables predict participation in different activities. To demonstrate the importance of these findings, it is necessary to explore why

these outcomes occur and to critically examine how these results compare with existing knowledge and literature within the area.

7.2   Discussion chapter structure

The following discussion chapter is presented in three parts: the first section explores the possible reasons why each variable was found to affect participation in each of the nine activities investigated in this study. The factors encouraging or predicting participation are discussed, followed by those that were found to be barriers to employee participation. The second section explores the practical implications of these findings for managers, and how these findings enable them to improve the rates of participation in health promotion activities in their organisations. The third section of this chapter highlights the strengths and limitations of this study, and provides recommendations for relevant future research.

7.3   Individual variables associated with participation

7.3.1   Age and participation

Age is an important but complex variable in most social research. The findings in this study strongly suggest that the age of employees predicts in which type of activity they are more likely to engage. Older employees are more likely to participate in health screening assessments and education–orientated activities, which include fitness tests, health screening initiatives, health seminars, weight management and stress management programmes, whereas younger employees are more likely to take part in exercise initiatives.

Establishing the connection between older employees and participation in activities such as health screening assessments is consistent with the outcomes of a large investigation by McLellan et al. (2009). It revealed that among the 2023 employees who took part in their study, participants in health screening assessments were disproportionately older. Similarly, Brill et al. (1991), in their study of 11830 employees working in the Dallas (Texas, USA) school district, found older employees were more likely to participate in health screening assessments.

Possible explanations for older employees being more likely than younger employees to participate in health screening assessments and education–orientated activities include the greater likelihood of older individuals having experienced ill health through age–related chronic health conditions (Shephard, 2000). Similarly, older employees are not only more likely to have experienced ill health themselves, but also to have experienced the effects of the ill health of a friend or family member. As a consequence, older employees are more aware of their own health status, and risks associated with ageing, which encourages them to try and identify possible health issues by taking the opportunity of participating in a health risk assessment or an educational programme to minimise that risk or manage the health issue concerned. An example from Dobbins et al. (1998) cites a significant predictor of participation in a health risk assessment is an employee's perceived risk of cancer, which has a strong influence on their decision to take part in this type of health intervention. Typical workplace health assessments include evaluating cardiovascular health, serum cholesterol, and blood pressure, which are indeed health concerns generally affecting older individuals. It would appear, however, that although older employees are significantly more likely to participate in health screening assessments, they are also more likely to cite inconvenient scheduling as a barrier to their participation. This relationship is further enforced in a comment made by one of the 20 interviewees (M2), who stated, "it's a perception of older people that everything is inconvenient. They get in their comfort zone, so with any scheduling [of health promotion activities] they'll say for instance 'that's my 6 o'clock drink hour'. They won't want to go, or be inconvenienced in any way". This interviewee was a male senior manager aged in his mid–fifties, and was referring to people aged older himself.

Younger individuals typically perceive themselves as less vulnerable, with fewer health concerns, and evidence in the current study indicates that younger employees are considerably less interested in their health status, and are less likely to attend a health screening assessment or education–orientated activity. Indeed, when the barriers to participation were analysed, a significant association was found between a lack of self–efficacy and participation in health screening assessments. This is influenced, in part, by younger employees believing that the exposure of a possible health issue could threaten their future career prospects and further discourage younger employees from participating in health screening assessments. Younger employees, yet to establish themselves in their position in the workplace, express concerns that supervisors and managers could be privy to any health issue that was identified through a

workplace health screening assessment. Their worry was that the condition might be taken into consideration, possibly jeopardising the employee's future promotion opportunities.

Whilst younger employees were found to be less likely to participate in workplace health screening assessments or education–orientated health activities, this younger cohort was more likely to engage in exercise activities. This is consistent with the outcome of a similar study by Wilson et al. (1994), which investigated the characteristics of 2500 employees, 212 of whom participated in an organisational exercise programme and were significantly younger than the non–participants. Wu and Porell (2000) and Alexy (1991) also determined that younger employees have higher participation rates than older employees in exercise activities, and that they are more likely to attend employer–sponsored fitness centres when available.

The association between youth and participation is also explained by younger employees often having more free time and being less likely to have dependants or other family commitments. This can discourage participation, particularly if activities are scheduled outside work hours (Evandrou, Glaser, & Henz, 2002). In the current study, this association was found in the questionnaire and was continually cited by the 20 interview participants.

An alternative reason for younger employees being more likely to participate in exercise relates to younger people generally being more competitive. Shephard (2000) suggests that, compared with older employees, younger employees are more responsive to the competitive and social aspects of workplace exercise activities. When the competitive appeal of exercise activities was explored by Kaewthummanukul and Brown (2006) in their analysis of the literature relating to employee participation, older employees proved to be considerably more relaxed and, therefore, less likely to even consider engaging in an exercise activity offered in the workplace, let alone participate in one.

Exploring this point from a different perspective, Kolt, Driver, and Giles (2004) suggest older employees are less inclined to participate in workplace exercise activities because of a decline in their physical fitness. This reluctance to take part in exercise activities may, in part, be due to the fear of injury or concerns about aggravating or precipitating a particular condition, illness or health problem. Evidence supporting this suggestion is provided by Alexy's (1991) study involving 201 participants and non–participants in a workplace exercise programme;

where obesity, hypertension, and post–surgical issues were the most frequently–cited reasons for not participating.

The results of this investigation clearly indicate the importance of age as a predictor of employee participation in specific types of workplace health initiatives, namely, health screening assessments, education–orientated activities, and exercise activities. This information is useful for managers establishing which activities are more appropriate for different age groups in their organisation.

7.3.2 Gender and participation

Gender differences are commonly reflected in the choices of activities people make, and participation in workplace health promotion initiatives is no exception. Gender, as one of the individual variables investigated in this study, was associated with fitness testing, exercise activities, weight management programmes, counselling, and all of the grouped activities (total combined activities, education–orientated activities and behavioural change activities). Female employees were considerably more likely to participate in all of these activities, a result that is consistent with the outcomes of a number of previous studies (Desmond et al., 1993; Glasgow et al., 1993; Lemon et al., 2009; Lewis et al., 1996; Mavis et al., 1992; Petersen et al., 2008; Thompson et al., 2005).

Various explanations have been offered for why women are more likely to participate in health promotion initiatives. For the purposes of the current discussion, gender explanations have been separated into female–focused and male–focused considerations. Some authors suggest that, overall, women are more likely to take part in workplace health promotion activities because they are generally more aware of unhealthy lifestyle behaviours, and, therefore, more willing to attempt to change that behaviour when the opportunity arises (Vasianovich, van Teijlingen, Reid, & Scott, 2008). For example, female respondents in studies by Harris and Cale (2007) and Vasianovich et al. (2008) were more likely to participate in fitness assessments, an outcome that is reflected in the current study results. Having baseline measures has important implications for future health and fitness determinations, which women, with their relatively better health awareness, are more interested in, compared to their male colleagues (Vasianovich et al., 2008).

Similarly, current study results found a greater proportion of women were significantly more likely to participate in workplace weight management programmes. This finding is further supported in the barriers to participation, where men were more than twice as likely to believe they did not have a weight problem and, therefore, did not need to participate. These trends are not surprising given the outcomes of studies by Petersen et al. (2008) and Markey and Markey (2005), who suggest women are more inclined to evaluate their eating habits and ensure they are eating a balanced diet, regardless of whether or not they have an issue with their weight. A consistent finding in a number of other studies confirms that women are more concerned with their weight than men, and have a considerably greater perceived need to lose weight (Crawford, Owen, Broom, Worchester, & Oliver, 1998; French, Jeffery, & Wing, 1994). Serdula et al. (1993) found that, at any one time, between 70–90% of women are reported to be on a diet.

Women often have greater family, childcare, and household management commitments, and this consideration could explain why women were more inclined than men to participate in workplace exercise activities; particularly when the activities are scheduled during working hours when women had no family or childcare responsibilities. Further support for this outcome is evident in a study by King et al. (2000) involving 3000 North American women aged 40 years and older, which reveals that caregiving duties are the most prevalent barriers to participating in physical activities. This finding implies that women without children are more likely to participate in workplace health activities. This is an area worth investigating, as a better understanding of how gender affects participation rates could help managers to better direct their efforts in tailoring health promotion initiatives in the workplace.

The current thesis revealed that men had lower participation rates in fitness testing, exercise activities, weight management programmes, and counselling initiatives. One explanation for lower participation in fitness tests and assessments relates to men being more inclined to make self–judgements on their fitness or being less interested in knowing their fitness level. Advocates of fitness tests highlight the value of baseline measures in evaluating fitness components, progress and health status; however, men are often less likely to feel the need for this information and are, therefore, often less likely to take part in fitness testing (Harris & Cale, 2007).

Reasons why men were less inclined to engage in workplace weight management programmes, are partly attributed to men generally entertaining lower health awareness (Petersen et al., 2008; Markey and Markey, 2005), or to the idea that they feel considerably less inclined to justify their size if they are over or under–weight (Cash & Henry, 1995).

The demonstration of lower participation rates for men in workplace exercise activities in the current study can be explained, in part, by the previously mentioned difference in the health and fitness awareness between men and women. Further, men take part in more leisure–time exercise, as opposed to workplace and work–time physical activities each week, compared with women (Kouvonen et al., 2005).

Overall, female respondents were found to have higher participation rates than males in most of the workplace health initiatives assessed, and although, as previously mentioned, there is broad support for this outcome, there are other studies that reveal conflicting outcomes (Bagwell & Bush, 2000; Davis et al., 1987; Dishman et al., 2009; Robroek et al., 2009; Sloan & Gruman, 1988; Wu & Porell, 2000). The conflicting outcomes relate to men being more inclined to participate in workplace health promotion activities, particularly exercise activities. The delicate nature of differences in health activity participation rates is illustrated in a study by Grosch et al. (1998), who found even though women are indeed more likely to take part in workplace health promotion activities, the differences are small. This suggests that managers have more flexibility when considering what type of activities to implement as part of a workplace health promotion programme.

Further research to explore how the formula or presentation of any of these workplace activities might affect gender participation rate differences would be a useful adjunct to the existing literature. For example, are women more likely to take part in lunchtime yoga sessions, and men more inclined to participate in social rugby teams or indoor cricket matches?

7.3.3 Perceived health status and participation

Health promotion programmes generally attract people who are already committed to healthy lifestyles (Lerman & Shemer, 1996). Furthermore, individuals with higher self–efficacy are more motivated and therefore more likely to engage in health promotion activities (Lannon,

1997). It is also reported that employees with the greatest risk of health issues such as hypertension and cardiac disease are less likely to attend health promotion programmes (Kizer, Pelletier, & Fielding, 1995; Thompson et al., 2005; Zavela et al., 1988). However, other studies have tended to question these assumptions. Grosch et al. (1998) found that healthy employees are not consistently more likely to participate in health promotion initiatives when compared with unhealthy employees. Indeed, current study results established that perceived health status was not a major predictor of participation in any of the nine health promotion activities investigated. This was also reiterated in the barriers to participation, where perceived health status was not associated with any of the reasons for not participating. This finding corresponds with Robroek et al. (2009) who found no clear differences in the health–related status between participants and non–participants, which the authors suggest could be interpreted positively, as it implies that workplace health promotion programmes are able to reach not only healthy employees, but also those with greater health risks and possibly in greater need of health care interventions.

7.3.4 Perceived stress and participation

An employee's perceived stress, whether associated with personal or work–related issues, has the potential to affect their performance and productivity at work, and their participation in health promotion initiatives. The questionnaire used in this study found an employee's perceived stress was associated with fitness testing, counselling, smoking cessation programmes, total combined activities, and the group of behavioural change activities (which included exercise activities, alcohol and drug programmes, counselling, and smoking cessation programmes). Perceived stress was also associated with a number of barriers to participation including embarrassment, scheduling, knowledge, trust, self–efficacy, and work commitments.

Surprisingly, there was no association between perceived stress and participation in stress management programmes. However, this result supports the outcome of another study by Arthur (2005), which found low participation rates in workplace schemes designed to address workplace stress among employees who were actually experiencing high stress. This indicates that, in some instances, employees choose to address their stress in ways other than workplace stress management interventions, such as receiving private or employer–sponsored counselling. Indeed, in the same study, Arthur (2005) reports a significant proportion of

employees who experience stress at work seek help from a workplace counselling programme or an Employee Assistance Programme (EAP) service.

In the current study, perceived stress was not a predictor of participation in stress management programmes; however, it was found to be a significant barrier. Respondents with higher perceived stress were more likely to cite a lack of self–efficacy and a lack of trust in their managers or supervisors as barriers to their participation. Goldberg and Steury (2001) suggest this relationship is explained, in part, by stress promoting feelings of powerlessness and an increased prevalence of depression among employees. Conversely, and somewhat unsurprisingly, the current examination also found employees with lower perceived stress were more likely to cite a lack of need as their reason for not taking part. These findings further indicate that employees experiencing high stress do not take direct action in the form of participating in a stress management programme, but may be more inclined to do so if they have had success in the past with such initiatives and they are not threatened or concerned about any repercussions from their supervisors for taking part.

Stress is frequently cited as influencing smoking behaviours (Eriksen, 2005; Sarna, Bialous, Wewers, Froelicher, & Danao, 2005) and high perceived stress was also associated with the likelihood of participation in smoking cessation programmes. This association implies that employees with high perceived stress are more likely to attempt to control their smoking behaviours, perhaps because they are unable to control other stressors. Klesges et al. (1988) found smokers who make no attempts to stop smoking are more likely to endorse weight control programmes compared to smokers who actively try to stop smoking. It remains to be determined as to which of the following comes first; if stressed employees are more likely to smoke and try to stop smoking, or if smoking is the perceived stressor. This study has provided a starting point by highlighting that there is a relationship between higher stress and a greater willingness to stop smoking. This interpretation is further enforced by the barriers to participation, where no associations were found which limit or restrict a stressed employee, who is also a smoker, from taking part in a smoking cessation programme.

