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Physical Activity Promotion in Sudbury-area Call Centres:
Employers' Perspectives

by

Sheila Joan Renton

A thesis
presented to Lakehead University
in fulfillment of the
thesis requirement for the degree of
Master of Public Health

Thunder Bay, Ontario, Canada, 2010

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Author's Declaration

I hereby declare that I am the sole author of this thesis. This is a true copy of the thesis, including any required final revisions, as accepted by my examiners.

I understand that my thesis may be made electronically available to the public.

Abstract

A 2004 report from the Ontario Chief Medical Officer of Health identified the workplace as a key setting for the implementation of strategies for the promotion of physical activity as part of a plan to help Ontarians achieve and maintain healthy weights (Chief Medical Officer of Health (Ontario), 2004). A concurrent, embedded mixed methods design was used to explore the responses of call centres employers within the City of Greater Sudbury to the Chief Medical Officer of Health's recommendations, to develop an understanding of current practices in call centre workplaces that support physical activity, and to investigate employers' motivation to implement physical activity promotion, as well as perceived facilitators and barriers.

Face-to-face, semi-structured interviews and quantitative questionnaires were completed between February and July 2009 with fifteen managers in ten of the twelve call centres identified by the Growth and Development Department of the City of Greater Sudbury.

Results provided insight into the employers' motivation to implement physical activity promotion initiatives as they relate to three particular themes: *The Employer Reaps the Benefits*, *Concern for Employee Well-being*, and a sense of *The Greater Good*. Several internal and external facilitators for the promotion of physical activity were identified. Factors which create barriers to physical activity promotion within call centres were described by three themes: *The Nature of Call Centre Work*, *Concerns of Managers*, and *Characteristics of the Call Centre*.

This study extends the research knowledge on the topic of physical activity promotion within call centres and leads to six recommendations for action at local and provincial levels which are expected to promote the health of call centre employees, and possibly other Ontario workers.

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Introduction

The many health benefits achieved through regular physical activity include decreased risk of premature death due to heart disease and stroke, decreased risk of diabetes, certain types of cancer, and obesity, and improved management of chronic pain and the promotion of psychological well-being (World Health Organization, 2008). However, as many Canadians are not physically active enough to achieve such benefits, physical inactivity is considered a critical public health issue for Canadians (Cameron, Wolfe, & Craig, 2007). The economic burden of physical inactivity in Canada in 2001 was estimated to be \$5.3 billion, representing \$1.6 billion in direct costs and an additional \$3.7 billion in indirect costs (Katzmarzyk & Janssen, 2004).

The federal, provincial and territorial governments in Canada have responded to the concern that many Canadians are considered physically inactive through their endorsement of The Integrated Pan-Canadian Healthy Living Strategy, a conceptual framework designed for sustained action to improve the health of Canadians (Secretariat for the Intersectoral Healthy Living Network, 2005). This Strategy is based on a population health approach which focuses on living and working environments known to impact health, conditions which promote healthy choices, and health promotion services. One component of the Strategy is a target to increase by 20% the proportion of Canadians who participate in regular, moderate-to-vigorous physical activity for 30 minutes per day by the year 2015 through a focus on particular settings, including the workplace.

Similarly in Ontario, a 2004 report from the Chief Medical Officer of Health identified the workplace as a key setting for the implementation of strategies for the promotion of physical activity as part of a comprehensive, multisectoral plan to help Ontarians achieve and maintain healthy weights (Chief Medical Officer of Health (Ontario), 2004). In this report, healthy weights were defined using an international body weight classification system, which combines measures of body weight and abdominal fat. Subsequently, as part of Ontario's Action Plan for Healthy Eating and Active Living, the Ministry of Health Promotion proposed to collaborate with partners in

communities, government and the private sector to develop a culture of healthy living (Ministry of Health Promotion, 2006). One of the planned strategies is to champion healthy public policy that supports active living, such as the implementation of workplace wellness programs. The following specific recommendations have been provided:

To create working environments that promote healthy weights, workplaces should:

1. Develop a corporate culture that values and supports healthy eating, physical activity and employee wellness.
2. Audit the workplace, assessing available food choices and opportunities for physical activity. Discuss findings with staff and identify ways to make improvements.
3. Plan “Health Days”: quarterly events that focus on aspects of healthy weights and healthy living.
4. Implement strategies to help people be more physically active at work, such as:
 - Using stepmeters/pedometers,
 - Building a task team to identify ways to increase physical activity opportunities,
 - Making stairways accessible,
 - Arranging for exercise breaks,
 - Allowing employees time to be physically active during the day,
 - Adjusting working hours to allow parents to walk their children to school, and
 - Providing physical activity facilities, programs and incentives. (Chief Medical Officer of Health (Ontario), 2004, p. 53)

The need to promote workplace physical activity is particularly important in northern and rural public health unit areas where rates of overweight and obesity are higher than in Ontario as a whole (Chief Medical Officer of Health (Ontario), 2004). In the Sudbury and District Health Unit (SDHU) area, the combined rate of overweight and obesity is higher than the provincial rate of 49%, and has been seen to increase from 55% in 2003 to 58% in 2005, during which time the provincial rate

remained stable (Sudbury & District Health Unit, 2008). Although the percentage of residents in the SDHU area classified as physically active has increased over the past ten years, from 22% in 1996 to 32% in 2005, the health of the majority of the SDHU area population may be at risk due to a lack of regular physical activity (Sudbury & District Health Unit, 2008).

SDHU area residents who are employed in positions with high occupational sitting time may be a population with increased overall physical inactivity and associated health risk, given evidence that employees primarily engaged in sedentary occupations are also more sedentary in their leisure activities than are employees who do more physically demanding occupations (Kruger, Yore, Ainsworth, & Macera, 2006). Of particular concern are workers employed in call, or contact, centres, given that the majority of employees working as customer service representatives in this industry, spend as much as 95% of their work time sitting, either answering or initiating calls, or in team meetings and off-line administration duties (Holman, 2003b; Rocha, Glina, Marinho, & Nakasato, 2005; Taylor, Baldry, Bain, & Ellis, 2003).

Due to the economic development efforts of municipal government, the number of call centres operating in the City of Greater Sudbury has rapidly increased over the past decade. In September 2008, the number of call centres was twelve, with an estimated total number of 2,132 full-time and part-time employees and a trained labour force of approximately 4,000 (E. Marson, personal communication, November 3, 2008). This represented approximately 5 percent of the total experienced labour force, based on the total of 79,795 working people, aged 15 years and over, reported in the 2006 Census (Statistics Canada, 2008).

As part of the development of Ontario's Action Plan for Healthy Eating and Active Living, roundtable discussions were conducted in eleven communities across Ontario (Ministry of Health Promotion, 2006). The focus of these consultations was to learn what communities were doing to promote healthy living and what barriers they face. According to the more than 1,000 roundtable participants, the main challenges to good health were factors which limit individuals' abilities to make healthy choices, including a lack of recreational facilities; urban planning and land-use

practices which promote the use of cars to get to stores, work, and school; lack of healthy public policy; low incomes which limit people's ability to buy healthy food or pay to participate in recreational programs; and a lack of awareness of the availability of recreational facilities.

While some Northern Ontario communities were included as locations for these roundtable discussions, Sudbury was not and the inclusion criteria for the selected locations were not disclosed in the report. Therefore, any response of Sudbury area employers to the government's recommendations to include the workplace as a key setting for the promotion of physical activity remains unknown. The response of managers of call centres is of particular interest given that questions have been raised regarding the compatibility of the economic aims inherent in this industry with those of workplace health promotion initiatives (Holman, 2002). Based on research conducted in the call centre environment in the United Kingdom, Holman suggests that due to their focus on cost minimization and high call volume, call centres frequently adopt low-cost human resource practices. Therefore, call centre employers may be reluctant to implement workplace strategies that promote physical activity.

The present study used an embedded mixed methods design to explore the responses of call centres employers in the Sudbury area to the Ontario government's recommendation that workplaces promote physical activity. This research provides an understanding of current practices in call centre workplaces that support physical activity, provides insight into the employers' motivation to promote physical activity, and explores factors which assist or hinder such efforts. The results of this study are useful to public health advocates and human resources and workplace health promotion personnel who are concerned about promoting physical activity among workers within call centre, and possibly other, workplace environments.

Literature Review

Promotion of Physical Activity in the Workplace

The designation of the workplace as a key setting for the promotion of physical activity is not a new concept. In his 1974 landmark publication, *A New Perspective on the Health of Canadians*, Marc Lalonde, the Minister of National Health and Welfare, called for “the enlistment of the support of employers of sedentary workers in the establishment of employee exercise programs” (Lalonde, 1981, p. 68). Since that time, health promoters and researchers have recognized the workplace as an ideal venue for the delivery of health promotion interventions to large numbers of adults, many of whom may be difficult to reach through other venues (McMurray, 2003; Sorensen, Stoddard, Peterson, & Cohen, 1999). The workplace has been identified as a key setting for promoting behaviour change where a relatively stable population can be accessed in locations with existing infrastructure and communication systems, where offering repeated interventions can increase opportunities for diffusion amongst workers and increase the likelihood of motivating behaviour change in people at varying stages of readiness, and where modifications to the environment and social norms can support such change (Bull, Gillette, Glasgow, & Estabrooks, 2003; Emmons, Linnan, Shadel, Marcus, & Abrams, 1999). As the majority of adults are employed, accessing them in the workplace increases the potential for substantial changes in lifestyle behaviours when this high contact rate is coupled with even a small intervention effect (Sorensen et al., 1999).

Approximately 15 million working Canadians spend the majority of their waking day either at work or commuting to and from work (Cameron, Craig, Stephens, & Ready, 2002). Because many Canadians report that lack of time is a major impediment to physical activity, the integration of physical activity into time at work, or in commuting to and from work, may be an efficient way to enhance adults’ levels of activity (Proper et al., 2003; Tavares & Plotnikoff, 2008). However, despite this support for the involvement of the workplace in the promotion of physical activity, there

is evidence that the majority of Canadian workplaces do not engage in initiatives to promote physical activity (Macdonald, Csiernik, Durand, Rylett, & Wild, 2006).

In a cross-sectional, survey-based study with a response rate of 79.8%, Macdonald et al. (2006) investigated the prevalence of workplace health programs in a variety of large Canadian workplaces with 100 or more employees and found that fitness programs were available in 29% of the worksites responding to the survey. While the authors found no significant associations between fitness programs and particular work sectors, they reported some regional variation in the prevalence rates of workplace fitness programs. The published study does not provide details for all provinces, but the researchers comment that 46% of worksites in the Maritime Provinces reported having fitness programs while only 17% had such programs in Quebec. Personal communication with the lead author revealed that some data were collected from workplaces in Northern Ontario; however, the results were considered unreliable due to small sample size (S. Macdonald, personal communication, June 9, 2008).

Most of the original workplace interventions designed to promote physical activity have focused at the individual level, directly providing the employee with physical activity sessions and health information, using cognitive-based constructs to impact psychological factors believed to be associated with physical activity (Prodaniuk, Plotnikoff, Spence, & Wilson, 2004). However, a meta-analysis of the literature conducted by Dishman, Oldenburg, O'Neal, Shephard (1998) concluded that typical workplace physical activity interventions result in only small, statistically insignificant increases in physical activity with questionable sustainability. This determination, however, may be in part due to methodological problems identified in many of the studies available at the time of the review and due to the method of quantitative analysis used by Dishman et al.

Many workplace health promotion researchers have moved away from interventions which focus at the level of the individual and broadened their attention to the impact of environmental factors on participation in physical activity and the importance of the interrelationships between individuals and multiple levels of external influences (Humpel, Owen, & Leslie, 2002; Prodaniuk et

al., 2004). Ecological models of health behaviour have been adopted by many as a means to understanding the ways that behaviours are simultaneously influenced by intrapersonal, socio-cultural, policy and physical-environmental factors (Sallis & Owen, 2002; Spence & Lee, 2003). One Canadian example of the application of an ecological framework can be seen in the development of a Workplace Physical Activity Program Standard of best practice and a companion Assessment Tool designed to measure workplace physical activity programs against the standard (Plotnikoff, Prodaniuk, Fein, & Milton, 2005). Based on five interlinking ecological components, this program standard addresses workplace factors related to the individual, social, organizational, community, and policy levels. In this model, the individual level includes such dimensions as employee fitness knowledge, attitudes and skills, while the social level considers whether there is a positive social climate within the workplace that encourages physical activity.

With the adoption of these more comprehensive approaches to examine factors influencing physical activity, there has been a concomitant shift in thinking regarding the importance of the randomized controlled trial (RCT) as the so-called gold standard in intervention research (Dugdill, Brettle, Hulme, McCluskey, & Long, 2008). This shift in acceptance of a broader range of study designs is important given that the application of the RCT design may not be appropriate in the evaluation of more complex workplace health promotion programs based on the ecological framework (Dugdill et al., 2008). Unlike Dishman et al. (1998), Dugdill et al. used a qualitative approach in their systematic review of literature regarding the effectiveness of workplace physical activity interventions published between 1996 and 2007. The purpose of their study was to identify which types of workplace physical activity intervention were effective in changing physical activity behaviour. Their review separately considered studies grouped into the areas of stair climbing, walking, active transport to and from work, and multi-component programs. Using criteria outlined by the National Institute for Health and Clinical Excellence (NICE) which emphasized the assessment of methodological rigour and quality using study design-specific checklists developed originally by the Method for Evaluating Research and Guideline Evidence Group in Australia and

later modified by the Scottish Intercollegiate Guidelines Network, Dugdill et al. found that there was limited evidence for the effectiveness of stair climbing interventions, such as posters or emailed messages designed to influence employees to use the stairs instead of elevators within the workplace. They found three studies which provided evidence that workplace walking interventions using pedometers can increase daily step counts, but only one good quality study, using RCT design, which reported a positive intervention effect on active transport behaviour among economically advantaged females. Dugdill et al. determined that there was strong evidence from four studies, using RCT and before and after designs, that workplace counselling can influence physical activity behaviour, but the long-term effects of the counselling on such behaviour change was not reported. A limitation of this review was the inclusion of only fourteen studies of various designs. This small number of studies was influenced by the fact that the review was commissioned by the NICE in the United Kingdom (UK) with the intent of using the information to develop guidelines for public health in England. Due to the nature of this funding and certain time constraints, the authors restricted their search to studies from Europe, Australia, New Zealand and Canada where it was believed that there would be “similar cultural contents and potential applicability to the UK” (Dugdill et al., 2008, p. 22). In their discussion, the authors acknowledge that a similar number of studies conducted in Asia and the United States between 1996 and 2007 were not included in the review due to limitations imposed by NICE.