7.3.5 Perceived job satisfaction and participation

The question of whether job satisfaction contributes to higher participation in workplace programmes or whether participation in these programmes improves job satisfaction is

significant. In the current study, questionnaire results found that perceived job satisfaction was positively associated with employee participation in workplace counselling and other behavioural change activities, which were more intensive and required greater personal commitment (exercise activities, alcohol and drug programmes, and smoking cessation programmes).

This result has important implications for managers by demonstrating that employees who are more content in their job are significantly more likely to address negative health issues by participating in workplace health promotion activities, particularly those requiring a substantial personal commitment. Furthermore, job satisfaction had no significant influence limiting or restricting participation in any of the nine activities investigated. Therefore, strategies designed to improve overall job satisfaction among employees not only improve staff retention and productivity (Matzler & Renzl, 2006), but also encourage employee participation in more intensive health promotion activities.

Little other comparative evidence was found to support the association between job satisfaction and potential increases in participation rates in health promotion activities. However, a study by Peterson and Dunnagan (1998) analysed the outcomes of a workplace health promotion programme on 1283 university employees and found that considerably more participants than non–participants appreciated the value that health programmes had on advancing their health and well–being.

7.4   Social variables associated with participation

7.4.1 Perceived co–worker support and participation

Existing literature suggests that social support predicts participation in workplace health promotion programmes, as studies identify that a common reason for participating in activities, particularly workplace exercise activities, is the social interaction and support from friends and colleagues (Bryan & Rocheleau, 2002; Hersey et al., 2008; Kirkby, Kolt, Habel, & Adams, 1999; Thogersen–Ntoumani, 2009). However, the questionnaire used in the current study found that social variables (co–worker and supervisor support) did not have the same influence on participation rates as have been previously reported, and the effect of these social variables on participation were considerably less than the effect of individual and

organisational variables. Co–worker support was not strongly associated with participation in any of the nine activities investigated, and supervisor support was only found to predict employee participation in stress management programmes. Similarly, the interview outcomes provided further evidence that social support had little influence on participation.

This lack of association between co–worker support and participation in health promotion activities suggests employees in New Zealand are less concerned than other populations studied with the social aspects of participating in workplace health activities, This could indicate that either employees have an existing relationship with their colleagues already and that taking part in a health promotion activity with them has no added social value, or that they choose to participate in health promotion activities regardless of whether or not they have company for the activity. This assumption is further supported by the relationship found between co–worker support and the reasons for not taking part. Indeed, results in the current study found employees with higher co–worker support were more likely to cite a lack of need to participate in certain activities, in this case stress management and counselling interventions. This indicates employees are more inclined to deal with these issues with the help of their friends and colleagues, rather than a health promotion programme. However, employees with lower perceived co–worker support are more likely to cite various excuses, including inconvenient scheduling, a lack of self–efficacy, and a lack of trust in managers as reasons for not taking part in more sensitive activities such as counselling and alcohol and drug management programmes.

Lee (1993) suggests that a lack of association between social support and participation is not unjustified, particularly in exercise activities as women are more likely to exercise alone rather than in groups. The same idea is also reflected in another study by Ball, Salmon, Giles–Corti, and Crawford (2006), who report that women are likely to appreciate the opportunity of spending time alone while they exercise. Moreover, Zunft et al. (1999) found that the idea of exercising with others is a common barrier to participation for older women, and suggests that this cohort is more motivated to exercise when they do not have friends or colleagues exercising with them. Another possible explanation may relate to lower co–worker support being associated with a lack of knowledge about exercise activities, as found in the current study results. This suggests that the popularity of exercise activities is particularly partial to word–of–mouth and more informal communication by way of colleagues simply talking to one another.

7.4.2   Perceived supervisor support and participation

Perceived supervisor support, the other social influence explored in this investigation, emerged as being significantly associated with employee decisions to participate in workplace stress management programmes. Although several studies have investigated the influence of supervisor support on employee stress (Anderzen & Arnetz, 2005; Kobayashi et al., 2008; Renaud et al., 2008), few have examined the relationship between supervisor support and participation in workplace stress management programmes. Another study demonstrating that perceived supervisor support can predict employee participation in stress management programmes, also found that an association was more prevalent among white males in higher level positions (Crump et al., 1996).

The association between supervisor support and participation in stress management programmes could stem from employees who are experiencing high perceived stress and who believe their supervisor has some control or influence on their stress. Having their supervisor's support encourages them to participate in a stress management programme. Considering this point from another angle, higher supervisor support was significantly associated with a lack of need for stress management programmes when the barriers to participation were analysed. Conversely, employees with lower supervisor support were significantly more likely to cite a lack of trust in their manager as a reason for not taking part in a stress management programme.

In addition to this, perceived supervisor support affects an employee's decisions not to participate in health promotion activities more strongly than their decisions to take part. A lack of trust in managers was continually cited in the questionnaire as a reason for not participating, suggesting even when employees believe they could benefit from a particular health intervention; they are still very reluctant to take part, despite the benefits.

In the same way, another barrier to participation cited by interview participants in the qualitative study, and repeated when asked how participation could be maintained, was the need for someone to monitor the programme, ensure staff are continually informed and maintain the programme's visibility within the organisation, in the same way that mandatory occupational health and safety requirements should be upheld. These suggestions further indicate supervisor support should include more than just a manager verbally reassuring an

employee or giving them a token reward, but should demonstrate an ongoing commitment to the programme's success. This point was supported by Seaverson et al. (2009) who found management support was also associated with successful programmes and a strong performance in employee health outcomes.

Perceived supervisor support was related to a number of reasons cited for not taking part in various activities, but the lack of stronger associations between co–worker or supervisor support predicting participation in more activities could also relate to the large size of the five organisations involved in both the questionnaire and the interviews. Glasgow et al. (1990) found that smaller worksites with greater perceived supervisor support were predictors of employee participation in workplace smoking cessation programmes. Further investigation may confirm whether smaller organisations support a greater association between supervisor support and participation in stress management and other health promotion programmes.

7.5   Organisational variables associated with participation

As with the individually–orientated variables, the organisational variables investigated (perceived health climate and perceived job flexibility) were found to have a considerable influence on the employee participation rates in several workplace health promotion activities.

7.5.1   Perceived health climate and participation

Organisational climate refers to an employee's work environment, which influences their work–related attitudes and behaviours (Ngo, Foley, & Loi, 2009), and health climate is one component of the overall organisational climate. In the quantitative study in the current study, a more favourably perceived health climate was associated with an increased likelihood of employee participation in a wide range of the workplace health promotion initiatives offered, including exercise activities, health seminars and the grouped activities (total combined activities, education–orientated and behavioural change activities). This indicates that the perceived work environment has considerable importance in creating an atmosphere that supports making and sustaining positive health behaviour changes. Positive perceptions of an organisation's health climate encourage increased confidence among employees that their workplace will not jeopardise or hinder their attempts to adopt healthier lifestyle behaviours. For example, a completely smoke–free work environment is beneficial for

employees effectively completing a smoking cessation programme. This point is further strengthened by the reasons cited for not participating. Employees with more positive perceptions of their organisation's health climate were significantly less likely to need counselling or health screening interventions. Conversely, those with more negative perceptions cited embarrassment, insufficient knowledge, a lack of self–efficacy, and a lack of trust in their managers as barriers to their participation. This finding has important implications for managers by strengthening the possibility that if workers believe that their organisation is concerned with their health, they are more likely to participate in health promotion interventions when offered.

The notion of the perceived health climate influencing participation is seen in studies recognising the benefits of taking a more holistic view towards the programmes. This includes developing and creating awareness of the activities available to encourage employees to participate, and subsequently remain with the programme (Yassi, 2005). This point is emphasised by considering the association between health climate and education–orientated activities, as found in the current study results. Education–orientated activities are somewhat redundant if the organisational environment does not support healthy lifestyle practices that might encourage employees to at least attempt to adopt the newly learned information. For example, a seminar on balanced nutrition is significantly less effective if the organisation, while informing employees of the benefits of healthy eating, continues to stock on–site vending machines with unhealthy food choices. A workplace environment that is perceived to support health promotion efforts could enable employees to feel comfortable enough to begin to make lifestyle changes after attending a health seminar or having a health screening assessment.

Social support was not strongly associated with most of the activities investigated in the current study, however; the importance of perceived supervisor support is demonstrated by the impact on organisational climate perceptions, where supervisor support and input is fundamental. Organisational climate, particularly in terms of obvious supervisor support, influences employee participation in health programmes insofar as the programme is viewed as an organisational goal (Lovato & Green, 1990). Dishman et al. (2009) suggest supervisor support intersects with the concept of organisational climate in that employee perceptions of their supervisor's support in participating in health promotion activities play a key role in formulating perceptions of an organisation's health climate. This highlights the importance of

managers understanding how employees build an impression of health climate perceptions including the organisation's culture, norms, values, underlying health–related attributes, and physical attributes. Reinforcement strategies for managers to consider involve ongoing health promotion activities, frequently recurring activities, awareness interventions such as posters, emails, pamphlets and other informative material detailing health–related issues or events.

7.5.2   *Perceived job flexibility and participation*

The finding that perceived job flexibility was positively associated with participation in total combined activities, and the education–orientated group of activities, supports that found in the study by Heaney and Inglish (1995) who investigated employee participation in workplace fitness centres. They suggest job flexibility characteristics associated with specific jobs include having greater flexibility in scheduling work tasks and having higher autonomy. Similarly, a five–year investigation by Rost et al. (1990) involving 679 employees found employees with greater work–time flexibility are considerably more likely to participate in workplace health promotion programmes.

The association between greater job flexibility and employee participation in programmes demonstrates that health promotion programmes are more effective in organisations where employees have greater control over scheduling their work requirements and structuring their day. The reasons cited by current study respondents for not participating in general health promotion activities were, specifically, a perceived lack of time and external family commitments taking priority when time is limited, and confirm that increased job flexibility supports employee participation in workplace health activities. Grzywacz, Casey, and Jones (2007) report that workplace flexibility contributes to positive lifestyle behaviours among employees, and thereby plays a crucial role in developing an effective workplace health promotion programme. Moreover, when perceived job flexibility was analysed against the barriers to participation in this study, respondents with higher job flexibility were found to be significantly more likely to cite a lack of need as their reason for not taking part. This finding indicates some employees have the flexibility to deal with health issues outside the workplace, and are able to utilise a non–workplace service during the working day. Conversely, employees with lower job flexibility who are forced to participate in a more sensitive workplace health intervention such as counselling at work, because they are unable to leave work to take part off–site, were significantly more likely to cite feelings of

embarrassment, lack of self–efficacy, lack of trust, and work commitments as their reasons for not taking part.

As was found with the relationship between other variables and employee participation rates, the characteristics of the five organisations involved in the current study may have influenced the outcome of increased job flexibility with likely increases in employee participation. This is because white–collar workers, those who took part in this study, reported greater job flexibility, compared with blue–collar workers (Glasgow et al., 1993; Morris et al., 1999). Strong evidence reflecting this point was also found in the interview outcomes where service personnel with very little flexibility in their schedules found it difficult to participate in the health interventions available, whereas managers who were interviewed readily admitted they found it considerably easier to take part because of the flexibility in their schedules and autonomy in how they structure their day.

7.6   Barriers to participation

Each activity in the range of health initiatives investigated was found to be associated with very specific barriers preventing or limiting employee participation. This provides further evidence of the complexity associated with employee participation in workplace health promotion initiatives, and confirms the need to investigate multiple health activities in order to more fully understand the factors related to participation. It is argued that this is where the current study provides the greatest contribution to existing knowledge.

Understanding the possible barriers to employee participation in workplace health initiatives is essential in assisting managers to tailor programmes and the work environment to maximise participation. For instance, given that several studies, including the current study, have shown that women are more likely than men to participate in health promotion activities, it is particularly important with a predominantly male workforce to understand and minimise or remove barriers to participation in these programmes in order to maximise the number of employees taking part.

The reasons a discussion on the barriers to participation is presented separately from the predictors of participation is to offer the reader an explanation of why key predictors are in place but the organisation still experiences low participation rates. Previous studies highlight

the need to specifically address the perceived barriers to participation to encourage initial participation and maintain employee involvement (McLeroy et al., 1988; Person et al., 2010).

7.6.1 Inconvenient scheduling

Inconvenient scheduling was a major reason for not participating in many of the activities investigated in the current study, including fitness testing, exercise activities, health screening assessments, health seminars, and weight management programmes. The current thesis did not explore the timing of activities. However, regardless of when an activity is scheduled, the current study findings illustrate that participation is hindered by work commitments if the activities are scheduled during work hours and by family commitments if the activities are scheduled outside work hours. This finding supports previous research by Kotarba and Bentley (1988) and Jewson, Spittle and Casey (2008) in which both studies found a lack of time because of personal responsibilities as the most common barrier to participation.

The current study findings imply that scheduling activities during work hours is effective when employees are able to include the activity in their work schedule. This point appeared in both the questionnaire results and interview outcomes. Crump et al. (1996) found employees are more willing to participate when they are given time off work, as scheduling difficulties present less of a problem for employees wanting to take part. Reger et al. (2009), in their study of a 12–week health promotion programme offered to university staff, found that the most convenient time to schedule health screening assessments is during work hours. They also add the importance of scheduling activities to accommodate work schedules, ensuring that the activities are of short duration and are repeated during the day (for example, morning, noon and early evening) to eliminate any scheduling barriers that reduce participation.

One of the five organisations involved in the current study had a large proportion of call centre workers, with many reporting they were unable to find another employee to cover their work duties when they wanted to attend a health programme on offer. This indicates some activities suffer from lower participation rates in workplaces where the employees are physically required to be at their workstations during working hours when the activities are scheduled.

Interestingly, inconvenient scheduling or poorly timed activities were found to both help and hinder participation. Despite the apparent duality of timing, inconveniently timed activities pose a greater hindrance to participation because a considerable number of other factors, such as work commitments, deadlines, job requirements, and family responsibilities, most commonly provide the reason why the timing of an activity is inconvenient. The interview participants involved in the current study frequently cited different times for when activities would be convenient for them, indicating the only possible way to minimise the excuse of inconvenient timing was to schedule activities at multiple times. This finding adds further support to previous studies that also demonstrate the importance of scheduling activities at several different times throughout the day (Carnethon et al., 2009; Morrow, McElroy, & Elliott, 1994).

Palank (1991) and Hughes and Parkes (2007) found greater job flexibility was conducive to higher employee participation rates in exercise activities. In the current study, a perceived lack of job flexibility was a frequently–cited barrier to participation, providing further evidence that work constraints prevent or limit participation. Employees with higher job flexibility are more able to schedule their workday in order to participate in health interventions. This is obviously a major advantage for employees who are interested in participating. Timing issues are less apparent for employees in supervisory or managerial roles where they have an increased ability to schedule their working day, irrespective of their work commitments. Indeed, this point was cited frequently among the interview participants, who also stated that in some cases using inconvenient scheduling and a lack of job flexibility was simply an excuse for not participating. However, it is apparent that within all organisations, some employees find the time to participate more easily than others.

7.6.2   Work commitments and a lack of time

The current study findings revealed that employee participation in workplace health activities is limited by a perceived lack of time due to work commitments, an outcome common to several previous studies (Lemon et al., 2009; Lovato & Green, 1990; Kwak et al., 2006; Mavis et al., 1992; Strange et al., 1991b; Wilson, 1990). Lemon et al. (2009) found that, among 1593 hospital employees, decisions to participate in weight control programmes, exercise activities, and nutrition information seminars were significantly hindered by a lack of time due to work commitments. In addition, Strange et al. (1991b) assessed 505 employees

186

participating in various workplace health promotion activities and found in their sample of predominantly office workers, as in the current study, time away from work is seen as an undesired distraction from their primary responsibilities.

Some authors suggest an actual lack of time is not the reason for not participating in workplace health promotion activities. This point was put to the 20 interview participants for comment; most agreed a typical excuse for a general lack of interest in an activity was to cite a lack of time due to work commitments. Again, most interview participants agreed a lack of time is a commonly used excuse covering another reason for not taking part. It is argued this excuse is minimised if employees are given time away from their work requirements to take part. However, managers may find it difficult to challenge an employee who would rather continue with their work schedule.

Lovato and Green (1990) suggest low attendance rates in some activities signal that the activity is unappealing to large sectors of the working population, or that joining the activity is inconvenient for large numbers of employees. Further evidence is provided by Mavis et al. (1992) where two–thirds of non–respondents in their study cited time constraints as their reason for not participating; however, these authors note that although employees frequently have a genuine shortage of extra time in which to participate, it is possible that employees regard attending a health promotion activity at work as a low priority when arranging their working day. Similarly, Bowles et al. (2002) found a perceived lack of time was the most frequently–cited barrier to participation in exercise activities; their study comments that this is most often due to busy work demands, but also report that the perceived lack of time is actually a lack of self–motivation, and that a lack of time was given as an excuse. Some authors propose that citing a lack of time as the barrier to participation in these activities is a convenient pretext for not wanting to take part and being unwilling to admit it (Kouvonen et al., 2005).

7.6.3 Family commitments and a lack of time

A major disparity between the predictors and barriers to participation was caused by social factors influencing the reasons not to participate, when they were found to have little significant influence on the predictors of participation. Family commitments taking priority over participating was cited in both the questionnaire and the interviews. General comments

from the interview participants related to family commitments taking priority when activities were scheduled outside of work hours. Previous studies suggest this reason is more common among women (Ball et al., 2006; Desmond et al., 1993; Schwetschenau et al. (2005). Ball et al. (2006) also found that women worry and suffer feelings of guilt and selfishness when they put activities like exercising ahead of their family commitments, and this discourages them from exercising. Jewson et al. (2008) acknowledge that participation for women is further restricted because they are over–burdened with work and parenting commitments.

A notable finding in the interview outcomes suggests the type of organisation has an effect on the severity of family commitments acting as a barrier to participation. The company involved in the interviews had a high proportion of staff that had families, and therefore external family commitments. Hence, offering activities within work hours was frequently cited. However, in workplaces where the proportion of staff with families is low, activities offered outside of work hours are more successful. This area would benefit from further research.

7.6.4 Lack of knowledge or information

A lack of knowledge was identified in the current study as a dominant barrier to employee participation in fitness testing, health seminars, stress management programmes, and smoking cessation programmes. This lack of knowledge relates to the practical details regarding the activity, place or time of the presentation or activity, not fully understanding what the activity or initiative involves and what the initiative seeks to achieve, or what is required of the participant. In addition, some employees do not know how to access the information required, or they ignore the information that is given to them. Any of these possibilities could explain why a lack of information or knowledge was a strong barrier to participation. How the information is provided, as well as how the information is received, are important when considering how to overcome the barrier regarding a lack of knowledge about a workplace health activity.

Willemsen et al. (1999) suggest the location of informative material is of considerable strategic importance in encouraging participation in health promotion activities. Their study recommends that comprehensive information should be circulated widely, frequently, and repeatedly to fully inform employees about an activity. Such efforts are perceived to enrich the workplace environment and create a culture and climate that facilitates participation.

Improving the provision of information to employees using multiple channels is also shown to positively influence participation. Glasgow et al. (1988) had success in recruiting participants to a worksite smoking cessation programme by means of posters, pamphlets, and in–house memos announcing the availability of the programme; this approach recruited 60% of the employee smoking population across a number of different organizations.

Circulating information with generic rather than specific details about an activity also affects participation. For example, an employee who dislikes having blood taken could perceive any health screening assessment to involve needles, whereas this may be an incorrect assumption for the health assessments offered in their workplace. The current study results from the quantitative study found that fear caused by lack of knowledge can have a direct result on an employee's choice not to participate, or make them less willing to rearrange their responsibilities or workday to participate, possibly citing inconvenient scheduling as a reason for not taking part. Other examples were found in the interviews, where employees were interested in utilising the counselling services available but were often unclear about the service and therefore reluctant to participate.

7.6.5 Embarrassment

Another reason cited for not participating was the feeling of embarrassment. This was particularly evident for workplace counselling services.

Embarrassment preventing participation in counselling services is indicative of the New Zealand culture, where emotional issues are typically kept private, and individuals tend to be more self–conscious about outwardly acknowledging such issues. Some people are reluctant to take part in any counselling intervention, preferring to deal with any emotional issue without external help. The current study findings indicate that personal or emotional problems, as with alcohol and drug issues, are considered outside an employer's control or influence. Howard, Tuffin, and Stephens (2000) found this is also particularly evident among police officers.

Current study findings also illustrate that even employer–sponsored counselling services located outside an employee's workplace are ineffective if employees believe their supervisor could use their health information inappropriately, or it will affect their future career

ambitions. Making use of a counselling intervention is particularly difficult when an individual is embarrassed about being unable to address the issue themselves, and become even more difficult if the counselling intervention is offered at work.

Feelings of embarrassment also contribute to low participation in alcohol and drug programmes. This may have related to the demographics of the organisations involved in the current study; the organisations were large corporate environments, and alcohol and drug issues are not as common in this sector as in the more labour intensive blue–collar industries (Berry, Pidd, Roche, & Harrison, 2007). Feelings of embarrassment and shame, and the perceptions of others as having an alcohol or drug problem are common (Coombs & Coombs, 1991), and it is likely that the stigma attached to alcohol and drug–related issues contributes to low participation in these interventions.

7.6.6 Lack of self–efficacy

A lack of self–efficacy, or not believing the programme will work because the employee would not be able to comply with it or achieve a desired outcome, was identified as the main barrier to participating in smoking cessation programmes. This result is consistent with the findings of McNeill et al. (2006) who found that self–efficacy is even more important under challenging circumstances such as trying to stop smoking. The influence self–efficacy has on behavioural change is further supported by Brod and Hall (1984) who, in very early health promotion research, found a link between self–efficacy and participation in workplace smoking cessation programmes. Their study of 108 smokers, who were both participants and non–participants in a workplace smoking cessation programme, established that participants had significantly higher perceived self–efficacy compared to those who decided not to take part. In addition, Brod and Hall (1984) suggest that participants who believed they possessed the necessary skills to successfully change their smoking behaviours are more likely to join this type of intervention.

Addley et al. (2001) regard smoking as the most difficult behaviour to change, compared with encouraging exercise habits, healthy dietary habits and moderating alcohol intake. Moreover, Willemsen et al. (1999) report this difficulty in changing a behaviour affects employee participation in workplace smoking cessation initiatives. If an individual believes smoking is more beneficial than not smoking for weight control reasons, or that they have a

psychological need to smoke, then encouraging that person to modify that behaviour is considerably more difficult. Similarly, if a person believed he or she is unable to stop smoking, then implementing other motivators, incentives or initiatives will have little effect, unless their personal beliefs can be changed. Bandura's Self–efficacy Theory (Bandura, 1997) provides theoretical support that assumes a person's willingness to modify behaviour is dependent on their attitudes towards their actual behaviour and their desired behaviour, their perceived social influences, and their personal belief in actually being able to perform the new desired behaviour.

The implications of the complexity involved in behaviour modifications are that managers should be aware of how personal beliefs influence employee decisions to engage in interventions involving behavioural change. For example, higher perceived stress was not found to affect stress management programme participation, but it clearly influences participation in smoking cessation programmes. The problematic nature of evaluating the expectations and beliefs of a workforce is somewhat overcome by Lovato and Green (1990) who advise that asking people about their expected health behaviour is the best way to predict these expectations, in their case, exercise participation and adherence. The authors support their approach with evidence suggesting self–efficacy ratings are accurate predictors of adherence and relapse. The same strategy could be applied to predict participation in smoking cessation programmes where self–efficacy was a strong predictor of participation.

7.6.7 Lack of trust

Issues surrounding confidentiality, including a lack of trust in managers having access to an employee's health information, emerged as a major barrier to participation in health promotion activities among the 20 interview participants. Similarly, in the questionnaire, a lack of trust emerged as the strongest barrier to employee participation in workplace alcohol and drug programmes. The importance of trust is supported by Lovato and Green (1990) who suggest an organisation's commitment to confidentiality is vital in achieving and maintaining participation rates in these programmes. Tthe most prevalent reason for employees not participating in alcohol and drug interventions when they are offered in the workplace is not trusting supervisors or managers with the knowledge they have an alcohol or drug problem.

This sentiment reflects the sensitive nature of alcohol and drug problems in society, and has considerable implications for managers. The degree of influence and the right to influence is obviously a relevant factor relating to an employee believing that their behaviour outside the workplace is their own business. Current study results identifying a lack of trust discouraging employee participation in alcohol and drug programmes further demonstrates issues explored in previous studies that question the validity of managers being involved in what an employee does in their own time. For example, in their investigation of workplace substance abuse and prevention, Hersch et al. (2000) report maintaining confidentiality is a major concern among employees, and is more evident among employees with unique job titles or other easily identifiable characteristics.

The association between trust and participation, as evidenced in this thesis, also supports the findings of previous studies by Reynolds and Lehman (2008) and Konovsky and Cropanzano (1991). Employees with alcohol or drug issues are concerned it will affect their employment status, future job opportunities or chances of promotion, and it is highly likely that employees could feel that their chances of promotion are jeopardised if they were to attend an alcohol or drug management programme. Harlow (1998) reports that employees are more likely to make use of an EAP service to address alcohol and drug issues if they are confident that participation will not have a negative impact on their career. Harlow's investigation found that employees frequently believe that information discussed in a counselling session is passed on to managers. Concerns that participation in more sensitive health initiatives will have detrimental effects on future career prospects are also evident in a study by Athanasiades et al. (2008), who found that perceived trust and confidence in the programme are significant predictors of employee participation in a counselling initiative such as an EAP service. These concerns are reiterated by Carroll (1996) who suggests an employee's perception of the potential consequences of using an EAP or counselling service on their career progression is a significant deterrent to their willingness to use that particular service. The association between trust and participation signifies that programmes designed to address sensitive health issues are considerably more likely to suffer from low participation rates because of incorrect perceptions and fear on the part of the employees. Current study results identified that younger interview participants in the qualitative study attached a negative stigma to counselling services, whereas older interviewees were obviously more comfortable with the idea. This would indicate that to encourage participation in these types of interventions, it is

advisable that managers spend time reassuring employees that any participation is strictly confidential.

The large organisations involved in the current study may have influenced the low participation rates for programmes addressing sensitive health or lifestyle issues. As Elliott and Shelley (2006) found, employees in smaller businesses are more willing to self–disclose problems about drug and alcohol issues, suggesting smaller organisations have the advantage of employees working more closely together, enabling them to develop stronger relationships and increased trust. However, on the other hand, larger organisations have the advantage of anonymity. Further research in this area should be directed at exploring the relationship between the size of an organisation and its effect on an employee's perceived trust and their participation in health programmes.

A lack of trust is highly dependent on an individual organisation, rather than being a factor found in all organisations. The frequency of this barrier among the 20 interview participants was more pronounced compared with the questionnaire respondents; indicating some organisations experience this problem to a greater extent than others. On the other hand, a lack of trust may not be a company–wide issue but more divisional, in which case, it is argued that managers indeed have a strong, albeit indirect, influence on participation. This was clearly evident among the 20 interviewees, some of whom had strong reservations about their managers being privy to their health information, while others had no concerns whatsoever and trusted their manager implicitly. If lack of trust is evident in a particular organisation, the current study findings could infer that addressing the problem across an entire organisation is not always necessary or effective. Rather, if the problem stems from the attitudes of a few managers or supervisors, the entire organisational culture is not necessarily suffering from a lack of trust.

One finding from the interview outcomes was that staff who had been with the organisation for many years did not cite trust as a barrier to participation. In fact, interviewees who had been with the company for many years had a considerable level of trust in their senior management team. One interviewee (M13) had been with the company for a considerable period of time and was adamant that trust was not a barrier to participation, suggesting trust in managers can change over time. Lewicki, McAllister and Bies (1998) state that trust within an organisation concerns employee confidence and the positive expectations employees have

about the intentions and likely future actions of their managers or supervisors, implying that a workplace with low staff turnover does not experience the same lack of trust barrier to participation.