The Importance of Workplace Support for Physical Activity

Ståhl et al. (2001) used data from a cross-cultural health policy study, wherein 3,343 adults (aged 18 and over) from six European countries were interviewed by telephone with a response rate of 53.5%, to consider the influence of several social, physical, and policy environmental factors on self-reported physical activity. These researchers concluded that the social environment was the strongest independent predictor of being physically active. In this study, those people who perceived low social support from family, friends, school, and their workplace were more than twice as likely

to be sedentary, as compared to those who perceived a high degree of social support. Gender and age were not found to be significantly associated with sedentary behaviour.

Workplace support for physical activity as demonstrated by the involvement and support of senior management has been identified as one of several conditions considered important to the success of workplace health promotion initiatives (The Health Communication Unit, Centre for Health Promotion, University of Toronto, 2003). However, findings of the *2001 Physical Activity Monitor*, a telephone-interview survey of a random sample of 4,503 Canadian adults conducted by the Canadian Fitness and Lifestyle Research Institute revealed that the majority of respondents (61%) reported little or no encouragement from their employers to be physically active (Cameron et al., 2002).

Motivators, Facilitators and Challenges for the Implementation of Physical Activity Programs

The Public Health Agency of Canada's (PHAC) *Business Case for Active Living at Work* outlines many advantages that physical activity supportive workplaces can achieve, including improved physical health, improved productivity, morale and job satisfaction, reduced stress and injuries, reduced absenteeism and turnover, and reduced costs associated with worker compensation and group health benefit plans (Public Health Agency of Canada, 2004). The wisdom of PHAC's use of a business case approach to encourage employers to invest in workplace physical activity programs was confirmed in the results of a survey-based study of Ontario's automotive parts manufacturing industry (Downey & Sharp, 2007). The authors applied the Theory of Planned Behaviour to investigate the motivations of 46 senior general managers (22% response rate) and 67 human resource managers (33% response rate) for discretionary spending on workplace health promotion activities and determined that both types of managers were primarily motivated by their beliefs that workplace health promotion reduces indirect costs related to poor employee health. The expected positive outcomes of such activities on employee productivity, morale, absenteeism and turnover accounted very significantly for the intention of managers in this industry to allocate discretionary

spending on workplace health promotion initiatives. However, beyond the primary motivations, significant differences were identified in the attitudes of the two types of managers. Interestingly, while general managers were also motivated by their sense of moral responsibility towards employees, human resource managers were not. The authors suggest that this difference can be explained by the fact that in the current corporate milieu, the role of human resources managers has become very outcome-oriented, with increased focus on the impact of their function on an organization's overall profitability.

Employer support and commitment for workplace health initiatives was also considered in a qualitative study of employers in Atlantic Canada where focus groups were held with a total of 47 participants representing a range of private businesses, public sector organizations, municipalities, and universities (Makrides, Heath, Farquharson, & Veinot, 2007). The findings were similar to those reported by Downey and Sharp (2007) in that the top three most frequently mentioned benefits of promoting a healthy workplace were increased productivity and quality of service, increased employee morale, and decreased absenteeism.

Within their focus groups, Makrides et al. (2007) also explored the barriers and facilitators to workplace health initiatives and heard from the participants that challenges included difficulty in accessing appropriate resources, lack of management support, lack of employee interest and time, and the need to ensure confidentiality. The various supports which the focus group participants felt would assist in the implementation of such initiatives included the coordination of existing resources, the development of best practice models, and increased availability of resources to facilitate increased awareness and commitment to programs. While these findings add to the body of knowledge about employer perceptions surrounding workplace health promotion, there are limitations in that most of the participating organizations were large with over 200 employees. Small organizations were not well represented.

Work in Call Centres

The latter part of the twentieth century experienced what has been called the *information revolution*, a move from the industrial era into a post-industrial society, with a shift in employment away from manufacturing, mining and construction sectors towards service- and knowledge-based industries, such as finance, hospitality, tourism, and information services (Krahn, Lowe, & Hughes, 2007; Quinlan, 1999). There has been an expansion of the telecommunications industry and a proliferation of research with a focus on call centres.

Call centres have been defined as “work environments in which business is mediated by computer and telephone-based technologies that enable the efficient distribution of incoming calls (or allocation of outgoing calls) to available staff, and permit customer-employee interaction to occur simultaneously with the use of display screen equipment and the instant access to, and inputting of, information” (Holman, 2003a, p. 116). This includes parts of companies dedicated to this activity, which have been described as *in-house* or *internal*, as well as companies whose main business is dealing with customer service and sales as contracted by other companies. This type of call centre is known as *out-sourced* or *external* (Norman, Floderus, Hagman, Toomingas, & Tornqvist, 2008; Van Jaarsveld, Frost, & Walker, 2007). Call distribution amongst employees is made possible by the automatic call distributor system, which has been identified as the primary technological element that differentiates call centres from other workplaces dealing with inbound telephone inquiries (Collin-Jacques & Smith, 2005).

The main work tasks of call centre agents, or customer service representatives (CSRs), is to communicate with customers via integrated telephone and computer applications for a variety of purposes, including receiving orders, providing information and skilled services, and conducting research and marketing (Wegge, Van Dick, Fisher, Wecking, & Moltzen, 2006). Generally, call centres can be classified into five sectors: customer sales and service, telemarketing and fundraising, market research and survey, financial services, and medical services (Putnam, Fenety, & Loppie, 2000).

Call centres are a growing part of the service industry in many countries and because these businesses can operate at long distances from their customers they offer economic development opportunities in areas of high unemployment (Akyeampong, 2005). It has been estimated that there are more than 14,000 call centres operating in Canada, employing approximately 3.4% of the total employed population on a full- or part-time basis (Human Resources Development Canada, 2002). However, there is some debate about the accuracy of these figures due to inconsistent methods of business and employment classification (Van Jaarsveld et al., 2007).

In Canada, call centres tend to be large workplaces employing 100 or more employees, with a disproportionately large share of female employees. In 2004, female employees accounted for 63% of the call centre workforce, as compared with 55% of the all-service industry workforce and 47% of the entire workforce (Akyeampong, 2005). University and college students are commonly employed in call centres which may, in part, explain the high employee quit rate of 14.3%, which is double the national average quit rate for all industries, and the short average job tenure of 5.7 years (Van Jaarsveld et al., 2007). Only a minority of call centres operating in Canada are unionized (Van Jaarsveld et al., 2007).

Originating in the 1980s, call centres were developed as “cost reduction, labour-saving inspired business units that facilitated for the first time both the centralization of customer interactions and the employment of mass production methodologies within the services sector” (Wegge et al., 2006, p. 80). Much has been written about the job design and work demands in call centres. Refuting the stereotype that call centre work is uncomplicated and non-demanding, Wegge (2006) argues that “call centre agents have to perform several attention-consuming, simultaneous sub-tasks such as controlling the call via deployment of sophisticated listening and questioning skills, operating a keyboard to input data into computers, reading often detailed information from a visual display unit, and speaking to customers” (p.61). In most call centre environment, CSRs are required to achieve specific targets related to call volume and length of call (Putnam et al., 2000; Taylor et al., 2003; Wegge et al., 2006) and to be friendly, enthusiastic and polite even when dealing

with rude and angry customers (Deery, Iverson, & Walsh, 2002). Workers in call centres generally have little control over the pace and planning of work, have little task variety, and work in short task cycles (Taylor et al., 2003). In Canada, CSRs handle an average of 99.5 customers per day with an average call-handling time of 5.5 minutes (Van Jaarsveld et al., 2007).

A common feature of call centre operations is the use of electronic performance monitoring of length of call, interactions with customers, and time off-line for the purposes of training and discipline (Van Jaarsveld et al., 2007). Some authors have likened the use of electronic performance monitoring of employees by supervisors to the creation of an “electronic panopticon” (Ferne & Metcalf, 1998), a type of prison designed in 1785 which allows the observation of all prisoners without their being able to know when they are being watched, thus creating what has been called a “sentiment of an invisible omniscience” (Wikipedia, 2008, July 29).

However, it is noted that all call centres should not be considered the same (Russell, 2004) and that differentiation of call centre work, and employees’ perceptions of their work, may be influenced by broader contextual factors. In a cross-cultural comparative study of nurses working in telehealth centres in Quebec and England, it was determined that workers’ experiences in call centre work is not only shaped by technology, client base, and management practices, but also by forces external to the labour process, such as occupation, society, and industry formation (Collin-Jacques & Smith, 2005). For example, in this study, nurses with a stronger sense of occupational identity were able to influence their work organization in ways that those without such strength of identify could not. Nurses in Quebec were found to be more active in designing the computerized infrastructure necessary to do their work, while nurses in England were more reactive in the technology design process, and ultimately, had difficulty exercising their expert autonomy.

Employee Health and Well-being in Call Centres

Several researchers have investigated the impact of call centre work on the health and well-being of employees. In a survey of 557 employees working in three call centres of a bank in the UK (79%

overall response rate), the well-being of call centre employees, as measured by low levels of anxiety and depression, identified using previously-developed six-item measures, and high degrees of job satisfaction, identified using fifteen-item measures of intrinsic and extrinsic satisfaction, was found to be positively associated with elements of job control, such as having high control of work methods and procedures (Holman, 2002). An example of job control considered in this study was the degree to which the CSRs were able to vary how they talked with customers as opposed to adhering to a script. In this study, employee well-being was found to be negatively associated with high levels of performance monitoring. The employees' evaluations of human resources practices in terms of the fairness of the payment system, the usefulness of performance appraisals, and the adequacy of training were found to be negatively associated with depression and positively associated with extrinsic job satisfaction, while team leader support had a high positive association with well-being (Holman, 2002).

The impact of the motivating potential of work (e.g., employees' perception of the job's significance, variety and autonomy) and organizational identification (the employees' psychological attachment towards their organization) on the work motivation and well-being of call centres employees has been the focus of research conducted in Germany (Wegge et al., 2006). In two related cross-sectional studies involving a total of ten call centres and 372 employees, Wegge et al. found that high motivating potential of work correlated with high job satisfaction, high occupational citizenship behaviour (OCB) (operationalized in terms of helping to orient new employees and trying to cheer up colleagues when they are feeling blue), and low turnover intentions. They discovered that strong relationships existed between organizational identification and several measures of work motivation and well-being. High organizational identification corresponded with high job satisfaction and OCB and low turnover intentions, and with fewer health complaints and lower emotional exhaustion. These authors concluded that providing greater variety and autonomy and fostering a greater sense of organizational identification within call centre employees should have positive effects on attitudes and health.

The development of musculoskeletal (MSK) symptoms among call centre employees has also been examined. In Sweden, a comparison of call centre employees with a reference group of professional computer users from other occupations revealed that the call centre employees reported more musculoskeletal symptoms than the reference group despite the fact that the call centre employees had a younger mean age, had worked at their present jobs for a shorter period of time, and had worked with computers for a shorter time than the reference group (Norman, Nilsson, Hagberg, Tornqvist, & Toomingas, 2004). The authors pointed out, however, that there was a possible bias in their sample given that the call center employees participating in the study were not randomly selected but chosen by the employer as those expected to stay on the job for the duration of the study period.

In a subsequent cross-sectional study of 1183 call centre employees in 38 call centres in Sweden, 3 out of 4 employees reported aches or pain in their neck, shoulders or upper extremities, with no major difference identified between employees working in external or internal call centres (Norman et al., 2008). Employees were asked to complete a questionnaire which addressed many aspects of their work, including working hours, duties, workplace design, psychosocial conditions, and health. Factor analysis was used to consider the associations between MSK symptoms related to two regions of the body (neck-shoulder and arm-hand) and various factors related to characteristics of work and management (e.g., task complexity, total time spent dealing with calls each day), physical exposures (e.g., time spent seated during the work day, duration of continuous computer work without taking a break), and psychosocial exposures (e.g., psychological demands, decision latitude, social support from supervisors). The authors determined the most important factor to be the comfort of the working environment (as measured by an index developed from survey questions related to lighting, temperature, air quality, noise, furniture and equipment and working postures) because associations were seen between low comfort and MSK symptoms in both body regions in employees at external and internal call centres.