7.6.8   Inconvenient locations

An unexpected barrier to participation, one that was not prominent in the literature, was the location of various activities.   In the questionnaire, inconvenient locations were frequently cited as a reason why employees did not participate in general workplace health promotion activities.   This finding was apparent in two of the five organisations involved, indicating that activities were not always available to all employees, only those who can access the activity or facilities.   In those two organisations, a wide range of comprehensive activities were offered to employees; however, employees working in Auckland were considerably more advantaged as activities were predominantly located in the Auckland area.   Some employees were annoyed by this which is, in part, related to the social phenomenon among New Zealanders living outside of Auckland and the resentment of the perceived benefits, financially and otherwise, they believe those living in Auckland experience (Carter, Craig, & Matthewman, 2004).   Similar concerns over the lack of access to activities and facilities were identified by Lewis et al. (1996), who found that off–site programmes, particularly exercise programmes, reduce the number of individuals who might participate in the activity.   The same access concerns are described by Giles–Corti and Donovan (2002), who also found the likelihood of participating in exercise activities decreases if access to facilities is more difficult.   These earlier studies, concur with the quantitative study findings, and provide further proof that any difficulties in physically getting to a health promotion intervention will have a profoundly negative effect on participation and attendance rates.

7.6.9   Perceived lack of need

In the current study a decision was made to exclude questionnaire respondents from the logistic regression analysis who stated they had no need for a particular health promotion activity. Further investigation of the data revealed that most respondents who stated they did not need a smoking cessation programme, for example, were indeed non–smokers. However, despite a large proportion of non–participants having no need to participate, some employees continue to practise unhealthy lifestyle habits, such as smoking, and do not believe they need

194

to participate in a smoking cessation programme. Groeneveld et al. (2009), who investigated participation among employees with a higher risk of cardiovascular disease, found non–participants also cited a lack of need and feeling healthy as their reasons for not taking part. However, further investigation revealed many of these employees suffered from high cholesterol and/or high blood pressure. The authors concluded that personal risk perceptions are often inadequate, and a substantial mismatch often exists between actual and perceived risk and need for a health intervention, which is most often caused by insufficient knowledge. This point was clearly evident in a comment made by one of the 20 interviewees (M6) involved in the current study. His rationale for not participating in a smoking cessation programme, despite being a smoker, was a belief that he could indeed stop smoking without attending any such programme. More importantly, he had no intention of giving up the habit.

A perceived lack of need is a difficult challenge for managers trying to maximise participation. However, when this point was raised in the qualitative study, the majority of the 20 interviewees, and both managers and employees in non–managerial positions, thought that managers would approach a high–risk employee if they have concerns about their job performance, albeit the approach must be in a non–confrontational and sensitive manner. Personal habits that affect other staff members' safety warrant a manager to intervene; for example, alcohol or drug use affecting the ability to safely operate machinery, as was required by employees in the company involved in the qualitative study. However, it is suggested that personal habits which do not affect the safety of others are either of less concern or beyond the scope of a manager's ability or readiness to intervene.

7.7   Maintaining employee participation

The reasons employees chose to leave an activity after a certain period of time, and ways to maintain their participation were explored in the interview phase of the data collection process. Applying an ecological approach to the interview outcomes suggests that the reasons employees leave an activity are dominated by individual factors, including a lack of personal motivation, boredom, and changing priorities over time. However, the majority of factors encouraging ongoing participation are organisational influences, most often involving ongoing communication with staff, constantly changing what is offered to staff, and providing participants with ongoing incentives.

7.7.1 Incentives and motivation

Davey, Fitzpatrick, Garland, and Kilgour (2009) investigated the factors motivating New Zealand university employees to participate in on–site exercise activities. Intrinsic motivators included competence, being interested and continuing to enjoy the programme, while extrinsic motivators were actions performed in order to gain a reward or incentive. Their findings concur with the current study results, which determined that a lack of personal motivation and boredom are strongly related to participation.

A strongly recurring theme apparent from the interview outcomes was the belief that participation is more easily maintained if the organisation offered incentives to staff. The organisation involved in the interview process did not provide staff with monetary incentives to secure their involvement, but frequently provided t–shirts and other memorabilia related to the activity or intervention. Incentives can take the form of gift vouchers, coupons, merchandise, time off, awards, and recognition (Taitel et al., 2008). Other current studies, particularly North American investigations, provide monetary incentives to staff. Seaverson et al. (2009) explored the influence of monetary incentives on participation in health screening assessments across 36 different organisations and found incentives offered ranged from between US$50 and US$100. In contrast, according to the eight consultants interviewed in the preliminary study presented in Chapter Three of this thesis, monetary incentives were not considered normal practice to entice participation in New Zealand organisations. Interview participants in the qualitative study commented that "people always want to be praised" and that recognition and a "pat on the back" were effective forms of incentives within their organisation. Indeed, this finding supports Taitel et al. (2008) who cited the 127 organisations involved in their investigation commonly used recognition as an incentive to continue to take part in activities.

As with continually modifying and changing a programme to maintain employee interest, continuing to offer employees incentives is another effective way of maintaining their participation over time. One interview participant in the current study (M2) stated, "You'd need to have a reward type of system for continued attendance. It should be quarterly at three, six and nine months. Any form of recognition from the company saying 'good on you' will keep people participating". The same approach has been effective in smoking cessation programmes (Volpp et al., 2009). The authors of that investigation used monetary incentives

to encourage employees to remain smoke free: $250 if an employee could stop smoking within six months, then $400 for every six months they were able to abstain from smoking. It would appear, however, that public acknowledgement or recognition is a more effective incentive. Volpp et al. (2009) also determined that offering financial incentives had a significant impact on short–term smoking cessation rates, however, did not translate into long–term cessation.

Following from this point, other researchers investigating the value of incentives commonly find such extrinsic motivators, particularly financial incentives, are useful in securing short–term participation, but have minimal effect on long–term behavioural changes or continued involvement in a health promotion activity or intervention. In fact, some authors believe they have a negative effect on long–term programme adherence (Davey et al., 2009; Frederick & Ryan, 1993; Robison, 1998; Seaverson et al., 2009). Robison (1998) suggests the most frequent reason for this relates to incentives or reinforcements being related to outcomes as opposed to behaviours. For example, financially rewarding employees for losing weight can lead to increased adherence in a weight loss programme in the short term but provides little ongoing or long–term direction for developing the appropriate behaviours to maintain their desired weight or to lose more weight. Gaither et al. (2009) expanded on this idea stating that although extrinsic rewards and incentives have an initial appeal, internal motivators are more strongly associated with long–term involvements, because participation is strongly affected when the incentive is removed. Robison (1998) referred to this as organisations creating an artificial culture when the incentives provide motivation for employees to engage in activities in which they would not normally be involved.

7.7.2 Communication

Ongoing communication providing staff with continuous information, feedback and support, and asking staff for suggestions and improvements, is fundamental to maintaining participation rates. This was very apparent among the interview participants, some of whom remembered activities were available to them only after they were provided with the list of nine activities included in the questionnaire. The interview outcomes demonstrated that direct communication appears to be more beneficial than traditional forms of promotion like emails, worksite posters, and web site advertising (Taitel et al., 2008).

An interesting observation highlighted by Seaverson et al. (2009) was that financial incentives played a key role in encouraging initial participation in health screening assessments. However, this was in conjunction with continuous communication with staff. The influence of ongoing communication between managers and staff also finds support in the current study where interview participants cited communication as a recurring theme to secure long–term involvement in multiple health interventions. The relationship between effective communication and successful workplace health promotion programmes is not unique to this study. Indeed, the link between communication and employee participation is frequently cited (Goetzel et al., 2007; Taitel et al., 2008).

7.7.3   Continuous change

The interview respondents involved in the current study frequently cited the need for someone within the organisation to constantly drive the programme. Part of keeping the programme visible, which was suggested in the interviews, is to ensure continuous improvements and the development of any health promotion initiatives available to staff. This will also help alleviate the problem of employees leaving an activity because of boredom. This outcome adds to existing evidence documented by Taitel et al. (2008) who explored the factors associated with employee participation in health screening assessments. One finding that emerged from their investigation was the need for a 'champion' to take a leadership role to encourage others to have their health assessed. Champions are described as leaders from any level of the company who were recognised by their peers and colleagues as having an influential relationship with fellow employees. The same theme was expressed by interview participants in the current study, providing further support for not only continually changing a programme to keep it interesting over time, but also having a person within the organisation in a position of influence to ensure employees are aware of the changes, and perhaps more importantly, are satisfied with how the programme is developing over time.

7.8   Practical implications for managers

A major focus of this study is to provide practical recommendations for managers who are either considering implementing a new health promotion programme in their organisation, or seeking to improve participation in the activities currently available to staff. Davey et al. (2009) conclude there are two relatively distinct streams of research in workplace health

promotion programmes, particularly in exercise initiatives. One stream of thought deals with theorising about the motivation encouraging healthy behaviour, the other is more focused on the practical implications of implementing health promotion activities in workplace settings. This thesis adopts the latter approach, while recognising the necessity of basing practical implications and recommendations on a sound theoretical platform.

In a study by Goetzel, Luisi, Ozminkowski, Roemer and Taher (2008) the authors found that employers believe health promotion programmes have beneficial outcomes for employee health and health care costs, but they are unaware of which programme elements are the most cost–effective and achieve the greatest benefit. Both of the latter concepts are dependent on effective employee participation rates. Moreover, many employers are at a loss when attempting to implement effective health promotion programmes. To assist managers who are unsure how to adopt, implement or improve a workplace health promotion programme, the following recommendations may facilitate the choice or design of programmes, and the implementation process.

7.8.1   Schedule activities at convenient times

One strong recommendation for managers derived from this research is to consider scheduling activities during work hours and giving staff time away from their work requirements to participate. One of the most frequently–cited participation barriers in the questionnaire was that activities were scheduled at inconvenient times. Similarly, the interview outcomes also provided strong evidence suggesting activities scheduled during work hours will then become "part of their working day" (M3).

Scheduling activities outside of work hours often means family commitments take priority and participating in the activity becomes inconvenient. Family commitments were found to be the main barrier to participating in fitness testing initiatives and exercise activities. Similarly, one of the most prominent findings from the 20 interviews was that activities outside of work hours were unappealing, particularly if an employee has to return from home to participate. The problematic issue of scheduling activities to prevent work and family commitments inhibiting participation could, in part, be overcome following the suggestion of Crump et al. (1996), who reported that providing employees with time off work to participate in health initiatives significantly increases the likelihood they will participate. A manager

should consider scheduling initiatives during work hours in order to minimise the potential of an employee being unable to participate because of family obligations and responsibilities. In support of this, Lerman and Shemer's (1996) study, involving 353 army employees participating in a four–day workplace health promotion programme, found that participants in the programme tended to have more dependent children than non–participants, which indicates that scheduling activities during work hours is particularly attractive to employees with childcare commitments that would otherwise prevent or limit their ability or willingness to participate. Ideally, scheduling activities at multiple times can minimise or remove all work or family barriers, however, with limited resources, activities should be made available primarily during regular work hours.

7.8.2 Provide employees with useful information

Another major barrier to employee participation in workplace health promotion activities identified in the current study results was the lack of information provided about certain activities. Concerns surrounding a lack of information were more obvious in fitness testing, health screening initiatives, stress management, and smoking cessation programmes. These results suggest that providing employees with sufficient and appropriate information about an activity is an achievable, effective and relatively inexpensive way for managers to improve employee participation rates. The information should at least include details about what the activity involves, how long it will take, what it seeks to achieve, and any other relevant information. Ideas for information dissemination include ensuring information posters are placed in obvious locations, information brochures being made readily accessible and available, and emails being sent to employees.

Lovato and Green (1990) suggest that goal–setting, contracting, and programme tailoring are effective ways managers can gain information about what employees actually want from a workplace health promotion programme. However, the key is to be specific about an employee's individual goals rather than make general statements, such as 'practise better nutrition' or 'to improve health', which are less effective. In addition, goals must be realistic, short–term, and flexible. Serxner et al. (2004) agree that tailored messages are a more effective means of communicating with employees. They focus on the Stages of Change model and believe much of the communication effort should concentrate on moving pre–contemplators and contemplators to the next stage of change. They further suggest employees

200

should be made aware of the benefits of behavioural changes, thereby moving employees who have never considered their health behaviours into the pre–contemplator category of change, where they are thinking about changes in the future.

In modern workplaces, one of the most effective ways of communicating with employees is online. Sciamanna et al. (2002) conducted a pilot study on the outcomes of using a physical activity website to encourage employee participation in exercise activities. They report that using the Internet is very well–accepted and employees observe few barriers to this communication method. Franklin, Rosenbaum, Carey, and Roizen (2006) investigated the benefits of using email to relay health promotion messages to staff about physical activity and good nutrition. Their study investigated the feasibility of using email messages to inform employees in a New York insurance company about healthy lifestyle activities and behaviours. The authors found a high rate of enrolment, sustained participation, and acceptance among the participating employees, who amounted to 40% of the 960 employees involved. This finding suggests daily emailed messages have high feasibility, a broad reach, are well received, and have considerable value in the workplace. Furthermore, a study by Franklin et al. (2006) of emailing health promotion material and advice to employees found significantly more participants were female, with an average age of 43.7 years. This corresponds with the current study findings where gender and age were strongly associated with participation in education–orientated activities designed to inform employees about health behaviours.

Another benefit of using online communication strategies to provide employees with information about the activities available is that it reduces feelings of embarrassment and improves trust issues. In their investigation of the benefits of online weight control programmes, Petersen et al. (2008) found this approach helps to ease the difficulties experienced by many large organisations in delivering information about interventions directly to employees. The advantage of using online communication strategies is also evidenced by Kurioka, Muto and Tarumi (2001), who found email counselling sessions are particularly popular among younger Japanese employees aged between 20 and 30 years. They suggest this approach is an effective means of addressing karoshi (death due to overwork) which is a well–documented occupational health hazard in Japan.