In the same study, multivariable analysis revealed that complaints related to the neck and shoulders among employees of external call centres were associated with continuous computer work for about two hours without a break (OR = 2.33, 95% CI: 1.14-4.74), and a low level of social support (OR = 1.99, 95% CI: 1.06-3.71) (Norman et al., 2008). For employees of internal call centres, neck and shoulder symptoms were associated with low complexity of work (OR = 2.41, 95% CI: 1.08-5.40), total time of customer calls between 4 and 7 hours (>240 - ≤330 min per day OR = 3.47, 95% CI: 1.50-8.03; >330 - ≤420 min per day OR = 1.76, 95% CI: 0.92-3.34), an average duration of calls above 2 minutes (>120 - ≤180 seconds OR = 1.84, 95% CI: 0.91-3.72; >180 - ≤300 seconds OR = 2.00, 95% CI: 1.00-3.98; >300 seconds OR = 1.84, 95% CI: 0.85-3.99), and medium-high psychological demands (OR = 2.10, 95% CI: 1.06-4.17). Some limitations in these findings were noted, in that, for some exposure variables, the odd ratios were lower at the highest exposure level than at the intermediate level. The authors suggest that a possible explanation for relatively low odds ratios at the highest exposure categories is that the extreme exposure forces employees to leave their job more rapidly due to more serious MSK problems. Another limitation in this study is the fact that some elements of the questionnaire were classified as having poor test-retest reliability.

However, the findings in the Swedish study are corroborated by findings of similar risk factors for MSK symptoms in a study of call centre operators in a Brazilian bank (Rocha et al., 2005). Symptoms related to the neck-shoulder area were found to be associated with taking fewer rest breaks for recovery (OR = 3.17, 95% CI: 1.11-8.97) and inadequate thermal comfort at work (OR = 3.06, 95% CI: 1.09-8.62), while symptoms related to the wrists-hands were associated with inadequate table height (OR = 3.67, 95% CI: 1.12-11.96) and answering more than 140 calls per day (OR = 3.36, 95% CI: 1.16-9.71).

In the UK, a mixed methods case study of call centre employees working for a national utility provider was conducted at the request of management who were concerned about what they believed to be excessive rates of sickness absence and attrition (Taylor et al., 2003). The two complaints and symptoms of ill-health most frequently reported by employees were physical

tiredness and mental exhaustion, with 36% and 32%, respectively, of all 634 employees participating in the study experiencing these complains very regularly (daily or several times a week), and 68% and 59% regularly (at least several times a month). More than one-quarter of employees reported that they experienced stress either daily or several times a week, and more than half at least several times a month. When employee groups were considered separately, call handlers (30%) were more than twice as likely to be very regularly stressed than non-call handlers (14%). Standard deviations were not reported in this article.

Stress among call centre workers was the focus of a qualitative, interview-based study conducted in Atlantic Canada in which 25 female employees identified work-related stressors (Putnam et al., 2000). In this study, identified stressors included inadequate pay, poor job security, low levels of job control, having to deal with difficult customers, unrealistic performance quotas, having to work rotating shifts, poor work or management relations, and issues related to the physical environment in the call centre, such as poor air circulation, poor temperature regulation, and high noise levels. Many of the women spoke about how their work negatively influenced their overall well-being. Examples include how the unpredictable work schedules interfered with family responsibilities and quality time with family and friends, how working irregular hours with short and poorly timed lunch breaks contributed to unhealthy eating habits, and how they have to sit all day and feel “tied to the phones” (Putnam et al., 2000, p. 9). Given that the collective effect of the job stressors reported by these call centre employees was found to impact negatively on their well-being to various degrees of low energy, depression, irritability, disrupted sleeping and eating patterns, and poor overall mood, the authors identified the implementation of health promotion strategies as a priority among the several policy and program implications they outlined for government and management. The authors recommended the adoption of strategies designed to encourage call centre companies to provide on-site exercise facilities and healthy food dispensers, regular stretch breaks during long periods of sitting, lunch breaks of at least one hour which coincide with regular eating times, and general health and wellness programs.

The plan for a randomized clinical trial regarding the health of call centre employees has been described in the literature. A two-year long program to address employee health concerns has been undertaken in two Hungarian call centres based on initial assessment of subjective health status, lifestyle and health behaviours, work stressors, coping strategies, organizational commitment, and job satisfaction (Juhasz, 2005). In one call centre, which will act as a control group, an individual-focused intervention designed to promote healthy lifestyle behaviours will be provided. In the experimental call centre, the individual-focused intervention will be supplemented by an organizational-focused intervention designed to decrease or eliminate potentially harmful workplace demands associated with health problems, such as time pressures, low esteem of the employees' work, unfavourable physical conditions, and a lack of support for workplace social relationships. To date, the results of this experiment have not been published.

Limitations to Current Knowledge

This review of the literature consisting primarily of cross-sectional studies revealed support for the use of the workplace as a setting for health promotion and provided information about the motivation of some types of employers to implement workplace health initiatives. Some information has been collected as to barriers and facilitators for the implementation of such programs as perceived by employers in large organizations in Atlantic Canada. It is clear that call centres have been the focus of research in many countries with much of this work identifying negative associations between factors related to job design and organization of work, and measures of employee health and well-being. Yet little has been written about what call centre employers are doing to address this situation. Despite the fact that a Canadian study of the impact of call centre-related stressors on employee health and well-being has called for the implementation of policies which promote physical activity among call centre employees and the fact that the Ontario government has set out recommendations for the implementation of specific strategies related to

physical activity, it is not known how call centre employers perceive such recommendations, nor to what extent such strategies have been adopted.

As very little has been published regarding health promotion practices within the call centre industry, it is not fully understood what barriers to their implementation exist, nor what factors serve as facilitators. Without this understanding, it is difficult for public health advocates to know that they are making realistic recommendations and for health promotion personnel to gauge whether they are offering the necessary forms of support to people working in this industry.

Objectives of the Current Study

The purpose of this study was to add to the existing body of knowledge surrounding the implementation of health-promoting initiatives, specifically related to physical activity, within the call centre environment, using the following objectives:

- To provide a description of current workplace practices in Sudbury-area call centres which support physical activity,
- To determine the response of Sudbury-area call centre employers to recommendations for physical activity promotion within the workplace,
- To determine what factors motivate call centre employers to implement workplace-based physical activity strategies,
- To determine, from the employers' perspective, what factors act as facilitators and what factors create challenges for the implementation of workplace-based physical activity strategies within the call centre environment, and
- To determine the study participants' current level of physical activity in order to consider associations between participants' responses to the recommendations for physical activity promotion within the workplace and their own participation in physical activity.

Methods

Mixed Methods Research Design

This study employed a concurrent, embedded mixed methods research design, following a case study approach, which explores the opinions and perceptions of managers regarding physical activity promotion in the workplace, as multiple cases, working in call centres within the geographic area of the City of Greater Sudbury (“a bounded system”) (Creswell, 2007, p. 73).

Mixed methods research has been defined as an approach to inquiry in which qualitative and quantitative forms of research are combined in one study by incorporating the philosophical assumptions of both traditions and by mixing their research methods (Creswell, 2009). The use of a mixed methods research design is believed to result in a study of greater overall strength than could be achieved using quantitative and qualitative methods alone (Creswell, 2009; Teddlie & Tashakkori, 2003). This study followed a concurrent embedded mixed methods research design emphasizing the qualitative approach over the quantitative approach. The mixed methods notation for this design is shown in Figure 1, where the capitalization on “QUAL” indicates the priority given to the qualitative methods over the quantitative methods, shown in lower case, “quan”, and the smaller box within a larger box indicates simultaneous data collection prior to the analysis of findings (Creswell, 2009).

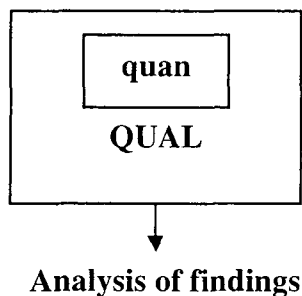


Figure 1: Concurrent Embedded Design

Embedded approaches are commonly used to address a question different from that addressed by the dominant research method (Creswell, Plano Clark, Gutmann, & Hanson, 2003) and are recognized by Creswell (2009) as serving a variety of purposes, including the creation an enriched description of the sample participants through the embedding of quantitative data within a predominantly qualitative design. In the current study, the inclusion of quantitative methods contributed to an enhanced description of the participants and of the call centres in which they work, as well as allowing for the plan to mix qualitative and quantitative data at the analysis stage through the development of a matrix (Creswell, 2009) comparing differences in participants' responses to the recommendations for physical activity promotion within the workplace (collected qualitatively) by participation in physical activity (collected quantitatively).

Participants

Participants were recruited using a non-probabilistic, purposeful sampling strategy designed to achieve maximum variation. This strategy consisted of purposely selecting individuals for inclusion in the study because they could inform an understanding of the research problem from diverse perspectives (Creswell, 2007). People who work in managerial roles, such as human resource and operational management positions, in each of the twelve call centres identified by the Growth and Development Department of the City of Greater Sudbury were invited to participate, with the intent that two representatives of each call centre would be included, for a maximum of twenty-four participants. A list of call centres operating in the City of Greater Sudbury as of September 2008, provided by the Business Development Officer in the Growth and Development Department, was used as the basis for initial contact with the call centres.

Recruitment

In early February 2009, I visited all of the call centres to provide general information about the study and to determine the name and contact information of human resource and operational managers. I prepared a letter of invitation outlining the purpose and methods of the study and

providing ethics approval information which was sent by email or fax, or hand-delivered, to potential participants (see Appendix F).

Telephone follow-up was made within ten days of the distribution of the letter in order to answer any questions and to book interview appointments. In most cases, repeated efforts were required to make telephone contact with the potential participant, and in some cases, I was told that the invitation should be sent to someone else within the organization or that approval from a higher level of management was required before the individual could agree to participate in the study.

In mid-March 2009, a presentation regarding the purpose and methods of the study was added to the agenda of a meeting of the City of Greater Sudbury Contact Centre Network; however, due to the timing of the school break, few members of the Network were available to attend the meeting, resulting in the postponement of the meeting until early April 2009.

Given low attendance at the April meeting, with only two call centre representatives plus the Business Development Officer, I used the email distribution list which had been used to announce the agenda for the meeting to provide individual email follow-up to each member of the Network, offering to provide information about the study.

Between early February to mid July, thirty individuals within the Sudbury-area call centres were approached to participate in the study through a variety of communication strategies, including eight 'cold call' visits for the purpose of introduction, fifty telephone calls, twenty-seven emails, thirteen letters sent via email, three letters sent via fax, two letters hand-delivered, and three internal referrals.

All participants were provided with small incentives, which consisted of a list of resources deemed helpful for the implementation of workplace physical activity promotion activities which was provided at the completion of every interview (see Appendix G) and the chance to win a draw for one of five three-month memberships to GoodLife Fitness. Furthermore, a Sportline Walking Advantage Step & Distance pedometer™ (model SL340W) and accompanying booklet about the

10,000 steps-a-day walking program was provided to the first study participant of each unique call centre.

Data Collection and Measures

Qualitative Data

Data was collected via face-to-face, individual interviews, following a semi-structured interview protocol (see Appendix A for Interview Guide). Participants were provided with a written list of the specific recommendations put forward in the *Healthy Weights, Healthy Lives* report (Chief Medical Officer of Health (Ontario), 2004) and were asked the following five open-ended questions:

1. What is your reaction to these recommendations?
2. What current practices does your workplace have to promote physical activity?
3. What has motivated, or might motivate, your organization to promote physical activity in the workplace?
4. What has assisted, or would assist, your organization with the implementation of strategies to promote physical activity in the workplace?
5. What barriers presently exist or did your organization have to overcome in order to implement strategies to promote physical activity in the workplace?

Probing questions were asked when the participant did not understand the question or made a comment that required further explanation or allowed for exploration of a new idea.

The emphasis on semi-structured qualitative data collection methods was selected to allow exploration of participants' perceptions, with the openness encouraged through face-to-face interaction between the researcher and each study participant (Patton, 1990). This approach was chosen with the belief that it would lead to a deeper understanding of the topic and would result in a higher response rate than would the use of a pure questionnaire format. Inherent in the qualitative approach are assumptions that the researcher serves as the key instrument of data collection and that valid data come from closeness and extended contact in natural settings (Palys & Atchison, 2008).

The use of open-ended responses permitted the researcher to develop a deeper understanding of the participants' views through the use of questions designed to clarify and probe emerging themes, without limiting participants' responses through the pre-selection of questionnaire items (Palys & Atchison, 2008). Unlike the quantitative testing of an a priori hypothesis, qualitative methods allow the participants' own voices to be heard as emerging themes are identified from their actual words (Creswell, 2009; Patton, 1990).

Quantitative Data

Quantitative data was collected using two brief, self-administered questionnaires, completed by each participant immediately following the open-ended questions. Two separate questionnaires were used in order to create a distinction between information related to the call centre in which the participant worked and information related to the participant as an individual. The first questionnaire used the following seven items to describe the characteristics of the call centre:

1. Which of the following best describes the type of work done in your call centre?
(customer sales and service/telemarketing and fundraising/market research and survey/financial services/medical services/ other);
2. Which of the following classifications best describes your call centre? (in-house/out-sourced/combined in-house and out-sourced);
3. Which of the following terms best describes the majority of the calls conducted in your call centre? (out-bound/in-bound/equally out-bound and in-bound);
4. Where is your organization's head office (open-ended);
5. What is the approximate total number of part-time and full-time employees working from your Sudbury location? (0-50/51-99/100-200/201-350/more than 351)
6. What type of employment do the majority of your Call Centre Representatives have?
(part-time/full-time)
7. Is your call centre unionized? (yes/no) (see Appendix B).

The second questionnaire was designed to collect basic demographic information, including age (open-ended), gender (female/male/other) and job title (open-ended), and to determine the participant's current total level of physical activity and average sitting time using the self-administered short form of the International Physical Activity Questionnaire (IPAQ) (International Physical Activity Questionnaire, 2002) (see Appendix C).

The IPAQ is a physical activity measure for comparing population levels of physical activity among adults (18-65 years) (Craig et al., 2003). The short version contains six items measuring time spent in physical activity (vigorous-intensity activity, moderate-intensity activity, and walking) and one item measuring time spent sitting over the previous seven days. The questionnaire instructs participants to refer to all domains of physical activity including their activities at work, at home and in the yard, in transportation, and in recreation and sports. The use of a measure which includes physical activity at work and in transportation to and from work was considered important given the focus of this study. For each of the categories of physical activity (vigorous, moderate and walking), respondents are asked to report the number of days per week they engaged in such activities (open-ended) and how much time was spent doing those activities (open-ended for hours per day and minutes per day with *Don't know/Not sure* check box).

A multi-centre study of reliability and validity determined that the various formats of the IPAQ (long and short, telephone- and self-administered) demonstrate measurement properties that are at least as good as other self-report measures of physical activity (Craig et al., 2003). The various short forms of the IPAQ were similar in their estimated repeatability with a Spearman correlation coefficient around 0.76 (95% CI: 0.73-0.77), indicating very good repeatability (Craig et al., 2003).

To test the criterion validity, the self-report data collected through the IPAQ was compared with physical activity and sitting data collected using an accelerometer over a seven-day period. Fair to moderate agreement was found between the two measures with a median Spearman's correlation coefficient of 0.30 (95% CI: 0.23-0.36) (Craig et al., 2003).

However, some concerns about the IPAQ have been raised regarding possible over-reporting of duration and intensity of physical activity, possibly due to the respondents' wishes to be seen in a positive light by providing socially desirable responses, or to a poor understanding of the questions asked. In a cross-sectional study comparing physical activity results using the telephone-administered protocol of the short form of the IPAQ and a probe protocol conducted by trained interviewers, over 40% of the 50 study participants were found to over-report their vigorous and moderate physical activity, and more than two-thirds of the participants were found to over-report their walking (Rzewnicki, Auweele, & De Bourdeaudhuij, 2003).

Role of the Researcher

Unlike pure quantitative research where objectivity is sought through social distance and a detached, analytical stance, in qualitative research, it is important for the researcher, who plays such an important role in the collection and analysis of data, to reflect on personal biases which may impact the study (Creswell, 2009; Palys & Atchison, 2008). Prior to undertaking this research, I had little knowledge of the call centre environment apart from observations made from the outside of various buildings in the Sudbury-area, where I frequently observed call centre employees standing in relatively stationary positions, smoking cigarettes, and drinking coffee. I did not see them engaged in physical activity and was concerned that their work, which I believed to be sedentary and stressful in nature, contributed to their smoking habits and was ultimately impacting their health in a negative way. However, I did wonder whether the employees I observed were truly representative of most call centre workers or whether they represented only a small percentage of the total number of employees who are forced to go outside to smoke given Ontario's smoke-free bylaws. My interest in physical activity promotion practices within call centres developed as I walked past a call centre in my neighbourhood enroute to exercise at a nearby fitness club and I wondered if people who work in call centres would benefit from workplace efforts designed to encourage them to engage in health-promoting activities.

Prior to collecting the data, I considered the various biases that may impact my role as researcher. I considered how my perspective may have been influenced by my beliefs that some call centre employees may be socio-economically disadvantaged through lower educational attainment, low income, and working conditions that may be precarious and offer low levels of control and autonomy. I reflected on the positive and negative personal interactions that I have had with call centre representatives over the telephone and my own experiences both as a manager and as an employee in various workplaces where physical activity had not been promoted. I recognized that I place high importance on being physically active. Given all of this, I acknowledged that I was operating from the belief that promoting physical activity among call centre workers was important, and yet, had some doubt that call centre employers would be supportive. I wondered if managers in some call centres would realize the value that such initiatives offer their organization, would see physical activity promotion as part of their role, or were aware of the various physical activity promotion resources available to them.

Ethics and Protection of Anonymity

The research protocol received approval from the Lakehead University Research Ethics Board in January 2009. All potential participants were provided with written information regarding the purpose and procedures of the study, potential harms, risks and benefits, and contact information for Lakehead University's Research Ethics Board and my thesis supervisor (see Appendix D).

Participants were informed that their participation was voluntary and that they could refuse to answer any question. Participants were assured that all information would be kept anonymous and that only aggregate data would be presented in the final report or any subsequent publications. Participants were invited to review and comment on the findings of the study prior to the completion of the final report, as a form of member-checking to increase validity of the findings, and to receive an electronic of the final report upon its completion. All participants completed a consent form (see Appendix E).

When not in use, all original hard-copy documents were stored in a locked cabinet in my house to which no others had access. All electronic data stored on my home computer were identified only by pseudonym and were pass-word protected.

Data Analysis

Qualitative

Following each interview, a pseudonym was created for the participant and an alphabetical character assigned to each unique call centre. Audiotapes were transcribed into Microsoft Office Word 2003 and any reference to the name of an individual, workplace or business client of a call centre was altered in order to maintain anonymity.

Using a qualitative data analysis computer program called Atlas.ti version 5.0, an hermeneutic unit entitled *PA in Call Centres* was created. Each transcript was converted into rich text format and assigned to the hermeneutic unit as a primary document (PD) (Muhr, 2004). Some characteristics of the participants (e.g., manager type, gender, dichotomous age category), as well as characteristics of the call centres, (e.g., call direction, location of head office, number of employees) were then used as variables to create primary document (PD) families. This allowed for limiting the scope of various inquiries to explore differences between the participants' responses. For example, by using the employee number to create a PD family, it was then possible to consider whether there were any differences in the number of workplace practices offered by large versus smaller organizations.

The PD families were then exported to a tab-delimited text file to be used in Microsoft Office Excel 2003 as dichotomous variables. Columns were summed and the percentage formula was used to create a description of the call centres and the managers. Each PD was reread and key quotations were identified and coded using a mix of free and *in-vivo* coding. Codes associated with the question: *What has motivated, or might motivate, your organization to promote physical activity in the workplace?* were grouped into a code family entitled *motivators*. Similarly, codes associated

with the question: *What has assisted, or would assist, your organization with the implementation of strategies to promote physical activity in the workplace?* were grouped into a code family entitled *facilitators*, and codes associated with the question: *What barriers presently exist or did your organization have to overcome in order to implement strategies to promote physical activity in the workplace?* were grouped into a code family entitled *barriers*. Common themes were identified within each of these three code families and a network was created to demonstrate in a visual diagram my interpretation of how the codes related to the themes.

Each PD was then reviewed in order to determine whether the participant's overall response to the recommendations was *positive* or *negative*. Each PD was then reviewed again to compare the current workplace practices against the list of recommended strategies, resulting in the classification of *none*, *few* or *some*. The term *none* was used to describe call centres in which there were no current practices to promote physical activity, while *few* was used to describe those call centres currently offering a few, but not many, of the initiatives identified in the recommendations, and *some* was used to describe call centres in which several of the recommended strategies were currently in place.

Quantitative

Scoring of the International Physical Activity Questionnaire

The Guidelines for Data Processing and Analysis of the International Physical Activity

Questionnaire were followed to determine whether the physical activity level of the participants fell into the categories of *high*, *moderate* or *low* (International Physical Activity Questionnaire, 2005).

The participants' written responses to the questionnaire were entered into a Microsoft Office Excel 2003 spreadsheet so that the multiplication and summing functions could be used to calculate the total activity score in MET-minutes/week. MET, or metabolic equivalent, is a unit used to describe the energy expenditure of a specific activity, expressed as multiples of the rate of energy expended at rest (Boyce, Boone, Cioci, & Lee, 2008). To calculate the total activity score for each participant,

all responses to duration of activities were converted from hours and minutes into minutes and then the number of minutes spent in each of vigorous, moderate and walking activities was multiplied by the number of days spent in the activity and by the MET level assigned to each activity. For example, as vigorous intensity activity is assigned a MET level of 8, the MET-minutes/week score for vigorous activity of an individual who reported doing vigorous activities on five of the previous seven days and spending 30 minutes on one of those days would be 1,200 MET-minutes/week (i.e., $8.0 \times 5 \times 30 = 1,200$). The MET-minutes/week scores for vigorous, moderate and walking activities were then summed to create the total activity score.

The IPAQ uses the *high* category to describe levels of physical activity which are equivalent to approximately one hour per day or more of at least moderate-intensity activity above the basal level of physical activity (International Physical Activity Questionnaire, 2005). The Guidelines describe that basal activity may be considered equivalent to approximately 5000 steps per day and that the *high* category is meant to describe those people who move at least 12,500 steps per day, or the equivalent in moderate and vigorous activities.

The *moderate* category is defined as engaging in a level of physical activity equivalent to half an hour of at least moderate-intensity physical activity on most days. The *low* category is defined as not having met any of the criteria for either of the *high* or *moderate* categories.

The final question of the IPAQ asked respondents to indicate how much time they spent sitting on a week day during the previous seven days. They were instructed to include time at work, at home, while doing course work and during leisure time which may include sitting at a desk, visiting with friends, reading or sitting or lying down to watch television.

Demographic Data

The ages of participants were entered into a Microsoft Office Excel 2003 spreadsheet so that the statistics formulae could be used to identify the mean age with standard deviations. Age categories of ten-year spans (20-29, 30-39, 40-49, 50-59) were used to group participants and were then collapsed into dichotomous categories representing those who reported being under age 40, and

those who were 40 years and over. The self-reported employment title was used to classify the participant into one of three categories: human resources manager, operational manager (including job titles related to customer care, service delivery, operations, and supervision), and senior level manager (including job titles such as president, vice-president, or chief executive officer).

Strategies for Establishing Rigour

In order to enhance the rigour of this study, an audit trail was maintained (Wolf, 2003). This included a detailed list of attempted and successful contacts with all potential participants and the use of memos to document remarkable incidents. Following the initial analysis of the data, a *member-checking* activity was conducted in which the ten study participants who had indicated an interest in reviewing the finding were sent an electronic copy of the preliminary report of the identified themes and offered a face-to-face presentation. These participants were asked to review the identified themes in order to ensure that they accurately reflected their expectations, and were asked to identify any errors in interpretations of the responses or omission of important themes. The email address of one participant was no longer functional due to the closure of the call centre in which he worked. A reminder was sent one week later to confirm that the initial communication had been received. Three participants confirmed that the findings were in keeping with their expectations and that they did not identify any errors or omissions. Two other participants acknowledged receipt of the report but did not provide comments. The remaining four participants did not respond.

Results

Response Rate

A total of fifteen managers working in ten of the twelve call centres agreed to participate in audio-taped interviews conducted within their place of employment and to complete the two questionnaires, representing a response rate of 50% of the thirty individuals invited to participate, within 83% of the call centres operating in Sudbury. Prior to conducting this research, I was not acquainted with any of the participants.

In the two remaining call centres, no managers were available to participate in the study due to a heavy workload in one call centre and a recent turn-over within the management structure in the other. As anticipated, it was not possible to interview one human resources manager and one general operational manager within each call centre, in part due to a limited management structure in some of the smaller call centres wherein one person fulfilled all human resources and operational management duties. In some call centres, the human resources role was provided by a manager located in a branch of the organization located outside of the Sudbury-area, and in one call centre, there was a refusal to involve more than one manager in the study. In five of the ten participating call centres (50%), two managers were interviewed, while in the other five (50%), only one manager participated.

The length of time required to complete the interview and questionnaires varied between approximately fifteen and forty minutes. The word count for the interview transcript of each participant is shown in Table 1.

Table 1: Transcript Word Count by Participant

Participants (n = 15)	Transcript Word Count
Adam	1,772
Catherine	2,205
David	2,365
Frank	3,951
Greg	3,694
Gwen	2,948
Helen	5,410
Isabelle	3,661
Joanne	4,091
Julia	2,053
Lianne	4,215
Michelle	4,277
Peter	6,572
Scott	5,864
Susan	6,788
Total	59,866

Note: Pseudonyms have been used to protect the anonymity of participants.

Description of Participants

The demographic characteristics and physical activity levels of the participants are provided in Table 2. The majority of participants were female (60%) and were classified as managers whose duties were mostly operational in nature (53%). Ages ranged from 29 to 48 years, with a mean age of 39.9 years (SD = 5.3). The IPAQ scores of the majority of participants (80%) indicated that their level of physical activity was high or moderate and the average reported time spent sitting during a week day was 7.4 hours (SD = 2.2).

For two participants, the truncation of data rule outlined in the *Guidelines for Data Processing and Analysis of the International Physical Activity Questionnaire* was applied (International Physical Activity Questionnaire, 2005). This rule, whereby any time variable exceeding three hours is recoded to the three hour maximum, is designed to normalize the distribution levels of activity which can be skewed in large population data sets. In both of these

cases, the application of the truncation rule did not affect the participant's physical activity level.

Both cases remained within the *high* category despite the truncation.

In the one case where a participant answered *Don't know/Not sure* in response to the amount of time allotted to vigorous activity on one of the days in the previous seven, the answers to the other items were used to determine that even without including the question related to vigorous activity, the participant's reported physical activity met the criteria to be included in the *high* category. Given the fact that the scores were to be used categorically, the decision was made to retain the case with a physical activity classification of *high*, despite the Guidelines' instructions to remove any case with a response of *don't know/not sure* from the analysis. The decision to retain the case was supported by one of the authors of the *Guidelines* who was consulted via email communication (C.L. Craig, personal communication, July 28, 2009).