Despite the benefits of online messages, this form of communication is less effective for initiating long–term behavioural change. Cook et al. (2007) found online messages are more effective than printed material as a means of communicating health promotion messages; however, they note Internet programmes yield no significant benefits on physical fitness or stress. Therefore, they are useful for disseminating information, but less effective in actually changing behaviours. Adding to this notion, Dawson, Tracey and Berry (2008) warn that using email and the Internet attracts more employees, but that face–to–face interventions are essential for behavioural change. However, their study did ascertain that weekly group meetings in conjunction with online messages had more positive results for increased participation in exercise activities compared to weekly meetings without the provision of online information.

7.8.3 *Create a positive health climate*

The current study reports on several outcomes that suggest benefits for organisations that create and support a positive health climate. Organisational climate is behaviour–orientated (Patterson et al., 2005), meaning the health climate of an organisation represents patterns of behaviour that support health. Therefore, implementing ways of improving the health climate of the organisation will likely have a positive effect on the number of employees who choose to participate in health promotion initiatives when they are offered. The benefits of positive health climate perceptions are more obvious for participation in exercise activities and health seminars, which were significantly and positively associated with the perceived health climate. Ways of improving perceptions of the health climate in an organisation could include simple efforts such as providing staff with fresh fruit on a daily basis, or more complicated longer–term strategies such as modifying the organisational culture to be more receptive to health promotion activities and lifestyle changes.

Organisational climate is also reflected in leadership styles and communication channels (Gershon et al., 2004). Current study results suggest that although supervisor support was important in encouraging employee participation in stress management programmes, the lack of information about an activity was a considerably greater barrier to participation in health initiatives. It follows, therefore, that managers should address the communication of appropriate information within their organisation as a way of informing employees about a

health promotion activity, and improving the current perceptions of their organisation's health climate.

7.8.4 *Work with identified employee characteristics and perceptions*

Having determined that employee participation in health initiatives offered in the workplace is influenced by, amongst other factors, the suitability of the activity to the demographics of the workforce, it is advisable for managers, where maximising participation is a central goal, to carefully evaluate the health promotion activity in terms of the characteristics of their workforce. Based on data emerging from relevant studies in this area, including the current study, an activity can be suitably matched to some characteristics that are easily determined, such as the dominant age and gender of a workforce. However, other factors that influence participation, such as the employee–perceived health climate, supervisor support, stress, and job flexibility, are subjective influences and are more difficult to measure. Nevertheless, there are various strategies a manager could adopt to assess the relevant needs and characteristics of their workforce. An effective informal approach could be simply talking to staff to gauge their needs, or, alternatively, more formal strategies such as anonymous questionnaires, may be more appropriate. For example, Crump et al. (1996) found that participation needs and requirements, including convenient scheduling times, were effectively determined by employee needs assessment surveys.

Establishing the characteristics and assessing the needs and perceptions of their particular workforce is beneficial to managers when they are selecting or evaluating the health initiatives that are offered to staff. A manager would need to work with the variables associated with participation that are set (being age and gender) and then concentrate on other factors that affect employee perceptions. For instance, having established that employee participation in programmes is associated with perceptions of the organisational health climate, supervisor support and job flexibility, the manager is in a position to favourably modify these variables, if necessary, to encourage greater employee participation in the planned activity. Managers could, for example, actively provide staff with more obvious support, in order to encourage their participation in stress–related interventions and initiatives. This explanation is supported by Alexy (1991) who suggests it is easier to increase support from supervisors than rely on an employee's family members, peers or colleagues to provide support for a particular behavioural change.

The process of assessing employee perceptions also reveals other factors that hinder employee participation efforts, and managers can implement strategies to overcome these barriers. For instance, Strange et al. (1991a) suggest that predictors and barriers to participation specific to an organisation or worksite, such as inconvenient scheduling or a lack of information, are easily addressed by managers.

Tailoring activities to suit an organisation's workforce was perhaps the most striking observation from the interview stage of the data collection process. Every interviewee in a managerial role indicated a strong understanding of the needs of their immediate team members and was, therefore, able to make valuable judgements on how best to implement activities that would attract participants, and then to recommend strategies to maintain their participation. For example, allowing field workers to use company vehicles to attend activities after hours was suggested, and subsequently verified, as an effective way of encouraging participation. This, and other examples, imply that it is not necessarily the size of an organisation and the resources available that make a successful workplace health promotion programme, but the degree to which managers understand specific factors, perhaps unique to their workforce or work team, that facilitates participation.

In the same way, tailoring activities to best meet the demands and interests of an organisation's workforce is not a new concept. However, current study results identified that the activities that attract the greatest number of participants are relatively similar across different organisations, namely, exercise–related activities, health screening assessments and health seminars. It is argued that these three activities in particular demonstrate a mix of social or fun elements in team–orientated exercise activities; individually specific information from health assessments; and more general activities of low intensity designed to educate or increase awareness in the form of public health seminars. This finding could further strengthen already established views that workplace health promotion programmes should offer a broad comprehensive blend of activities, thereby increasing the possibility that most employees will be attracted to something and take part as a consequence.

7.9   Study limitations and future research opportunities

This research has achieved its objective of identifying some of the key variables associated with employee participation in different workplace health promotion activities. Despite the

strengths of the current study, it also has some limitations. The following section will address these limitations and provide suggestions on how future researchers may overcome them.

7.9.1 Measuring participation

A challenging aspect of this study was attempting to measure participation in a way that recognised the multiple levels of participation. One major limitation identified in previous studies was the lack of a standardised measure of participation. Moreover, where definitions did exist, they were often limited measures designed to evaluate participation in a single activity rather than acknowledging that different activities require different levels of involvement. An attempt was made to evaluate participation using a more definitive measure that recognised the many ways an employee can participate in different activities. However, although this approach was theoretically strong, in the questionnaire when employees were asked to comment if they enrolled, attended or completed each of the nine activities, low response rates resulted in the difficult decision to collapse and combine each separate level of participation into a single measure that identified respondents as either a participant or a non–participant in each activity. This limitation was addressed in the qualitative semi–structured interviews, which followed the questionnaire. Interviewees were asked to discuss why employees left an activity after a certain time, and the methods they thought would encourage ongoing participation. Although the interviews yielded more substantial insight into attrition and maintenance, it is unfortunate that these views could not be compared to the 883 questionnaire respondents.

Future researchers seeking to evaluate participation in a manner that recognises the different ways a person can take part in an activity will need to ensure they have a sample size large enough to warrant an extensive measure. Another effective evaluation technique is to measure initial participation and then measure extended long–term participation or involvement separately, as demonstrated by Thompson et al. (2005). This is a method of separating the different ways an employee can justifiably take part.

7.9.2 Activities

The nine activities included in the questionnaire were tested separately; however, no attempts were made to differentiate the number of different ways a particular activity could have been

implemented in each of the five organisations. For example, smoking cessation initiatives could involve participants wearing nicotine patches, or be designed around education and support without any physical intervention. Similarly, no distinctions were made between highly vigorous forms of exercise, such as running or aerobics, and low intensity activities, such as yoga. Other scholars remark on the limitation of investigating health promotion activities across multiple organisations. The nature of health promotion programmes tailored to particular organisations means the lack of standardisation in both programme modality and activities offered are unavoidable (Seaverson et al., 2009). This current study highlights the importance of establishing the reasons associated with participating in different activities, but further research is required to determine whether the variables associated with one form of intervention are the same for other forms and modalities of the same intervention.

In the questionnaire results, some readers might disagree with the decision to remove respondents from the logistic regression models who stated they had no need to take part. This was a matter of lengthy discussion and careful consideration. It was believed that analysing the variables related to participation of respondents who did not participate because they believed they had no reason to take part would distort the results. For example, perceived stress or co–worker support has little bearing on a non–smoker's decision to choose to participate or not in a smoking cessation programme. The counter–argument is that respondents may be smokers who believe they do not need to give up smoking. In the current study, removing respondents who stated they had no need to participate was believed to be warranted, however, future researchers might include these respondents, or include additional questions that would corroborate or discredit statements concerning a lack of perceived need.

7.9.3 Independent variables

An attempt was made to include all of the key variables highlighted in previous investigations to predict or hinder participation in workplace health promotion programmes. However, despite examining more variables than most existing studies, other variables could have been included. Additional variables were measured in the questionnaire, but it was later considered that those variables provided relatively limited value. Two of these variables were organisational status, and position in the hierarchy within the organisation (Questions 17 and 18 in Appendix E). Organisational status was measured but removed from further analysis because 96.9% of respondents were permanent employees, 2.1% were temporary workers,

and 1.0% of the sample stated they were contract staff. Organisational hierarchy was included in the questionnaire primarily because earlier studies indicated hierarchy could influence participation. Crump et al. (1996) found employees in low level positions were more open to participating in exercise activities if they were given time away from work tasks in order to take part. Chu et al. (1997) are among those who recognised how workplace health promotion programmes have evolved. Initiatives were once available exclusively to senior managers, however, it is now considerably more common for all employees, regardless of organisational status, to have access to activities and initiatives. Despite this, future researchers could find benefit in exploring the relationship between organisational status, health status and participation. This potential relationship was alluded to in the interview outcomes where managers claimed a lack of motivation was not a barrier to their participation, suggesting people who are more motivated in other parts of their lives are more likely to take part in health promotion activities.

The variables investigated in the questionnaire and face–to–face interviews were derived from the literature and the results of the preliminary study, in which eight health promotion consultants were interviewed. Investigating all possible variables related to participation was considered beyond the capacity of a single study. One example of a factor excluded was ethnicity; this was despite New Zealand having strong health disparities in some ethnic groups, specifically, Māori and Pacific populations (Harris et al., 2006). Clinton, Walton, Cairns, Reeve, and Mahony (2008) recognise that Māori and Pacific people in New Zealand traditionally experience lower access to health care and health promotion, and would therefore benefit from a workplace health promotion programme. However, it is argued that the purpose of the current study was to identify the predictors and barriers to workplace health initiatives, rather than establish what employees would experience the most benefit from those programmes. Single ethnicities may dominate a particular organisation or industry in New Zealand, for example, Māori and Pacific people are more likely to work in blue–collar occupations as unskilled or semi–skilled labourers on an hourly wage (Statistics New Zealand, 2004) and should, therefore, be included in studies that seek to focus on those industries or occupations. However, the current study objectives were to provide findings for managers that do not identify or stereotype particular ethnicities. It is argued that the same rationale should be applied to other possible variables such as education and socio–economic demographic factors, because individuals with lower levels of education and those from lower

socio–economic backgrounds are found to receive less access to health care and have lower health status (Pearce & Dorling, 2006; Wilson, Blakely, & Tobias, 2006).

Activities implemented as part of a workplace health promotion programme can incur some financial cost to the employee. Financial payment was not included as an independent variable or explored in the current study. The reason for this exclusion was based on the preliminary study where each of the eight workplace health promotion practitioners was asked to comment on any financial cost incurred to an employee who participated in an activity (see Question 13, Appendix C). All eight consultants thought that when employees are reluctant to participate, adding a financial cost would certainly exclude their involvement. For example, one response was, "if the employee had to pay, or contribute part of it, it wouldn't work because a lot of employees need every bit of their money to manage their day to day lives" (P6). Another practitioner commented, "when employees have been expected to pay for things the uptake rate drops away" (P1). Therefore, any financial contribution required from an employee would certainly affect their willingness to participate in a voluntary health promotion activity. The second reason for not including financial costs was that, despite only one of the five organisations involved in the quantitative study fully subsidising all the activities, four of the eight consultants interviewed commented that most organisations covered the entire cost of a programme, particularly where single or a small number of interventions were available. This was also common where there were legislative requirements to have a particular service available. The third reason for excluding cost as a variable was a particularly long discussion with one practitioner (P4), and reiterated by another (P7), that financial costs had a stronger impact on employees on lower incomes. Practitioner P4 also stated that in her experience "many of the organisations will fund programmes; some ask for a contribution but most don't because it can impact participation when there are people on lower incomes".

The variables measured in the questionnaire were not presented to prospective respondents in a way that grouped them into individual, social and organisational factors. In hindsight, adopting the same groupings would have been consistent with the rest of this thesis, however, the questions were randomised to some extent in the online format in an attempt to visually appeal to prospective respondents. The decision not to follow the order of questions as they are presented in the methods chapter was based on cosmetic and aesthetic reasons to entice employees to respond. The order of the questions was guided by how they looked on each

web page of the questionnaire. Future researchers might choose a more consistent order, but for the current study it was considered more important that the website format was as simple and appealing as possible. When the questionnaire was developed, few existing studies had utilised online questionnaires, and this approach was speculatively deemed acceptable to respondents.

7.9.4 Data collection

The timing of the questionnaire may have had an unexpected impact on the awareness and prevalence of certain activities. A number of questionnaire respondents participated in fitness testing and exercise activities. This could have been influenced by recent fitness and exercise–related events offered at some of the organisations just prior to administering the questionnaire. These included a '10,000 Steps' initiative, and a 'Cape to Bluff' challenge whereby participants wore pedometers and 'walked' the length of New Zealand. As a consequence, the popularity of these activities may have been inflated. However, subsequent interview results demonstrated the strong impact awareness of an activity has on employees, providing further support towards managers ensuring employees are alerted to and fully informed of the activities that are available to them. Despite this, researchers might consider staggering the timing of the distribution of the questionnaire to minimise any 'recency' effect where a respondent only remembers the last activity they participated in.

The design of the qualitative study, the questionnaire, relied heavily on self–reported data. Many investigations have found validating self–reported health behavioural changes challenging, particularly when the behaviour involves smoking and physical activity (Campbell et al., 2000; Goetzel et al., 1998; Gomel et al., 1993; Peterson & Aldana, 1999; Poole et al., 2001). The issue of receiving socially–desirable responses was recognised by Addley et al. (2001) who highlighted that despite using anonymous questionnaires, respondents may answer according to what they think they should be doing rather than what they are actually doing. To minimise issues around self–reported data, future researchers might consider using other forms of data collection to confirm whether the responses to particular questions are valid. For example, using a health questionnaire followed by a medical assessment of a respondent could ascertain whether an employee is being honest about their lifestyle habits.