Table 2: Demographic Characteristics and Physical Activity Levels of Participants

Characteristic	Participants n (%)
Age (years)	
under 40	7 (46.7)
40 and older	8 (53.3)
Gender	
Female	9 (60.0)
Male	6 (40.0)
Manager Type	
Human Resources	4 (26.7)
Operational*	8 (53.3)
Senior Level	3 (20.0)
Physical Activity Level	
High	7 (46.7)
Moderate	5 (33.3)
Low	3 (20.0)

* includes job titles related to customer care, service delivery, operations, and supervision

Description of the Call Centres

The characteristics of the ten call centres that were represented in this study are provided in Table 3.

In-house is a term typically used to describe a call centre which is part of a larger organization for which calls are either made or received, while *out-sourced* is a term used to describe a call centre which provides service for other organizations that subcontract their work to a third party (Van Jaarsveld et al., 2007). Participants indicated that the majority of the call centres (60%) were *out-sourced*.

The head office of seven of the ten (70%) represented call centres was located in Ontario and the work performed in the majority of the call centres (80%) was regarded as customer sales and service. The call direction in five of the ten call centres (50%) was in-bound and was out-bound in four of the ten (40%) call centres. It was noted that there was disagreement in the responses provided by two managers working in one call centre, in that one manager indicated that the calls were inbound, while the other indicated that the calls were equally inbound and outbound. In that case, the call centre was classified as inbound in accordance with the response of the more senior level manager.

The number of employees in the participating call centres varied. Four of the ten call centres (40%) had less than 50 employees while two (20%) had more than 351 employees. There was an equal balance of full- and part-time employment offered by the ten call centres and in the majority of call centres (70%), the employees were not unionized.

Table 3: Characteristics of the Represented Call Centres

Characteristic	Call Centres n (%)
Ownership Type	
In-house	4 (40.0)
Out-sourced	6 (60.0)
Location of Head Office in	
Sudbury	4 (40.0)
Ontario, but not Sudbury	3 (30.0)
Canada, but not Ontario	1 (10.0)
another country	2 (20.0)
Type of Work	
Customer sales and service	8 (80.0)
Telemarketing and fundraising	0 (0)
Market research and survey	2 (20.0)
Financial services	0 (0)
Medical services	0 (0)
Other	0 (0)
Call Direction	
Out-bound	4 (40.0)
In-bound	5 (50.0)
Equally out-bound and in-bound	1 (10.0)
Number of Employees*	
Less than 50	4 (40.0)
51-99	1 (10.0)
100-200	2 (20.0)
201-350	1 (10.0)
More than 351	2 (20.0)
Type of Employment	
Full-time	5 (50.0)
Part-time	5 (50.0)
Unionization Status	
Unionized	3 (30.0)
Not unionized	7 (70.0)

* Discrepancy between the responses provided by the pair of managers was noted for two different call centres. In one case, one manager indicated that the number of employees was *less than 50*, while the other manager working in the same call centre indicated there were *between 51 and 99* employees. In that case, the number of employees was classified as *less than 50*, as this was the response provided by the more senior manager. In another case, one manager indicated that there were *between 100 and 200* employees, while the other manager indicated *less than 50*. This disagreement is likely due to the fact that at the time of the interviews, the call centre was in the process of closing and so many employees had been let go in the few months prior to the interviews. In that case, the number of employees was considered to be *between 100-200*.

Managers' Responses to the Recommendations

Overall, the managers' responses to the recommendations that workplaces should "create working environments that promote healthy weights" through the adoption of specific strategies (Chief Medical Officer of Health (Ontario), 2004, p. 53) were positive. Participants used words such as "*fabulous*" and "*fantastic*" to describe the recommendations as a whole and spoke of their value:

"I think that they are all valuable." David

"I definitely see the value in it." Michelle

Some managers specifically stated their agreement with the identification of the workplace as a key setting for the promotion of physical activity:

"I agree with all of them [referring to the recommendations]. I do ... I think that employers need to take a, it's just my opinion, but I think employers need to take a much stronger stance on it." Scott

"... you spend the majority of your time in your workplace environment so it just makes a lot of sense to get that started in the workplace." Susan

"Oh, I think it's great. I think it's warranted; it's needed. I think as a society of people who are in, for the most part, a lot of sedentary jobs compared to many years ago... we just don't get the exercise we need and I think ... they're very wise, very wise suggestions, yeah." Joanne

However, some participants did not agree on whether the recommendations could be implemented within the call centre environment.

"I think that everything in here is very attainable even for this environment, if you will."

Peter

Other participants were less optimistic:

"I think that some of them are fine, that they definitely could be implemented with some assistance. Some of them are not realistic for our workplace or for our business." Isabelle

“Yeah ... some of these things are wonderful, some can be accommodated and some can't, just due to the business constraints, I guess. So, yeah, it sounds wonderful. It sounds like a good world.” Greg

Current Workplace Practices which Promote Physical Activity

Several of the respondents indicated that there were currently no initiatives in the workplace to promote physical activity, although some mentioned that there had been initiatives in the past which were no longer on-going. Some of the respondents indicated that their workplace was currently offering a few, but not many, of the initiatives identified in the recommendations, while other respondents indicated that several of the recommended strategies were currently in place.

Queries were run to explore how the number of employees related to the current practices. As shown in Table 4, all of the call centres classified as offering *some* of the recommended initiatives had more than 200 employees. All of the call centres with fewer than 200 employees were classified as having *no* or *few* current practices to promote physical activity.

Table 4: Number of Current Practices Promoting Physical Activity, by Employee Number

Number of Employees	Number of Current Practices Promoting Physical Activity			
	n	None	Few	Some
Less than 50	4	H*, L, J	R	
51-99	1		K	
100-200	2	M, A		
201-350	1			G
More than 351	2			N, D

*Alphabetical characters represent unique call centres.

Of the recommended strategies, those most commonly offered were the use of pedometers, and the promotion of exercise, either as part of a brief exercise break within close proximity of the work station, or through information and signage posted at work stations or in common areas. Several respondents indicated that employees were eligible for corporate discounts at fitness

facilities or weight-loss programs; however, none of the call centres currently had any on-site facilities, although one had in the past, and some had received such requests from staff.

Several participants discussed the fact that the food choices available within on-site vending machines could be improved. In some cases, however, attempts to create such change had been met with resistance by employees. Very few of the respondents indicated that their workplace had a workplace wellness committee, and while in some locations, stairways were considered accessible, there was no process in place to promote their use.

The recommendations related to allowing employees time to be physically active during the day or to adjust working hours to allow physical activity were the ones considered least practical. As will be discussed further in the section on Barriers, it was clear in the responses of most of the participants that, while employees were free to be physically active on their regularly scheduled breaks and lunches, the type of work conducted in call centres does not lend itself to scheduling changes.

Many participants reported on other initiatives related to physical activity, healthy eating and weight-loss which were not specifically identified in the *Healthy Weights, Healthy Lives* Report (Chief Medical Officer of Health (Ontario), 2004). Examples include participating in events that were developed or sponsored by other organizations, such as the Heart and Stroke Big Bike event, during which teams of people ride a large bike around the city in an effort to raise funds for the Heart and Stroke Foundation, or participating in bowling or golf tournaments or the Dragon Boat Festival as a means of fund-raising organizations such as Big Brothers and the Alzheimer Society. In several of the call centres, the employees themselves organized informal physical activity groups, such as a walking club or runners who exercise together at local facilities during lunch. Some call centres responded to employee requests for financial support for staff-driven activities, such as funding the purchase of shirts for a team of employees wishing to participate in a bowling or baseball league.

Some of the managers commented that the employees in their call centre organized diet clubs or weight-loss challenges, similar to *The Biggest Loser* program shown on television in which overweight and obese contestants compete against each other in an attempt to lose the most body weight within a specific timeframe in order to win a cash prize. In these cases, employees who wished to participate would pay an entrance fee and then track their weight loss over a period of time. At the end of a specified timeframe, the money collected was awarded to the top three people who had lost the larger percentage of body weight. These initiatives, however, were employee-driven, not implemented by the employer, and the managers did not provide details as to whether physical activity was promoted as part of the challenge.

Some call centres shared information about the importance of physical activity and healthy eating on bulletin boards or via newsletter and internal websites. Bicycle racks were available at, or nearby, some of the call centres, although some participants questioned the safety of bicycling at night given the late hours worked by some employees.

Employer Motivators for Physical Activity Promotion

Three themes were identified in the participants' comments regarding what factors had, or might, motivate their organization to promote physical activity in the workplace. Two of the themes, *Employer Reaps the Benefits* and *Concern for Employee Well-being*, are associated with multiple codes, some of which are related to both themes, while the third theme, *The Greater Good*, is associated with only two codes.

Employer Reaps the Benefits

Managers spoke of their knowledge of the evidence suggesting the advantages of regular physical activity and how it can contribute to improved job performance and enhanced productivity within the call centre environment.

“Well, we hear the studies. You know, people who are, you know, physically active and stuff, they’re more alert, they’re less sleepy. You know, you eat better, you feel better. No, there’s definitely advantages to it.” Julia

“I think, that, you know, studies all over the place show that your activity level reduces your stress level and makes you just more productive, more alert and that kind of thing, so um, it’s, I think it’s much needed in this type of environment, in any environment where you’re sitting at a desk and strapped to a headphone, a headset all day long. ...I think seeing the benefits of increased productivity would probably be my biggest motivator.” Michelle

“...obviously healthy employees miss less time. They’re more productive. They’re happier, so it’s a win-win. If the employee is healthy in body and mind ..., the employer wins too.”

Joanne

Many of the managers spoke of the high rates of absenteeism and attrition which are common within the call centre industry and how encouraging a health-promoting lifestyle could lead to more consistent attendance and increased productivity.

“I’m assuming, the common sense, the healthier lifestyle maybe builds people’s immune system. We have a lot of people getting sick a lot of times, so I mean if people were healthier, ah, I’m sure that maybe it could effect things like absenteeism in the long run, which is a big concern for us. ... Sure, something like that would definitely, sure, be an appeal to the organization, especially if the trickle effect then is healthier people and then people showing up to work more often, cause that’s a huge loss of revenue for businesses like this, such as absenteeism.” Frank

“Absenteeism would be low, it would be much lower, when people had colds, it wouldn’t spread around if you’re, you know, eating healthy and rested” Gwen

The participants felt that the concept of reducing absenteeism by improving employee health was also associated with improved employee morale and creating a positive work atmosphere which may be especially important within the call centre industry.

“If we have a healthy environment at work that means less absenteeism. Ahh, people are less prone to be sick. Also it makes you feel good so you’re going to like your job a lot better.” Catherine

“You look at why is there such a high absenteeism rate? Well, it’s because people don’t want to be on the phones all day. It’s because it’s not a fun job. Maybe, but I really think that’s because a lot of these people aren’t very healthy.” Peter

“I think we’re always kind of looking for something more to, you know, just to sort of shake things up and make things interesting and, an um, trying to keep the whole work atmosphere positive and that’s why like some of the staff took on this Bigger Loser, it usually involves, I think, somewhere between 30 and 40 people.” Joanne

“I think a lot of it is if you’re healthy, if you’re eating healthy, if you’re feeling healthy, you’re prone number one to be happier because we need happy voices on the phone because you’re dealing with irate people.” Gwen

Several managers spoke of how engaging in physical activity as a group could encourage employees to work as a team.

“I appreciate and have recognized the camaraderie and the team environment that these kinds of activities create. I think that that’s healthy. People get excited and it’s nice to see them excited about other things at work. ... getting involved in group activities and team sports ...created more of a team environment in the workplace so it got people partnering up with other employers in the building that they would not normally have associated with, umm, and it created a good team environment.” Michelle

“...employee picnics and that sort of thing, there were a lot of activities that required physical exertion to some extent, as opposed to just being sedentary so you know, we tried to do team-building activities and you know, tugs of war and that sort of things, but you know something to get, to get, people moving.” David

Managers acknowledged that although the employer may bear some costs related to promoting physical activity, a return on investment would be expected, not only through reduced absenteeism, but also through reduced health-related expenses.

“I think it benefits them [the employer], through uh, perhaps reductions in their benefits and usage, it’s a better proactive approach than waiting for you to get sick and have to spend money on medicine, I think that if more employers took the stance and ah, participated a bit more on some of these things, um, I think the long-term cost-benefits would, it would just pay for itself. ... They’re going to look for ways to recover their costs. I think the benefits thing, that’s an easy one, ah, I still don’t think a lot of companies are convinced that that could happen. I think they seem to think that people miss work because they want to miss work but I don’t think that’s the case. ...” Scott

One participant suggested that being involved in initiatives to promote physical activity amongst employees may be useful as an aid to the recruitment of new staff.

“It helps the business in the long run, like any business, it’s one of those things you can promote when you’re hiring. You know “hey, we’re a member of the healthy lifestyles committee”, or whatever. I think it would be very beneficial.” David

Two managers spoke of how initiatives to promote physical activity within the workplace would assist them in accomplishing their personal health goals.

“I was a lot lighter when I first started here ... you come to work, you sit in your chair, you sit in front of your computer. And when you do get up, it’s to have a break and grab a quick coffee which isn’t a very healthy breakfast and then lunch, you only have a ½ hour for lunch so in order to eat and get back to work, you have no time to you know, even take a small walk. I just recently started, probably about 3 months ago actually, trying to get more active myself, at home, but I find it really difficult because I have small children at home and for me to be able to work out before work is very difficult, then I sit here all day and when I go home, I don’t want to do it anymore. I have to really push myself.” Helen

Concern for Employee Well-being

The second major theme emerging within the employer motivators for physical activity promotion was Concern for Employee Well-being which frequently was related to the Employer Reaps the Benefits. Their interrelatedness is demonstrated by the fact that several of the codes associated with the Employer Reaps the Benefits theme are connected with codes associated with the Concern for Employee Well-being theme, and in the following quotation:

“It’s in the [best interest of the] well-being of our employee, they are our largest resource and we do whatever we can to assist them.” Isabelle

Participants spoke of how the nature of the work conducted within call centres can negatively impact employee health and morale.