Despite using an anonymous Internet questionnaire to minimise socially–desirable answers, low response rates for alcohol and drug programmes and smoking cessation initiatives are evidence that respondents may have had concerns about disclosing sensitive information. Future researchers in this area should be aware of this possibility and might consider other approaches, such as interviewing alcohol and drug counsellors to establish their views on the factors associated with participation, and the barriers that prevent employees from utilising these health initiatives.

7.9.5   *Sample characteristics*

More female employees responded to the questionnaire. This is not unusual, particularly in health–related research questionnaires (Troped et al., 2001). This partiality was also evident in another New Zealand study of 134 university employees and their motivations for participating in an employer–sponsored exercise programme (Davey et al., 2009), where the authors reported three–quarters of respondents were female. This might suggest women are more open to answering health–related questions, or women are more familiar with health promotion activities available to them and therefore more willing to respond to the survey. The larger proportion of female respondents provides further confirmation that women are more inclined to be interested in workplace health promotion interventions.   Future researchers could remove this bias by sampling an equal number of men and women in order to further explore the relationships between gender and participation, which were clearly evident in this study.

Conrad (1987b) and Shephard (1996) identified another issue with data bias; that is, health–related questionnaires attract more physically fit and health–conscience respondents. The questionnaire was offered to all members of the five organisations involved in the quantitative study and there was the possibility that fitter and healthier employees were more inclined to take part. As with many studies, employees who are more interested in health and health promotion are undoubtedly more likely to complete a questionnaire on the subject. Muto, Saito, and Sakurai (1996) cite in their study of over 700 male workers, that those who do not participate in any health promotion initiative are significantly less likely to participate in research on the topic. Similarly, Addley et al. (2001) found self–selected participation was a bias towards employees with healthier lifestyles in general. In their case, fewer smokers were prepared to take part. This could explain the lower response rates for both participants and

non–participants in the more undesirable health habits, namely smoking, and alcohol and drug use.

It was necessary to collect data from organisations that offered many, if not all, of the nine health promotion activities included in the questionnaire to their employees to identify the variables associated with participation in a wide range of activities. This was a considerable challenge because very few organisations were found to offer a wide variety or large number of health promotion activities. Employees from five organisations were invited to participate by completing the online questionnaire. One limitation with the quantitative component of the current study is that it is difficult to generalise these results to an entire population when only five organisations were involved. The questionnaire was also limited to large organisations because small to medium–sized businesses were considerably less likely to have many of the nine activities available to staff. In New Zealand, large organisations with 100 or more employees account for only 0.5% of enterprises, but employ 47% of the working population (Statistics New Zealand, 2004). Eighteen large organisations were approached, six agreed and five were included. At the time of the questionnaire data collection phase, this was believed to be all of the organisations with the appropriate credentials for this study. Future economic and legislative changes in this country may be beneficial to prospective researchers in attracting a larger number of participating organisations.

Lewis et al. (1996) document the limitations of generalising results. They point to the uniqueness of individual organisations and workplace characteristics. Consequently, any workplace health study outcomes may be limited only to the organisations involved in the investigation. The barriers to participation also vary and are unique across different workplace settings (Schwetschenau et al., 2005). To minimise this limitation in the future, a questionnaire could be distributed to a larger household population sample, as applied in a study by Lowe, Schellenberg, and Shannon (2003), rather than inviting employees only from certain organisations to respond. Grosch et al. (1998) provided another example of this approach when they investigated characteristics of participants in workplace health promotion programmes among 5219 North American employees from the general population, rather than approaching individual organisations. The authors then generalised their results to the entire population of workers in the United States of America.

7.9.6   Measuring employee perceptions

An employee's perception of their organisation's health climate was identified as having a strong association with participation in a number of health promotion activities, yet few studies provide valid ways of measuring this perception. Ribisl and Reischl (1993) suggest there is an identifiable health climate within organisations and self–reported questionnaires are the most useful method of measuring such perceptions. They developed the Worksite Health Climate Scales to evaluate a range of environmental factors influencing participation in health promotion programmes. The co–worker support subscale was used in the questionnaire; however, future researchers would benefit from applying the full Worksite Health Climate Scale in order to more effectively measure the perceived health climate. This approach was not adopted because it would have considerably increased the length of the questionnaire and reduced the response rate as a consequence. Ribisl and Reischl (1993) suggest their scales should complement commonly–used measures of health status and health behaviours in order to further understand the impact health climate has on health behaviours. For example, if nutrition classes are offered to educate employees about healthy food choices, the authors suggest using the Nutrition Norms scale they developed as a way of measuring changes in the workplace regarding nutritional norms.

The other obvious factor in perceived health climate is supervisor support. Although perceived supervisor support itself did not feature strongly in the current study, the influence of perceived organisational climate was a strong predictor of employee participation in workplace health initiatives. The degree of supervisor support can be assessed across time using perceptual and observational measures. Future researchers could examine perceptions of supervisor support as part of an assessment of organisational climate.

7.9.7   Longitudinal studies

The cross–sectional nature of the research design does not allow for any interpretation of causality. The current study identified the variables that are most likely to predict employee participation in health programmes, but it did not attempt to make or monitor any changes that might affect participation rates in any of the six organisations involved in the questionnaire or interviews. Although the findings cannot provide causal assertions, they can provide the initial step in explaining the relationships between various influences and participation rates

in health promotion activities. Further research is required to determine whether participation rates improve after changes are made.

Future researchers investigating causal relationships in employee participation rates in health activities would benefit from adopting an ecological approach to frame their study. In this investigation, the ecological approach was used as a way of grouping predictor variables and acknowledging the effect one level of influence has on another, thereby justifying the investigation of individual, social and organisational variables associated with participation. Other researchers, such as Lemon et al. (2009), have also used an ecological framework; their study explored the perceptions of worksite support influencing employee obesity, physical activity and diet. They suggest that an ecological framework creates a platform for future researchers to apply an environmental approach in establishing factors influencing participation. This would be useful in determining any increases in participation when organisational changes are made, rather than identifying predictors.

7.10 Discussion chapter summary

This chapter examines the strengths and contributions this investigation has made in understanding the factors associated with employee participation in health promotion programmes. A greater understanding of these associations will enable managers to make more informed decisions about the activities that would have the greatest appeal to their employees, by considering the characteristics of their workforce. Understanding the variables associated with participation also enables managers to modify the factors within their control, namely, social and organisational variables, in order to increase the participation rates in activities that have already been implemented and made available to staff. This chapter also explores the benefits of understanding the barriers to participation. This is particularly important in organisations where the characteristics of the workforce do not fit the ideal characteristics of participants. Finally, this section identifies the potential limitations of the current investigation and provides ways that future researchers can overcome these limitations and expand on what has been found. This study provides a number of useful starting points for future researchers seeking to find ways of maximising participation in workplace and community health promotion activities.

The final chapter in this thesis will present the conclusions of this investigation. It will provide the reader with a clear understanding of the importance of this study, and the main research outcomes.

CHAPTER 8: CONCLUSIONS

Outline of Chapter Eight:

    8.1   Overview of the study

    8.2   Overall conclusions

8.1   Overview of the study

An individual's health is fundamental to their physical, emotional and social well–being. Most working adults spend a significant proportion of their day at work; therefore, their individual health not only affects their personal well–being, but also that of the organisation in which they work. The organisational benefits of a healthier workforce are well–established and include increased productivity and job satisfaction among employees, reduced absenteeism and employee turnover, and reduced health care costs (Steffick et al., 2006; Taitel et al., 2008). For these reasons, it is in an employer's best interests to ensure their workforce is as healthy as possible.

Workplace health promotion programmes are designed to improve the health of employees. In doing so, individual employees achieve a greater sense of well–being and the organisation is able to realise the benefits of a healthier workforce. However, despite the best intentions of employers, the benefits of a healthier workforce are difficult to achieve unless a sizable number of employees participate in the activities available to them as part of a workplace health promotion programme. This realisation led to conducting a study with the intention of understanding the complex reasons affecting employee participation in different workplace health promotion activities, and exploring and identifying the barriers that prevent their participation. This greater understanding will enable employers and managers to be better informed as to how they can maximise employee participation in the health promotion activities implemented in their organisations, to fully achieve the benefits of a healthier workforce.

The variables associated with participation in health promotion activities are particularly useful when managers are considering which of the many activities and interventions would

best suit their organisation. This is achieved by considering the characteristics of their workforce and choosing activities that best suit those characteristics. As well as identifying the variables associated with participation in those activities, the current study also confirms the existence of a number of specific barriers that prevent or discourage employees from participating. This information on the barriers to participation is particularly useful to managers when their workforce characteristics are not fully aligned with the characteristics shown to influence participation. For example, women are considerably more likely to participate in many of the activities investigated in this study. Therefore, information on the barriers to participation provides a useful insight into what factors need modifying in order to encourage participation in organisations where the workforce is predominantly male and, therefore, less likely to become involved. In these situations, it is crucial for a manager to understand the reasons that prevent or limit participation and take action to minimise any barriers that are present.

8.2   *Overall conclusions*

It is argued that workplace health promotion programmes will ultimately fail without employee participation. Yet, until now, the factors associated with participation in these programmes, and the barriers that prevent or limit an employee's ability or willingness to take part in multiple activities, have not been fully addressed. The key strength of this investigation is that it applied an ecological approach to examine the associations between a comprehensive range of individual, social, and organisational variables and employee participation in nine different activities. Table 8.1, on the following page, provides a summary of these relationships.

Table 8.1

Workplace health promotion activities and the characteristics of employees who are more likely to participate in them

Activity	Employees who are more likely to participate
Fitness testing	Employees with lower stress
	Female employees
Exercise activities	Employees with positive perceptions of the organisation's health climate
	Female employees
	Younger employees
Health screening assessments	Older employees
Health seminars	Employees with positive perceptions of the organisation's health climate
Weight management programmes	Female employees
Counselling	Employees with higher stress
	Female employees
	Employees with higher job satisfaction
Stress management programmes	Employees with higher perceived supervisor support
Smoking cessation programmes	Employees with higher stress
Total combined activities	Female employees
	Employees with higher stress
	Employees with positive perceptions of the organisation's health climate
	Employees with higher job flexibility
Education–orientated activities	Female employees
	Older employees
	Employees with positive perceptions of the organisation's health climate
	Employees with higher job flexibility
Behavioural change activities	Female employees
	Employees with higher stress
	Employees with higher job satisfaction
	Employees with positive perceptions of the organisation's health climate

The current investigation demonstrates that women are more likely to participate in health promotion activities. Health screening assessments, fitness testing and educational activities attract older employees; exercise activities are better suited to predominantly younger workforces; participation is increased when employees have more job flexibility; smoking cessation and counselling initiatives attract employees with higher stress, while fitness testing assessments are popular among lower stressed people; finally, positive health climate perceptions influence participation in exercise activities and health seminars.

Previous indications suggest that healthier employees are more likely to participate in health promotion activities, and that higher risk employees with poor lifestyle behaviours do not generally take part. This assumption was not fully upheld in the current study; no significant difference in health status was found between participants and non-participants. However, employees who are in good health are considerably less likely to require some health promotion initiatives, and have significantly fewer trust and embarrassment issues restricting or limiting their participation.

In contrast to early predictions, social variables (co–worker and supervisor support) have a relatively low influence on participation. However, supervisor support forms part of the organisational health climate, which is an important factor encouraging employee participation in exercise activities, health seminars, and all of the grouped activities. When the ecological framework is considered, it demonstrates that social factors, most often family commitments, present the greatest barrier to participation.

One of the strongest contributions the current study has made to the body of knowledge surrounding workplace health promotion literature is identifying and attributing specific barriers to participation in individual activities. Managers and future researchers are thereby allowed to consider their workforce characteristics and the activities currently available to employees, and establish whether the barriers identified in this investigation are present within their organisation.

The barriers to participation are inconvenient scheduling, work and family commitments, a lack of sufficient and relevant information regarding the activity, self–consciousness and embarrassment, a lack of self–efficacy, a lack of trust in managers being privy to personal health information, and activities held at inconvenient locations.

More specifically, in stressful workplace environments, employees are more likely to feel embarrassed, lack trust in managers, and lack self–efficacy, which strongly influences their decisions not to participate in counselling or stress management programmes. Inconvenient scheduling negatively affects participation in exercise activities, health screening assessments, health seminars, and weight management programmes. Inadequate information prevents employees using health screening assessments and stress management programmes. Embarrassment and low self–efficacy are the key reasons employees are reluctant to take part in counselling and smoking cessation programmes, and trust issues considerably reduce attendance in alcohol and drug programmes.

Following an ecological approach throughout this entire investigation allows managers to consider the different levels of influence (individual, social and organisational) in uniquely targeted and pragmatic ways. Organisational factors are found to dominate employee participation, therefore, a manager must consider the organisation's environment, including managerial support and cultivating a positive organisational health climate. The timing of activities must be considered; specifically, scheduling activities during normal working hours and providing time off for employees to take part. More job flexibility to reduce work commitments which prevent participation would be beneficial. Fully subsidising the financial cost of activities is necessary, as is assuring employees that their health information is secure and confidential, to avoid trust or embarrassment issues adversely affecting participation.

When attrition is present, managers must consider employee motivation and, more specifically, whether boredom is a problem. Solutions include continuous change, rewards and incentives, and constant communication with participating employees. Managers would also benefit by demonstrating high levels of personal motivation, commitment and enthusiasm in the programme.

Despite the contributions made in this investigation, employee participation in workplace health promotion programmes remains complex. Future research suggestions include exploring how different presentations of particular workplace health activities might affect employee participation, investigating the effect of a population sample comprising equal numbers of male and female employees, utilising a household–based sample instead of a large corporate sample, and monitoring the change in participation rates when suggested changes are implemented.

This study was always intended to provide a practical contribution to how workplace health promotion programmes are implemented and managed, to maximise their success and produce the greatest possible benefits for both individual employees and the organisation. The outcomes of this investigation regarding the variables influencing employee participation in workplace health initiatives serve as a valuable contribution to the body of research guiding health management in the workforce.

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APPENDICES

Appendix A: Cover letter for practitioners

Dear XX,

I am currently working towards a Doctor of Philosophy Degree at Massey University in Albany. As part of my degree, I am undertaking a research thesis on the subject: Workplace Health Promotion in New Zealand Organisations. I am particularly interested in exploring the factors that influence employee participation and the characteristics of participants and non–participants in health promotion programmes at work.

My research involves surveying employees in organisations with professionally implemented health promotion programmes. However, before I instigate my survey, I would like to consider what you, as an expert in this field, think about participation in workplace health promotion programmes.

I would be very grateful if I could discuss this topic with you. Our discussion would take place at a time and place that is most convenient for you.

This research should be of great interest to members of the corporate wellness profession, as my survey involves investigating the factors and characteristics influencing participation of a large number of employees from a variety of different organisations in New Zealand. No known academic study has investigated this specifically in a New Zealand context.

I have enclosed a detailed Information Sheet illustrating the purpose and specifications of my research.

If you would be willing to discuss your experiences and perceptions on employee participation in health and wellness programmes, please email me at xxx_xx@hotmail.com. Alternatively, you can contact me directly on (09) 4XX 9XXX or (021) 3XX 2XX.

Please be assured that the information you provide will be held in the strictest confidence and your identity kept anonymous. If you have any questions regarding this research, please do not hesitate to contact either my research supervisor Dr Margot Edwards at Massey University (Phone 4XX 9XXX ext. 9XXX) or myself.

Thank you for your time and I look forward to hearing from you.

Yours sincerely,

Joanna Edwards

WORKPLACE HEALTH PROMOTION

IN NEW ZEALAND ORGANISATIONS

Information Sheet for Workplace Health Promotion Practitioners

The Researcher

My name is Joanna Edwards. I am currently a full time student working towards my Doctor of Philosophy Degree at the Albany Campus of Massey University. This research is administered under the supervision of Dr Margot Edwards and Dr Janet Sayers from the Department of Management and International Business at Massey University, Albany.

The Research

This research is being conducted to explore workplace health promotion programmes in New Zealand organisations. I am specifically interested in investigating the factors that influence New Zealand employees to participate in workplace health promotion programmes, evaluating the different characteristics between participants and non–participants, and investigating the perceived barriers that reduce employee participation.

The objectives for this study include:

- To determine what workplace health promotion programmes are of most interest to New Zealand employees.

- To explore the benefits New Zealand employees have experienced from participating in such programmes.

- To investigate what motivates and encourages New Zealand employees to participate in workplace health promotion programmes.

- To investigate the barriers or difficulties that limit or reduce employee participation.

I would like to administer a survey to employees in organisations with workplace health promotion programmes. However, I would first like to consider what you, as an expert in this field, think about employee participation in health promotion programmes at work.

Participation Involvement

Your involvement in this exploratory research would be an informal discussion to explore your perceptions on employee participation in workplace health promotion programmes. This interview would be <u>held at your convenience</u> and take approximately <u>40 minutes</u>. I would like to record our discussion, with your permission.

Participation Recruitment

Information and contact details for Company X were found via an Internet search of workplace health promotion providers and practitioners in New Zealand.

Uses of the Information

The information you provide would be used in the methodology section of my thesis as evidence that my survey is reliable and peer reviewed. Your thoughts and perceptions on the topic of participation in workplace health promotion programmes would also be collaborated with the survey results in the discussion chapter of my thesis and used to indicate assumptions regarding the perceptions of workplace health promotion programmes in New Zealand.

Please be assured the information you provide will be held in the strictest confidence and your identity will be kept <u>completely confidential</u>. Your name and any identifying features would be removed to ensure your identity is kept anonymous. After our discussion, I will transcribe the audio recording and then the tape will be wiped on the completion of this study. In accordance with Massey University protocol, the transcript will be stored in a locked cabinet at the University for a period of five years and then destroyed. The final thesis will become the property of Massey University and be made available in the library.

Participant's Rights

If you choose to participate in my study, please be assured you have the following rights. You have the right to:

- Decline to answer any particular question;
- Withdraw your involvement from this study by Friday 5th November, 2004;
- Ask any questions regarding the research project at any time during your participation;
- Ask that the audio recorder be turned off at any stage during the interview;
- Provide information on the understanding that your name would not be used;
- Be given access to a summary of the project's findings when it is concluded if you wish.

This section of research has been reviewed and approved by peer review under delegated authority from the Massey University Human Ethics Committee MUAHEC 04/069. If you have any concerns

about the conduct of this research, please contact Professor Sylvia Rumball, Assistant to the Vice–Chancellor (Ethics & Equity), telephone 06 350 5249, email humanethics@massey.ac.nz.

I would greatly appreciate your participation in this research. If you have any questions regarding this research, please do not hesitate to contact me: phone 09 4XX 9XXX, email xxxx@hotmail.com.

Thank you,

Regards,

Joanna Edwards

Appendix B: Consent form for practitioners

WORKPLACE HEALTH PROMOTION PROGRAMMES

IN NEW ZEALAND

PARTICIPANT CONSENT FORM

This consent from will be held for a period of five (5) years

I have read the Information Sheet and have had the details of the study explained to me. My questions have been answered to my satisfaction, and I understand that I may ask further questions at any time.

I agree to the interview being audio taped.

I understand that the information I provide may become part of a Doctoral thesis and form the basis of academic journal articles and publications.

I agree to participate in this study under the conditions set out in the Information Sheet.

Signature_____

Full Name (Printed)_____

Date_____

Appendix C: Preliminary study interview questions

"This research is on workplace health promotion programmes. I am predominantly focused on the reasons employees participate in health promotion activities and what factors influence their participation.

I would like to survey a large number of New Zealand employees working in organisations with professionally implemented health promotion programmes.

I have chosen professionally implemented programmes as opposed to in–house programmes to concentrate solely on health promotion and wellness initiatives, and not occupational safety and health or singular activities, such as one–off flu vaccinations.

As a professional in this area, your perceptions and opinions would be very valuable in determining the barriers to participation, and also, extremely beneficial in finalising my questionnaire."

1. How would you define workplace health promotion?
2. Why do you think New Zealand organisations implement wellness programmes?
3. What types of programmes do you think are the most popular in NZ organisations?
4. Why do you think NZ employers are concerned with the health of their employees?
5. How far do you think NZ employers can influence the health of their employees?
6. Do you think enough resources are committed to employee health in NZ organisations?
7. Do you think workplace health promotion will become part of an organisation's core human resource management strategy?
8. What type of employees do you think participate in wellness programmes in NZ?
9. What sort of things do you think encourage or motivate employees to participate?
10. Why do you think some employees are reluctant to participate in wellness programmes?
11. Do you think incentives encourage participation? What type of incentives?
12. Do you think management are ever concerned about the health of a specific employee who is not participating?
13. How much do you think an employee should be expected to pay in order to participate?
14. Do you think NZ organisations have specific measurable objectives when they implement a wellness programme?

15. How effective do you think they are in achieving those objectives?

16. How do you factor in what an employee does in their own time, which could be detrimental to their health?

17. Do you think encouraging employees to adopt sensible health habits will, in turn, influence their families to adopt healthier lifestyles? Public health perspective?

18. Would you be willing to allow me to approach your clients to participate in my research?

Appendix D: Cover letter for organisations

Dear XXX,

I am currently working towards a Doctor of Philosophy Degree at Massey University in Albany. As part of my degree, I am undertaking a research thesis on the subject: Workplace Health Promotion in New Zealand Organisations. I am particularly interested in exploring factors that influence employee participation, characteristics of participants and non–participants and the perceived barriers that reduce employee participation in health promotion programmes at work. No known academic study has investigated this specifically in a New Zealand context.

I have developed an on–line survey for employees working in organisations with health promotion and wellness programmes. The survey is designed to gather information relating to why some employees choose to participate in workplace health promotion and wellness initiatives, while others do not.

I would like to invite XXX employees to participate in my research by completing the on–line survey.

The survey should take employees approximately 10 minutes to complete and their involvement is entirely voluntary.

Please be assured that all information provided will be held in the strictest confidence. The survey is anonymous and XXX will not be named or identified in any way. This study has full approval from the Massey University Human Ethics Committee in Albany.

This research should be of great interest to XXX as survey results could provide valuable strategies in increasing employee participation and improving cost effectiveness. I will provide you with the full research findings and analysis.

If you have any questions regarding this research, please do not hesitate to contact either my research supervisor Dr Margot Edwards at Massey University (Phone 4XX 9XXX ext. 9XXX), or myself (Phone 4XX 6XXX).

Thank you for your time.

Yours sincerely,

Joanna Edwards

Appendix E: Questionnaire

WELCOME COMPANY X EMPLOYEES

The aim of this survey is to explore why people may or may not take part in the health promotion activities available to them at work.

Thank you for taking the time to complete this survey.

Please note your responses are confidential. Your responses will be collated and used as part of my PhD results. Company X will not be given any individual information.

This survey should take about 8 minutes to complete.

Q1   The following is a list of health promotion activities that might be available to you at work.

Please indicate your involvement in each activity by ticking the appropriate box

	I enrolled in this activity	I attended this activity	I completed this activity	I did not participate in this activity	This activity was not available to me
Fitness testing and/or fitness advice	❑	❑	❑	❑	❑
Exercise activities	❑	❑	❑	❑	❑
General health screening check (cholesterol, blood pressure etc)	❑	❑	❑	❑	❑
Health seminar e.g.: nutrition	❑	❑	❑	❑	❑
Weight management programme	❑	❑	❑	❑	❑
Alcohol and drug programme	❑	❑	❑	❑	❑
Counselling assistance e.g.: EAP	❑	❑	❑	❑	❑
Stress management programme	❑	❑	❑	❑	❑
Smoking cessation programme	❑	❑	❑	❑	❑

Q2   Have you been involved in any other health promotion activities at work?

If so, what were you required to do?

Q3   How flexible your job is can affect your ability to take part in workplace health promotion activities.

Please indicate how much you agree or disagree with the following statements.

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
I am able to arrive and depart from work when I want, as long as I meet my required weekly hours of work	❑	❑	❑	❑	❑
I am free to work the hours that are best for my schedule	❑	❑	❑	❑	❑
It is ok with my employer if I want to work from home	❑	❑	❑	❑	❑
There is no flexibility in my schedule	❑	❑	❑	❑	❑
I could easily take a day off or work if I wanted to	❑	❑	❑	❑	❑

Q4   The people you work with can affect your ability to take part in workplace health promotion activities.

Please indicate how much you agree or disagree with the following statements

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My colleagues would be supportive of me if I started exercising	❑	❑	❑	❑	❑
My colleagues share health information with me	❑	❑	❑	❑	❑
My colleagues would help people who were trying to stop smoking	❑	❑	❑	❑	❑
My colleagues are interested in hearing about new health information/advice	❑	❑	❑	❑	❑
My colleagues would support me if I was trying to adopt new health habits e.g.: healthy eating, exercising etc	❑	❑	❑	❑	❑
My colleagues would encourage me if I was trying to lose weight	❑	❑	❑	❑	❑
My colleagues would not ridicule anyone here for trying to look after or improve their health	❑	❑	❑	❑	❑
I can always get help and support from colleagues when I ask	❑	❑	❑	❑	❑
I feel I can openly talk about safety issues with supervisors and get support	❑	❑	❑	❑	❑

Q5   Your work environment can affect your ability to take part in workplace health promotion activities.

Please indicate how much you agree or disagree with the following statements

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Most employees here are very health–conscious	❑	❑	❑	❑	❑
At work we sometimes talk with each other about improving our health and preventing disease	❑	❑	❑	❑	❑
Around here they look at how well you take care of your health when they consider you for promotion	❑	❑	❑	❑	❑
My supervisor encourages me to make changes to improve my health	❑	❑	❑	❑	❑
Supervisors always enforce health–related rules, smoking policies etc.	❑	❑	❑	❑	❑

Q6   Your manager or supervisor can affect your ability to take part in workplace health promotion activities.

Thinking about your current supervisor, please indicate how much you agree or disagree with the following statements

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
My supervisor really cares about my well–being	❑	❑	❑	❑	❑
My supervisor strongly considers my goals and values	❑	❑	❑	❑	❑
If given the opportunity, my supervisor would take advantage of me	❑	❑	❑	❑	❑
My supervisor tries to make my job as interesting as possible	❑	❑	❑	❑	❑
My supervisor cares about my opinions	❑	❑	❑	❑	❑
My supervisor disregards my best interests when making decisions that affect me	❑	❑	❑	❑	❑
My supervisor shows very little concern for me	❑	❑	❑	❑	❑
My supervisor cares more about making a profit than about me	❑	❑	❑	❑	❑

Q7   Taking everything into consideration, how do you feel about your job as a whole?

Extremely satisfied	❑
Very satisfied	❑
Moderately satisfied	❑
Not sure	❑
Moderately dissatisfied	❑
Very dissatisfied	❑
Extremely dissatisfied	❑

Q8   How would you rate your overall health at the present time?

Excellent	❑
Good	❑
Fair	❑
Poor	❑
Very poor	❑

Q9   Do you smoke cigarettes?

No	❑
Yes, on average, how many per day? (Please give the number)	

Q10   How would you describe your physical activity in a typical week?

None or very little involvement in physical activities	❑
Regular to moderate physical activity (30 minutes at least 3 times per week)	❑
Vigorous physical activity (e.g.: running, rowing, swimming several times per week)	❑

Q11   How you feel in general can affect your ability to take part in workplace health promotion activities.

For each question, please tick the box that is most appropriate to you

	Never	Almost Never	Sometimes	Fairly Often	Very Often
In the last month, how often have you felt that you were unable to control the important things in your life?	❏	❏	❏	❏	❏
In the last month, how often have you felt confident about your ability to handle your personal problems?	❏	❏	❏	❏	❏
In the last month, how often have you felt that things were going your way?	❏	❏	❏	❏	❏
In the last month, how often have you felt difficulties were piling up so high you could not overcome them?	❏	❏	❏	❏	❏

Q12   Are there any health promotion activities available to you at work that you do not participate in?