“It is a boring, monotonous job so whether it’s actually that they really are sick or they’re just need a day off...” Adam

“It’s been proven time and time again that you can’t do repetitive work forever, without a change because it affects you in one way or another, mentally or physically, and that’s where you tend to, in my experience, you see people who will overeat out of boredom.”

Lianne

Many managers spoke of the stress inherent in call centre work.

“I talk about the stresses of the workplace, what they do is a very stressful job, um. I tell them [new trainees] right from the get-go that this is, two things, this is the loneliest job that you’re probably going to have, and the most stressful job that you’re going to have. And I say lonely because unlike retail, where you’re able to interact physically with other folks, you’re able to move around, from aisle to aisle to assist someone, you’re able to see and feel more emotion from body language and such. You’re not going to get that here. We’re going to place you in a box. You’re going to stare at a computer and you’re going to talk to the computer all day. That’s what it’s going to feel like anyhow and that computer, you have

to remember, that person speaking to you on the other end of the line is ... going to be a lot braver than they could ever be in person. And they're not calling you to thank you for sending you a bill on time. All of our calls here are incoming and so, I joke around and I ask them you know, when, when is the last time you called [any company] just to thank them for sending you the bill on time? Just, 'I'm just calling to say thank you'. That never happens, so these folks are calling you because there's a problem and you don't know what kind of problem that that might have caused in their personal lives and so they're angry and you need to defuse that." Scott

"We don't sell. We just do surveys so, it's not as bad as like the call centres where they're trying to sell and that, so it's a little bit less stress there, but yeah, it's still stressful, somewhat stressful getting rejected occasionally." Adam

"In the call centre, I think it's all about the stress level. And they're [the customers] screaming and yelling at you and they're calling you names and you get it about 50 times a day. Not every customer is like that, though". Helen

Some managers spoke of how they promote physical activity as a way to cope with the stress of the job.

"We were looking at promoting a healthier way of living. Um, less stress, because activity, exercise promotes less stress in your life also." Catherine

"I tried to explain that to them [the employees] before. It's not about going outside for a 5 minute break to sit on the picnic table and have a smoke, you know, go for a walk, walk around the pods. You know if you're feeling that frustrated, remove yourself from the situation. Get yourself moving." Helen

Managers emphasized the importance of creating a good balance between work and non-work priorities, although it was acknowledged that managers were generally not effective role models.

"The work-life balance is, crucial for any employees whether they be hourly or staff." David

“We have an internal site ... it talks about work-life balance. In it we’ve got a lot of things that we’re able to promote, discounts from some local vendors that we’ve negotiated with and a part of that is, you know, how the company does believe and feel that work-life balance should exist. I’m not convinced, as I’m not with a lot of other organizations, that [we’ve] gone that additional step in putting to tools and the practices in place to allow people to do things like that. It really does take someone that believes in it, in order to buy in to it. And I’m not convinced that there’s a lot of senior managers, or managers, out there that will put life balance, or will pair, rather, life balance equally with work balance ...[but] I’m a firm believer.” Scott

The Greater Good

The final theme identified within the employer motivators for physical activity promotion was The Greater Good. This theme is associated with only two codes, one of which included differing participant views. The sense that the employer may have a moral responsibility to promote health within employees was not shared by all participants. While some managers believed that employers may hold at least some responsibility for the promotion of physical activity amongst employees, others felt that physical activity was the responsibility of the individual employee.

“I think that it’s just maybe expected, or should be expected, perhaps.” Joanne

“I think a lot of people tend to think that you know well, that’s up to the individual, well, yes and no, yes and no. I think everyone needs a little bit of a motivation now and then and like I said, I just wish that more companies would promote it more.” Scott

“It’s not something that crosses a lot of employers’ minds as something to help be responsible for.” Susan

The other code associated with The Greater Good relates to the idea that the promotion of physical activity within the workplace would benefit society overall, in part by reducing expenses related to health care.

“The end concept of having an employee that is healthier, that is happier, that is more reliable and more productive, I think is beneficial to the entire organization and society as a whole.” David

“At the end of the day, it’s also in the government’s best interest to do that [referring to the provision of tax credits for employers who promote physical activity] because that takes a proactive stance on our own health care, ... if it’s done properly, if more people would focus and pay attention to their health, then maybe we wouldn’t have the kind of bed shortage that we’ve got. You know. It’s too reactive.” Scott

My interpretation of how the three themes related to employer motivations to implement physical activity promotion can be displayed graphically is shown in Figure 2.

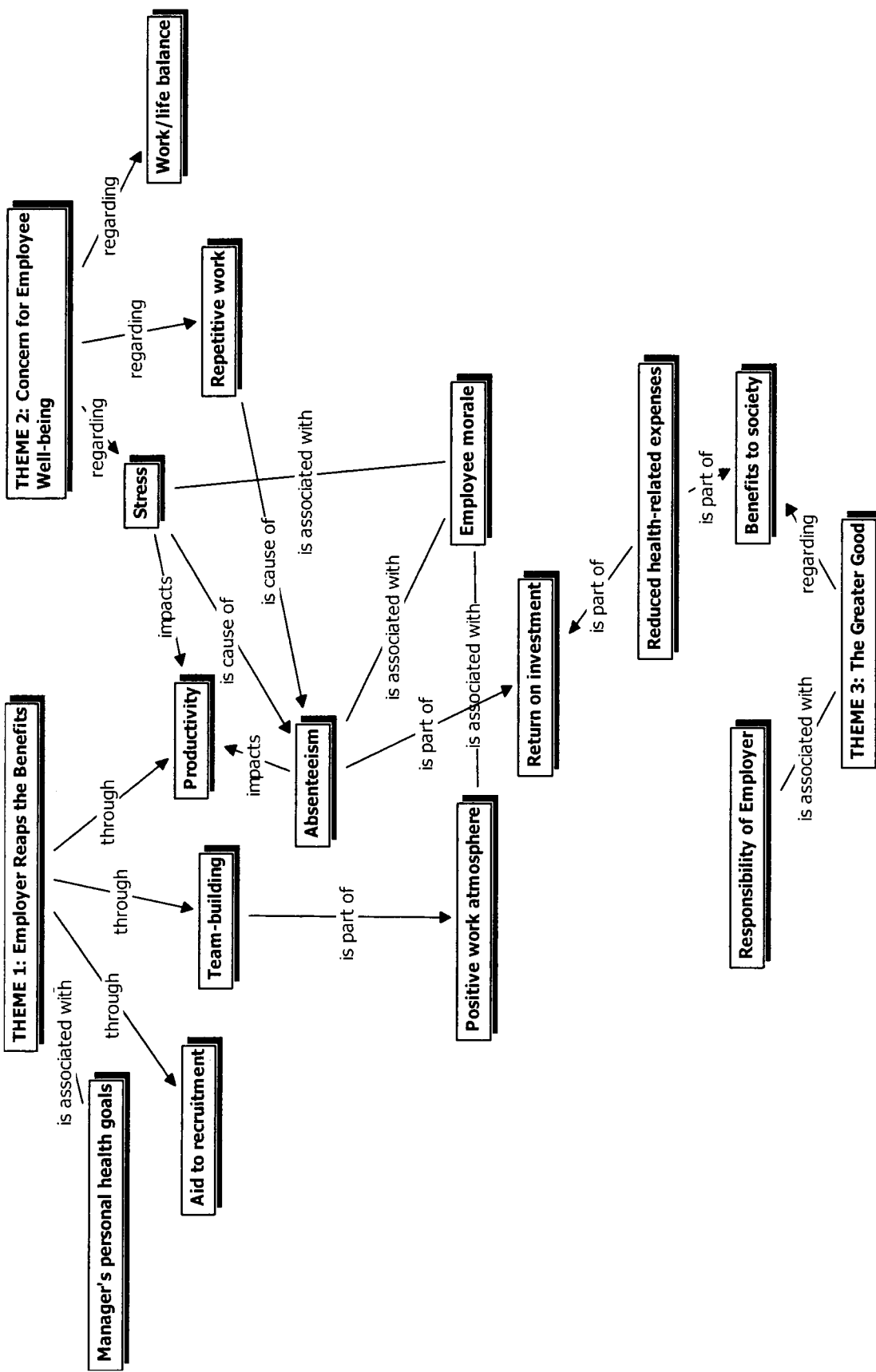


Figure 2: Motivators for the Implementation of Physical Activity Promotion in Call Centres

Facilitators for Physical Activity Promotion

The codes associated with factors identified by the participants as facilitators for the implementation of strategies to promote physical activity in their workplace were categorized as external or internal to the organization.

External Facilitators

Several of the factors identified by the participants as having assisted, or potentially assisting, their organization to implement strategies for the promotion of physical activity can be considered external facilitators. Managers spoke of how guidance and fresh ideas would assist their efforts.

“I think just some framework. This isn’t my forté. My forté is call centres. ...so I think people and organizations that are familiar with what works and what has been implemented. We wouldn’t want to try to reinvent the wheel, so to speak, and come up with our own ideas. I think if we had just a little bit of guidance and some framework from ...other individuals/organizations that we could then provide to an internal team, to give them a little bit of framework because, you know, there’s a tendency when we create a team with no guidance or leadership or framework, it just kind’a tends to fall by the wayside, so I think that would help to structure it a little bit and get it off on the right foot, and have some tangible results in the long run, which of course is beneficial to everybody.” David

Managers indicated that making brochures with information about physical activity and healthy living available for employees and having presentations from outside sources would also be helpful. The local health unit was identified as a good source of such materials.

“Possibly having sessions about this kind of thing out loud, I mean if there are resources that want to come talk to people, group of people, about the benefits of physical activity or what they can do ... I mean, having people come talk to our employees and then we can potentially set a session whether it’s at our other reception area or just an information type

booth, so if somebody were to want to come in, that's something that we can probably help organize and educate people on." Frank

"I think that the um Sudbury and District Health Unit does a descent job of promoting things like the Canada Food Guide and ah, the workplace wellness newsletters and I know that if I called on the Sudbury and District Health Unit, there's probably some additional tools that they'd be able, they'd be able to throw our way." Scott

"We also had some guest speakers come in to address the Health and Wellness Committee so that they could then go out to the employees en masse with some information. The Health Unit, I think, was a big support [for] us. They either brought some people over or arranged for people to come in." David

Being able to participate in activities organized by other groups was also identified as a facilitator for physical activity promotion.

"Things like the Cancer Society, things we can tag onto in addition to what we do internally are always a help." Peter

"Participating in community-based activities, you know we have a team on the Dragon Boats, we do golf tournaments and that kind of thing, are stuff that we would definitely maintain and support." Michelle

Some managers spoke about how financial assistance might be helpful to off-set the costs of some of the strategies to promote physical activity.

"If there's something that can be implemented that will produce results that actually cost the employer money, then there should be something shared, I think, because the employer's going to benefit from it. I believe 100% you get your staff healthier and fitter and more energetic, there's going to be less sick time, there's going to be better focus and concentration, better energy, so I believe in all that stuff, but to what extent? You know, if it's going to cost significantly, well it's not going to happen. If there's going to be some costs, then there might be a little cost-sharing whether it's tax credits, whatever, yeah, I

think it should be shared. The government shouldn't be picking up the full tab for it, that's for sure." Greg

"... then any funding or tax credits would boost our ability to get approval [from senior management] to sort of drive and run with something like this." Michelle

Another identified facilitator was the development of employees' expectations that workplaces should be involved in promoting physical activity.

"A lot more marketing on that idea might help. I think if it starts to become an expectation of an employee, then an employer will have no other recourse but to take it seriously. It becomes an expectation. ... So I think a lot more marketing, I think if people, if the average employee felt that it, that an employer ought to be more responsible, especially with Gen Y, hey, they're a powerful group, and mark my work, if anyone's going to make that happen, Gen Y will make that happen cause their expectations are very different. Yeah, so, they'll make it happen." Scott

Two other facilitators which were categorized as external to the organization were the use of a third party who could promote physical activity and competition between some of the local businesses involved in the call centre industry.

"[Employees may say] 'You're discriminating. You're categorizing people' ... so if there was an outside party that would come in and be the bad guy and do that, that would be neat. Ah, certainly difficult to do it as the employer. ... Prepared resources, maybe some pooling of businesses, you know, our business versus another versus another, a little friendly competition, whatever. But definitely, the resources have to come from outside."

Greg

Internal Facilitators

Study participants also identified several factors as having assisted, or potentially assisting, their organization to implement strategies for the promotion of physical activity that can be considered

internal facilitators. The development of a workplace wellness team which involves employee representatives, the support of senior management, and being part of a larger corporation with dedicated resources for health promotion were identified as internal facilitators.