Please choose as many activities as applicable to you

Fitness testing	❏
Exercise activities	❏
Health screen	❏
Health seminar	❏
Weight management programme	❏
Alcohol and drug programme	❏
Counselling assistance	❏
Stress management programme	❏
Smoking cessation programme	❏

Q13 The following is a list of common reasons that limit or restrict participation in the above activities

Please indicate if any of these reasons apply to the activities you do not participate in

	A Reason
The programme schedules are inconvenient	❑
I don't know enough about it	❑
Taking part means too much time away from my family commitments	❑
Taking part means too much time away from my work commitments	❑
I feel embarrassed to take part	❑
I don't believe it will work for me	❑
I don't trust my supervisors with information about my health	❑
I don't need to take part	❑

Q14 Is there anything else that limits or restricts your participation?

Finally, for statistical purposes, could you please answer the following?

Q15 Could you please state your gender?

Male	❑
Female	❑

Q16   What was your age at your last birthday?

Please enter the number	

Q17   How would you describe your current position?

Senior Management	❑
Middle Management	❑
Team Leader/Supervisor	❑
Team Member/Employee	❑
Other, please specify	

Q18   What best describes your employment situation at Company X?

Permanent employee	❑
Temporary or fixed–term employee	❑
Fee for service contractor	❑
Other, please specify	

Please remember, the information you have provided is completely confidential.

SUBMIT

THANK YOU AGAIN FOR COMPLETING THIS SURVEY

YOUR INVOLVEMENT IS GREATLY APPRECIATED

Appendix F: Information sheet for questionnaire participants

WORKPLACE HEALTH PROMOTION PROGRAMMES

IN NEW ZEALAND

What is this study about?

Workplace health promotion is the proactive action taken by employers to try and improve the health of their employees. It is predominantly found in American organisations. This study aims to explore factors that influence participation in workplace health promotion programmes and activities in New Zealand organisations, and what barriers prevent New Zealand employees from participating in such programmes.

To date, no known academic studies have investigated workplace health promotion in New Zealand organisations.

Participation recruitment and involvement

I would like to invite you to take part in a survey regarding your participation in the workplace health promotion activities available to you at work. I realise your time is valuable and your involvement in this study would be greatly appreciated. If you choose to participate, your involvement would be completing the attached on–line questionnaire.

The aim of the survey is to find out:

- The health promotion activities at work that interest you
- The factors that make it easier for you to take part in these activities
- The factors that restrict or limit you from taking part in these activities

The questionnaire should take **no longer than 10 minutes** to complete.

- You can choose not to answer a particular question;
- You can ask for further information before you choose to participate. My contact details are listed below;
- You are welcome to read the research findings when this study is finished;
- The completion of this questionnaire implies your consent.

Your answers are confidential and your identity will not be known. Your answers will be sent to a secured database that only I can access.

The surveys will be collated and will become part of my PhD thesis. This thesis will become the property of Massey University and be made available in the library. It will also form the basis of academic journal articles and publications.

I offer my sincere gratitude for your participation and time in making this research successful.

Many thanks,

Joanna Edwards

Email: xxxxx@hotmail.com

Phone: 021 xxx xxx

This project has been reviewed and approved by the Massey University Human Ethics Committee, ALB Protocol 04/069. If you have any concerns about the conduct of this research, please contact Associate Professor Kerry Chamberlain, Chair, Massey University Campus Human Ethics Committee: Albany, telephone (09) 414 0800 ext. 9078, email humanethicsalb@massey.ac.nz

Supervisors:

Dr Margot Edwards	Dr Keith Macky
Massey University	Massey University
Private Bag 102 904	Private Bag 102 904
North Shore Mail Centre	North Shore Mail Centre
Auckland	Auckland
Ph (09) 414 0800 ext. 9218	Ph (09) 414 0800 ext. 9239

Appendix G: Information sheet for Company X

Understanding the predictors of participation and the barriers to employee involvement in workplace health promotion programmes

Company X Services

INFORMATION SHEET

The researcher

My name is Joanna Edwards, and I am currently working towards a Doctor of Philosophy Degree at Massey University in Albany. This research is administered under the supervision of Dr Margot Edwards and Dr Darryl Forsyth from the School of Management at Massey University, Albany.

The research

Workplace health promotion programmes involve proactive action taken by employers to try and improve the health of their employees. Workplace health initiatives have been found to improve overall employee health, increase productivity, morale and job satisfaction, and reduce absenteeism and employee turnover. However, despite an extensive range of established benefits for both the employees and the organisation, programmes continue to experience low employee participation rates. I would like to find out why this occurs by investigating the factors that influence participation in these types of programmes, and to explore the barriers that prevent employees from taking part.

Company X's involvement

I would like to invite employees at Company X Services to take part in my study by allowing me to interview them. I would like to explore their perceptions about the things which influence their participation in the health promotion activities available to them at work. This interview would be <u>held at the convenience of each participating employee</u> and take <u>approximately 30 minutes</u>. I would like to record these discussions with the permission of each interviewee.

Uses of the Information

The information provided by Company X Services employees will be collated and used in the results section of my thesis to provide explanations on the factors influencing employee participation in health promotion initiatives at work.

The information provided will be held in the strictest confidence and all employee identities will be kept completely confidential. Participating employees' names and any identifying features will be removed to ensure their identity is kept anonymous. Additionally, Company X Services will not be identified in any way. After each interview, I will transcribe the audio recording and then the tape will be wiped on the completion of this study. In accordance with Massey University protocol, the transcript will be stored in a locked cabinet at the University for a period of five years and then destroyed. The final thesis will become the property of Massey University and be made available in the library. It will also form the basis of academic journal articles and publications.

Company X Services' rights

In allowing me to invite the employees of Company X Services to participate in my study, the organisation has the following rights:

- Ask any questions regarding the research at any time;
- Be given access to a summary of the study's findings when it is concluded.

If you have any questions regarding this research, please do not hesitate to contact me: phone 09 xxx xxxx, email xxxx@hotmail.com.

Thank you,

Regards

Joanna Edwards

Supervisors:

If you have any questions about this research, please do not hesitate to contact my supervisors in the School of Management at Massey University.

Dr Margot Edwards, ph 414 0800 ext 9218, or email m.f.edwards@massey.ac.nz

Dr Darryl Forsyth, ph 474 0800 ext 9135, or email d.forsyth@massey.ac.nz

This study has been evaluated and approved by peer review under delegated authority from the Massey University Human Ethics Committee MUAHEC. If you have any concerns about the conduct of this research, please contact Dr Ralph Bathurst, Chair, Massey University Campus Human Ethics Committee: Albany, telephone (09) 414 0800 ext. 9570, email humanethicsalb@massey.ac.nz.

Appendix H: Information sheet for interviewees

Understanding the predictors of participation and the barriers to employee involvement in workplace health promotion programmes

PARTICIPANT INFORMATION SHEET

Thank you for responding to the initial email sent to you by Mrs X. My name is Joanna Edwards, and I am currently working towards a Doctor of Philosophy Degree at Massey University in Albany.

The research

Workplace health promotion programmes involve proactive action taken by employers to try and improve the health of their employees. Workplace health initiatives have been found to improve overall employee health, increase productivity, morale and job satisfaction, and reduce absenteeism and employee turnover. However, despite an extensive range of established benefits for both the employees and the organisation, programmes continue to experience low employee participation rates. I would like to find out why this occurs by investigating the factors that influence participation in these types of programmes, and to explore the barriers that prevent employees from taking part.

Your involvement

I would like to invite you to take part in my study by allowing me to interview you to explore your perceptions about the things which influence your participation in the health promotion activities available to you at work, and how your employer could best facilitate your involvement. This interview would be <u>held at your convenience</u> and take <u>approximately 30 minutes</u>. I would like to record our discussion with your permission. I realise your time is valuable and your involvement in this study would be greatly appreciated.

Participant's Rights

The following rights are designed to keep your information safe and confidential. In allowing me to interview you for my study, please be aware that you have the right to:

- Decline to answer any particular question;
- Withdraw your involvement from this study by Monday 1 November, 2010;
- Ask any questions regarding the research at any time during the interview;
- Ask that the audio recorder be turned off at any stage during the interview;

- The opportunity to read and edit the interview transcript;
- Provide information on the understanding that your name will not be used;
- Be given access to a summary of the study's findings when it is concluded.

Uses of the Information

The information you provide will be collated and used in the results section of my thesis to provide explanations on the barriers which prevent employees from taking part in health promotion initiatives at work.

Please be assured the information you provide will be held in the strictest confidence and your identity will be kept completely confidential. Your name and any identifying features would be removed to ensure your identity is kept anonymous. After our discussion, I will transcribe the audio recording and then the tape will be wiped on the completion of this study. In accordance with Massey University protocol, the transcript will be stored in a locked cabinet at the University for a period of five years and then destroyed. The final thesis will become the property of Massey University and be made available in the library. It will also form the basis of academic journal articles and publications.

If you have any questions regarding this research, please do not hesitate to contact me: phone 09 480 8047, email edwards_base@hotmail.com

Supervisors:

If you have any questions about this research, please do not hesitate to contact my supervisors in the School of Management at Massey University.

Dr Margot Edwards, ph 414 0800 ext 9218, or email m.f.edwards@massey.ac.nz

Dr Darryl Forsyth, ph 474 0800 ext 9135, or email d.forsyth@massey.ac.nz

Thank you once again for participating in my study.

Kind regards,

Joanna Edwards

This study has been evaluated and approved by peer review under delegated authority from the Massey University Human Ethics Committee MUAHEC. If you have any concerns about the conduct of this research, please contact Dr Ralph Bathurst, Chair, Massey University Campus Human Ethics Committee: Albany, telephone (09) 414 0800 ext. 9570, email humanethicsalb@massey.ac.nz

Appendix I: Interview guide

Semi–structured interview questions

Introduction

Background to the study: Workplace health promotion programmes (often called wellness programmes) involve proactive action taken by employers to try and improve the health of their employees. As part of my PhD thesis, I have been investigating the factors that influence employee participation in these types of programmes in New Zealand organisations. I am also interested in exploring things that may prevent employees from taking part when activities are made available to them.

One of my data collection methods was a comprehensive on–line questionnaire, which attracted 883 respondents. The results of this questionnaire highlighted some valuable insights into what influences employee participation in different health promotion activities. The results also pointed out some interesting and common barriers to participation. I would like to explore some of these findings in more detail, which is why I am interviewing employees at Company X Services.

All

1. Are you aware of any health promotion or wellness activities that are available to you at work?
2. Have you ever used or taken part in any of these activities?
3. Are there any health promotion or wellness activities you would like to see offered here at Company X?
4. What type things would make it easy for you to participate in these activities?
5. What type of things would make it hard for you to take part?
6. This is a list of common barriers to participation in health promotion and wellness programmes. Would any of these be a barrier for you? Why would that be? In what sort of activity?
7. This is a list of commonly available health promotion activities, is there anything on this list you would definitely take part in, if it were available? Why would you take part?
8. Is there anything on this list you would definitely not take part in? Why would you not take part?
9. If you consider this list, do you think these activities should be fun, or more serious because they are meant to be helping employees improve their health?
10. Why do you think companies offer health promotion or wellness activities to staff? Is it to benefit the employees or the organisation?

11. Do you think managers are aware of the problem of low participation rates in WPHP programmes?

12. Participant numbers in WPHP programmes are typically low. Why do you think this is the case? (Probe: Do you think people are suspicious of workplaces offering such programmes? Trust issues? Confidentiality issues?)

13. A common reason why people don't take part in health promotion activities is because they don't have enough time, but really they don't want to. Do you think this is a reason for low participation? For yourself or people you know?

14. If someone really doesn't want to take part (smoker, overweight) do you think it is a manager's business or responsibility to try to encourage them to participate?

15. Have you ever enrolled in health promotion activities (in or out of work) and then decided not to go, or you went for a little while and then decided you didn't want to go anymore?

16. Why did you decide not to go? Or leave after a while?

17. Often new activities attract a larger number of participants, but then the novelty wears off and people become less interested. What do you think managers should do to keep people interested in health promotion activities?

18. Do you know of other organisations who offer health promotion or wellness programmes to their staff?

19. Do you think these programmes are popular among their staff? Why or why not?

Those are all of my questions, is there anything you would like to ask me?

Thank you very much for your time.

Appendix J: Ethics application (questionnaire)

30 August 2004

Joanna Edwards
C/– Dr Margot Edwards & Dr Janet Sayers
College of Business
Massey University
Albany

Dear Joanna

HUMAN ETHICS APPROVAL APPLICATION – MUAHEC 04/069
"Workplace Health Promotion in New Zealand"

Thank you for your application. It has been fully considered and approved by the Massey University, Albany Campus, Human Ethics Committee.

If you make any significant departure from the Application as approved then you should return this project to the Human Ethics Committee, Albany Campus, for further consideration and approval.

Approval is for three years. If this project has not been completed within three years from the date of this letter, a new application must be submitted at that time.

Yours sincerely

Associate–Professor Kerry Chamberlain
Chairperson,
Human Ethics Committee
Albany Campus

cc. Dr Margot Edwards & Dr Janet Sayers
College of Business

Appendix K: Ethics application (interviews)

23 September 2010

Joanna Edwards
C/– Dr Margot Edwards & Dr Janet Sayers
College of Business
Massey University
Albany

Dear Joanna

HUMAN ETHICS APPROVAL APPLICATION – MUAHEC 10/069
"Workplace Health Promotion in New Zealand"

Thank you for your application. It has been fully considered, and approved by the Massey University Human Ethics Committee: Northern.

Approval is for three years. If this project has not been completed within three years from the date of this letter, a new application must be submitted at that time.

If the nature, content, location, procedures or personnel of your approved application change, please advise the Secretary of the Committee.

Yours sincerely

Dr Ralph Bathurst
Chair
Human Ethics Committee: Northern

cc: Dr Margot Edwards, Dr Darryl Forsyth
College of Business