“I think building something of a team is something that would be very easily implementable, and kind of let them run with it a little bit themselves, as opposed to something that would come down from management. And be thrust upon them.” David

“We don’t have [a workplace wellness committee], but it would help, for sure, yep.” Adam

“We definitely get the buy-in from head office and upper management and even here. It’s just something that’s always been. It’s not just like an idea we’ve come up with in the past year, or two, and we’re learning through this. There’s a lot of buy-in across the country with this, so it’s really best practices are shared through the HR department, so what’s working and what isn’t working, so it’s been really good. It’s been, you know, one of the, definitely one of the successes, I think, here anyways, and I’m sure as a company across the country. It’s one of the easier things to implement and roll-out really. It’s well received by the employees.” Peter

“There’s support on the senior management team because the majority of the senior management team is actually going to the gym, so they are participating in, at, are actively into a role of, of exercises of some kind, or health. Um, so the participation of the senior management is there.” Catherine

“Well first of all, head office, totally need more support from head office. There’s only so much the little people can do.” Helen

Having local champions within the organization who help to move initiatives forward or act as good role models was also identified as an internal facilitator.

“When we first tried it about 4 years ago it was the fact that my boss, the owner of the company, had just himself, gone into a health kick, started going to the gym, so he wanted to encourage it among the rest of the staff.” Adam

“Ryan also, like I said, is a great, big health buff, so he is pushing also this [referring to physical activity promotion] management-wise and also going lower by promoting it on our internal web.” Catherine

“I think for some folks it’s just the fact that they report to a manager that believes that work-life balance, or rather life-work balance should exist.” Scott

Participants identified that proximity to a gym or other space for exercise was also a facilitator for workplace promotion of physical activity.

“Being close to a gym is very, is very useful, because you know, agents can come in early, go to the gym, come into work and then go right after, so being so close made it very easy for the agents to participate in that program.” Catherine

“[names local green space/park] is right across the road and so we have some runners in the building, they go run the track or around town here.” Joanne

“We’re in the perfect area that we have a lot of accessibility to those things. I mean the [names a local gym] is down the street, there’s [names another local gym] in the mall. Even just to take a walk up to [names local green space/park] and take a run around the track or even a walk about the track.” Helen

See Table 5 for a summary of the identified facilitators for the implementation of physical activity within the call centre environment.

Table 5: Facilitators for the Implementation of Physical Activity Promotion in Call Centres

<u>External Facilitators</u>	<u>Internal Facilitators</u>
<ul style="list-style-type: none">• Guidance and fresh ideas• Brochures and presentations• Participating in activities organized by other groups• Financial assistance• Develop employee expectations• Third party assistance• Competition between businesses	<ul style="list-style-type: none">• Workplace Wellness Committee involving employee representatives• Support of senior management• Being part of a larger corporation with dedicated resources• Local champion• Proximity to gym

Barriers to Physical Activity Promotion

Three themes were identified in the participants' comments regarding barriers to the implementation of strategies to promote physical activity in the workplace, and were entitled, *The Nature of Call Centre Work*, *Concerns of Managers*, and *Characteristics of the Call Centre*.

The Nature of Call Centre Work

Participants provided information about the nature of call centre work and how the characteristics of the work created barriers to the implementation of some of the strategies recommended in the *Healthy Weights, Healthy Lives* Report. It appeared that three of the recommendations were most problematic: that workplaces arrange for exercise breaks, employees be allowed time to be physically active during the day, and that allowances be made for the adjustment of working hours in order to accommodate such activities as parents walking their children to school.

It was clear in the comments of the participants that call centre work is focused on meeting the needs of the clients and thus is heavily dependent on having a certain number of customer service representatives available to make or respond to calls at specific times of the day.

Participants spoke of various *metrics*, or measurement systems, used to monitor call centre

performance and how these elements of the nature of the work limit the flexibility of scheduling and do not allow group exercise breaks.

“The barriers that we would face would be the same that any organization would face, which is the business requirements and the business needs and the needs of our clients, which of course, for the sake of our operation, would be having people staffed a certain amount of time, either to answering incoming calls because we’re kind’a at the mercy of that, or you know, for making calls on their behalf to other businesses.” David

“We’re an hours-based business, meaning our client specifically will require us, or will ask us, or will tell us basically, we need a hundred, two hundred people, whatever it may be, during these hours to hit their minimum requirement. That’s just how the business works, people are calling in, you’ve called in to a business or call centre, they want to make the appropriate number of people are staffed to handle those calls, so people aren’t waiting a half hour, 45 minutes, an hour, to actually get the service that we provide for them. Um, so it would be difficult for us, especially if we’re not meeting those requirements to allow people to get up and go and take part in some of these activities that are going on within the city, whether it’s another bike, or big cure, for the Heart and Stroke, there’s the bike. So, unless we had availability, which is not the case, which is not the norm, in our industry here, it’s hard for us to promote activity that takes people away from what they’re hired to do, which is be on the phone and handle the customer calls that come in... interval compliance is a term we use here ...[the employees are] prescheduled to breaks and lunches specifically the way they are because we know roughly how many calls will be coming in during that hour so if somebody were to say ‘I’m going to push my ½ hour’, it changes, or it messes up our interval compliance, so we’re not then, we’re not hitting the targets our client wants us to meet, and that a whole other issue.” Frank

“It’s difficult too because of the nature of the industry, you can’t unfortunately give a lot of time for, like on the job time, paid time for them to get up and move around, you know,

because ... production's very important, you know, 'every bum in a seat, and every call being made', these are all our metrics and what makes us tick, so it's tough ..." Peter

"Exercise breaks are difficult because of the way that the environment is scheduled. When you do this type of work, you have to have x number of hours logged into the system with an expectation of x number sales or contacts, whatever the metrics are for that particular client at that time, so actual exercise breaks [would be] difficult." Lianne

"Anything that would require additional time off the phones would be difficult to support in this type of work environment." Michelle

Managers emphasized that employees do take scheduled break and lunches, as entitled by labour law; however, it was noted that the length of the breaks does not allow employees much time to be physically active.

"The nature of the work, being responsible to the phones means that there are limited opportunities for excess breaks or flexible times." Susan

"And um, when you do get up, it's to have a break and grab a quick coffee, which isn't a very healthy breakfast and then lunch, you only have a ½ hour for lunch so in order to eat and get back to work, you have no time to, you know, even take a small walk." Helen

Managers spoke of how the fast pace of call centre work would create a barrier for some strategies promoting physical activity.

"You'll see that with the bigger companies, if you're 2 minutes late coming back from your break, you've already lost 3 calls. You know, so it's busy" Julia

"Call volume would be a barrier. One of our biggest challenges here for the most-part, traditionally, like there's not a lot of breathing room. ...it's not a centre ...where somebody gets a call, talks to a customer, [then] there's 5, 10 minutes in between calls. It's call after call after call." Frank

"One thing that within the office, it's a time issue. You know, we just don't have time to say 'OK take 20 minutes to take a run'." Adam

The participants emphasized that call centre work is sedentary in nature and that the customer service representatives are required to be within close proximity of their workstations in order to do their work. While two participants suggested that some employees can stand or pace while on the phone, another participant indicated that in his call centre, this was not possible due to the need to be close to a computer screen.

“See the jobs here at the contact centre as far as physical activity, their jobs are very sedentary, all of us are, and particularly the customer service reps, there’s about 260 of them or so, and they sit. They’re on a headset, connected to a computer and other than get up to go to washroom breaks and their meal break, they sit.” Joanne

“Usually you’re tied to a little cord where you have about 5 feet of walking room, like we do have some agents who stand up on some calls, you know, and kind’a just pace back and forth, probably when they’re tired of sitting or [they] need to wake up.” Julia

“The way it works is our associates are in front of a screen, so there’s a database that they need to go to, so there’s a lot of toggling. There’s a lot of toggling between the computer and speaking to the customer as well, so even to stand up and do something is difficult to do because they need to go through that, so that would be a barrier.” Frank

Concerns of Managers

The second theme identified within the participants’ comments regarding barriers to the implementation of the recommended strategies relates to the Concerns of Managers. Many comments related to the concepts that an individual’s participation in physical activity was ultimately their choice and could not be mandated, and that achieving employee “buy-in” was paramount to the success of any physical activity promotion initiative. Many managers expressed doubt regarding strategies to promote physical activity, given that they had experienced a lack of success in initiatives previously undertaken. Some had observed that employees had not taken

opportunities to use on-site gym equipment that had been made available or to make use of subsidized gym memberships offered by the employer.

Several participants expressed their perceptions that employees in their call centre would not be interested in, or could not do, physical activity and that in fact, many of the people working in call centres are attracted by the sedentary nature of the work because they are seeking employment that does not require physical activity.

“The folks that typically enjoy this type of work are the ones that aren’t going, those aren’t the ones that want to climb up and down ladders to get keyboards and monitors off of a top shelf at Future Shop, or Staples or whatever. ... The employees in this industry that seem to get frustrated the most are the ones who like to move around a lot more, like more physical activity. This gets frustrating for them and they get bored. So that suggests that on the flip side, the folks that are staying are the ones who are, um, who like to sit down more, who don’t like to socialize perhaps quite as much, um, and we’ve seen that day in and day out with attrition.” Scott

“I hate to stereotype, but, um, call centre employees, like you kind’a know what you’re getting into when you come for the job. You know it’s a job where you’ll sit down for like 8 hours. It’s not, like when people think of call centre jobs, they don’t think there’s going to be any physical activity.” Julia

“A lot of people would come to this job because it was easy and because there was no physical activity that they had to deal with.... I think the barrier is the negativity on the dialing floor. You know, one person may not want to do it because they’re embarrassed, or the next person may say, “I’m not doing that.” Helen

Some elements of employee demographics and employee behaviour also contributed to the managers’ doubt that strategies to promote physical activity would be successful. Participants spoke of the high rates of smoking amongst call centre employees, with one participant suggesting that smokers accounted for 80-90% of the workforce in her call centre. This was considered to be a

barrier to their participation in physical activity at least while on breaks during the day because it was believed that smokers would prefer to use their breaks to smoke a cigarette instead of engaging in exercise.

“You know, [I suggest] ‘why don’t you take a 5 minute break’ ‘ok, I’m going to go for a smoke’ ‘Well, that’s not what I meant. Go take a walk.’” Helen

Some participants expressed doubt that their employees would be interested in physical activity initiatives given struggles they face due to low socioeconomic status, particularly if these initiatives might affect their income or have associated out-of-pocket expenses. Managers recognized that some of their employees, particularly single parents, were struggling to make ends meet in low paying jobs.

“And because we are, we see, the generation, or the group that’s working here is more of a younger group, a lot of single mothers, single family, so it makes it even harder for them because they’re trying to balance the work-life and the home-life.” Catherine

“We’ve seen that trend, so the challenge that I know that I’ve had is convincing, um, you know, a single mom or a single parent, who’s a bit overweight that ‘you can do this and it doesn’t have to cost you so much’. I think a lot of folks and for the most part, they’re right, it costs a little bit more to eat healthy, it shouldn’t but it does, so I think you know, I’ve had a bit of a challenge convincing folks that it may cost you a little bit more but you won’t need to spend this much on medicine and so on and so forth.” Scott

Another barrier to the implementation of physical activity promotion in the workplace which relate to the Concerns of Managers theme is the potential cost associated of such initiatives. Such costs were thought to include cost of equipment, cost of lost time, and cost of insurance to address the employer’s perceived liability for the safety of on-site facilities.

“No, we don’t [have an on-site exercise room]; for insurance reasons we cannot because then we have to have someone here, spotting. We’re a 24 hour service so we have to be here, you know, so if we have people in the exercise room, well, that’s fine, but just for

insurance reasons, we couldn't do it, yeah, so if they could get around the insurance reasons, but we've checked into it and we're nagged [senior management] for a while and just even have some sort of, like an exercise bike and a tread mill and just for insurance reasons, [we] can't do it." Gwen

"How much is it going to cost the employers or how is that going to be split and in these economic times, for us, it would be very difficult for us to be able to pay." Isabelle

"Covering the cost, easier said than done. I mean, we're a business. Every time we lose somebody, we get billed, just so you understand, we get billed, we bill our clients but them sitting on the stations taking calls, and take them away to do physical activity, if there was somehow that we could get that money back, either through our clients, or through a government organization or something, that would be easier for that, but it's hard for us, like any business, to take away the source of revenue even for something as important as physical activity when it affects the bottom line. Unfortunately the reality is it's a business we run. So, somehow it affects us somehow to cover the cost lost. Which I don't think would be very feasible or even reasonable to even ask." Frank

"You know, if it's going to cost significantly, well it's not going to happen." Greg

Another identified barrier to the implementation of physical activity promotion is the fact that it is not considered a priority in some call centres.

"No, no we don't have anything like that right now, which would be lovely if we did but just, I think that, it's not something that's crossed anybody's mind, to be honest. It's not a lack of caring on behalf of the company; it's just not something that they've thought about. They're going in 27 other directions." Susan

"[In terms of a priority list] it's not in the top hundred. OK, maybe not the top 20." Isabelle

One participant suggested that this may be because employers have not yet been convinced of the return-on-investment that they would achieve through the implementation of physical activity promotion initiatives.

“I think the same barrier that exists with organizations, exists with individuals, they don’t see the return on that investment initially and it doesn’t mean that there’s going to be some additional costs come upfront. And ah, that’s been a tough part ...” Scott

Another barrier associated with the Concerns of Managers theme is the concept that employees may deem physical activity promotion to be discriminatory and that employers may be seen to be harassing employees by encouraging them to become physically active.

“I think that you have to do it in a very respectful way because if you don’t, it could be taken as being um, disrespectful, or pointed, or um...I would with a lot of women in weight and that type of thing is not something, that, if they chose to discuss that, that’s something, but an employer bringing that type of direction up may be, could be, construed as improper, I think. Working with the women that I work with here, I would say you’d need to do it in a positive, diplomatic way how’s that? ...A lot of people work in call centres because physical activity is not something that they can do and it’s not necessarily known to the general population of the workplace, so you need to be very careful about, you know... To me, it’s an individual right not to disclose that type of information, but if you push people into things and they have to come out and tell you, then you’re, you know...I mean there are legal ramifications for that, but for us, personally as a corporation, I wouldn’t want to put one of my employees in that position where they’re feeling like they have to defend themselves.” Isabelle

“When I’ve broached it [physical fitness] in the past and talked about it, um, it, it ah, it’s a hit and miss, depends on who you’re talking to, so now if I’ve got 30 employees and I start talking about becoming more physically active and more physically fit and healthy and improving your energy and so on and so forth, I run the risk of people going ‘Yeah, you think everybody’s supposed to be fit and healthy just because you’re like that, you think we should and that’s discrimination and’ ...so it’s a very scary topic. It really is.” Greg

Some managers described a sense that *it's all or nothing*, meaning that in order to promote physical activity in the workplace, all employees would need to be involved. They felt that such initiatives would not be acceptable if some employees did not want to do physical activity, that it could not be implemented for just some of the employees.

"We had discussions about it some number of years ago about sharing the cost or picking up the cost of a membership, and had some of the staff say, that's great, I don't want one but whatever you spend on them, I want the money, the equivalent for it. No, that's not what it's about. It's about trying to get everybody healthier and more productive. We believe you'd be more productive if you're healthy and then that becomes a, 'oh, so you're telling me that only healthy people are productive so you're discriminating against me'. ... We've talked about having a, trying to find somewhere in this building where we could have a room, not for a gym, but just stretching and little exercise and so forth, um, you get some people who think that's wonderful and you get others who say, ah, well, that will only be used by 10 percent of the people here and we'd rather you take the money and put it into something else." Greg

"You have to get the buy-in and sometimes that's the difficult part, getting ideas that are going to be used by the entire staff." Isabelle

"...if we had half the staff that would have been interested, we probably would have met with still some resistance from the other half of the unionized members as to the preference, right? It would appear to them then that certain people are getting something that the others aren't instead of the union saying, you know what... provide it for everyone at will ... We're a little more complicated as far as this type of environment because we're coupled with a union which definitely squashes from time to time some creative thinking that you might want to do because once one complaint is lodged, you might as well just stop it because it's an all or nothing, and that's not a statement completely about union, that's just what experiences has been had, that if you get one person that decides that they think that

that's wrong, it's all it takes instead of being individual and saying Well, I want to partake in this, but I don't but you know how can we work it out that some of us that want to enjoy this, can and the rest don't have to, because again it would be mostly voluntary.” Lianne

Characteristics of the Call Centre

The final theme identified within the participants' comments regarding barriers to the implementation of the recommended strategies relates to the Characteristics of the Call Centre, which includes the number of employees and factors related to the building in which the call centre is located. Having a small number of employees is a call centre characteristic identified as a barrier to the implementation of some physical activity promotion strategies. Participants from smaller organizations did not feel that they had enough employees to make initiatives to promote physical activity feasible and described how the fact that they hired contract employees to meet the needs of specific work projects called *campaigns* meant that there was an “ebb and flow” of employees, making it difficult to maintain consistency of membership on a Workplace Wellness Committee.

Some participants indicated that the recommendation to make stairways accessible was not applicable given that the building in which their call centre operated did not have stairs. In some of the represented call centres, there was no space available to offer on-site facilities for physical activity.

“I know that some employers that have larger space, they can have an in-house gym. We haven't the space. You know, just like day care and things like that, we just haven't. Our space is at a premium. It would be great if we could have a room where we could have a couple of showers and bikes and, you know, elliptical and such. It'd be great but 'cause then people could take their ½ hour and do that, but it doesn't work here and most of the staff here, like especially the evening staff, they only have 30 minutes for their meal break, that's not very long, if they're going to eat a little bit and then do something.” Joanne

My interpretation of the themes related to the barriers to physical activity promotion in call centres identified by the study participants is shown graphically in Figure 3.

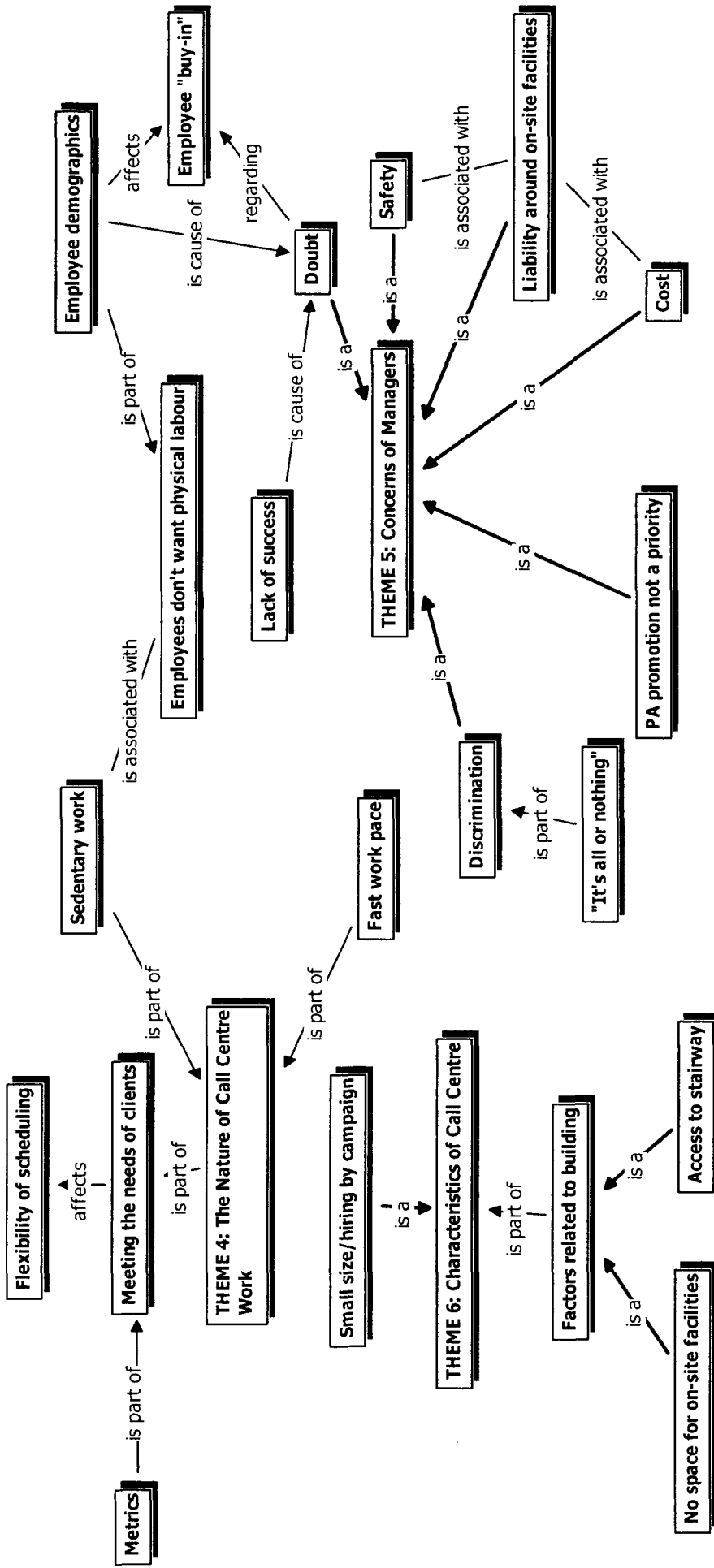


Figure 3: Barriers to the Implementation of Physical Activity Promotion in the Workplace

Discussion

This study was conducted to explore the promotion of physical activity in Sudbury-area call centres from the manager's perspective. Overall, call centre employers' responses to the recommendations in the *Healthy Weights, Healthy Lives* Report (Chief Medical Officer of Health (Ontario), 2004) were positive. However, while all of the participants indicated that the recommendations have value, some of the recommendations were identified as not well suited for the call centre environment. Those recommendations related to allowing employees time to be physically active during the day or to adjusting work hours to allow physical activity were the ones considered least practical, given that the type of work conducted in call centres does not lend itself to scheduling changes.

The results indicate that, at the time of this study, some of the call centres in the Sudbury-area were engaged in some of the physical activity initiatives outlined in the *Healthy Weights, Healthy Lives* Report (Chief Medical Officer of Health (Ontario), 2004), while other call centres were offering few, or none, of the recommended initiatives. Of the recommended strategies, those most commonly offered were the use of pedometers and the promotion of exercise, either as part of a brief exercise break within close proximity of the employee's work station or through information and signage posted at work stations or in common areas. While some of the call centres arranged for their employees to receive corporate discounts at fitness facilities or weight-loss programs, none of the call centres had currently any on-site facilities. This finding is similar to that of the 2007-08 Opportunities for Physical Activity at Work Survey of Canadian workplaces of various sizes conducted by the Canadian Fitness and Lifestyle Research Institute (2008) which found that only a small proportion of companies in Canada have on-site physical activity equipment and facilities. Of companies with 50 or more employees, 20% reported providing employees with access to exercise equipment, such as weights and stationary bicycles, while 58% reported that employees have access to off-site physical activity and fitness facilities.

In the current study, the finding that all of the call centres classified as offering *some* of the recommended initiatives had more than 200 employees, while all of the call centres with fewer than 200 employees were classified as having *no* or *few* current practices to promote physical activity suggests that in the case of workplace physical activity promotion in call centres, size does matter. A possible explanation for this finding is that organizations with more employees have more financial resources and larger human resources departments whose personnel who can devote energy towards health promotion activities. In smaller call centres, the human resources functions, such as hiring and payroll, may be the responsibility of individuals who also fulfil other roles, and thus, do not also have time to promote physical activity. Smaller call centres may have fewer financial resources available to support what may be deemed non-priority activities.

The impact of organizational size on physical activity promotion is also evident in the results of the 2007-08 Opportunities for Physical Activity at Work Survey which found that companies with fewer than 50 employees were less likely than those with 500 or more employees to have policies in place to permit employee involvement in physical activity events; to provide instructions or guidelines about how to be active for health benefits; to offer seminars, workshops, speakers and training programs; to provide access to on-site exercise equipment and off-site fitness facilities; to provide sport and recreation opportunities; and to post point-of-decision prompts to promote stair use (Canadian Fitness and Lifestyle Research Institute [CFLRI], 2008).

Similar findings were reported by Linnan et al. (2008) who examined data from the 2004 National Worksite Health Promotion Survey conducted in the United States. Their analysis of data collected from a cross-sectional, nationally representative sample of worksites in the continental United States concluded that “worksites with small numbers of employees are less likely and (potentially) less able than large employers to offer health promotion programs” (p. 1508). Reporting on the 730 non-governmental worksites with 50 or more employees participating in the survey (response rate of 59.7%), Linnan et al. found that there was “a clear dose-response relationship in that worksites with more employees offered more programs, classes and activities”

(p. 1505). Physical activity-related programs and activities were reported by 9.0% of worksites with 50-99 employees (95% CI: 3.67-14.30), 23.6% of worksites with 100-249 employees (95% CI: 16.11-31.11), 28.5 % of worksites with 250-749 employees (95% CI: 19.50-37.42), and 66.1% of worksites with more than 750 employees (95% CI: 49.15-83.10).

In the current study, the comments of call centre employers regarding their motivation to implement physical activity promotion initiatives were found to relate to three particular themes: The Employer Reaps the Benefits, Concern for Employee Well-being, and a sense of The Greater Good. Specifically, study participants were motivated by their beliefs that physical activity promotion would contribute to reduced absenteeism, increased productivity, improved employee morale, opportunities for team-building, decreased employee stress, and better work-life balance. These findings are very similar to those reported by Makrides, Heath, Farquharson and Veinot (2007) in their qualitative study of perceptions of workplace health held by employers with over 200 employees in four provinces in Atlantic Canada. In that study, the three most frequently noted benefits of a healthy workplace were increased productivity and quality of service, increased employee morale, and decreased absenteeism.

Similarly, the majority of Canadian companies with 50 or more employees participating in the 2007-08 Opportunities for Physical Activity at Work Survey indicated their belief that physical activity programs result in economic benefits for their organization, via increased productivity (91%), reduced health care and insurance premium costs (91%), reduced absenteeism (87%), reduced workers' compensation claims (74%), and lower rates of turnover (67%) (CFLRI, 2008). Furthermore, the majority of Canadian companies with 50 or more employees cited benefits related to human resources resulting from workplace physical activity promotion initiatives, such as improved employee health and wellness (99%), improved morale (95%), better employee relations (91%), improved corporate culture (89%), and increased employee job satisfaction (86%) (CFLRI, 2008).

Call centres managers participating in the current study identified several factors which they believed would facilitate the implementation of physical activity promotion strategies in the workplace. They recognized that to be most successful, they should draw upon available resources external to their organization by seeking guidance and fresh ideas from others involved in workplace health promotion, by using prepared brochures and presentations, and by participating in activities organized by other groups. The need for collaboration and resource-sharing was also evident in the focus groups conducted by Makrides et al. (2007) where it was identified that a support network among organizations could serve as a vehicle to promote the sharing of ideas and materials which would assist organizations whose programs are in earlier stages of development. Similarly, in the 2007-08 Opportunities for Physical Activity at Work Survey, the majority of Canadian companies with 50 or more employees reported a need for specific information and resources, including general information regarding physical activity program development and implementation (73%), information on success stories or best practice (70%), evidence regarding the benefits of physical activity of work (66%), and needs-assessment tools (61%) (CFLRI, 2008).

In the current study, managers also identified several internal factors which they believed would assist in the implementation of physical activity-related initiatives, including engaging employee participation in workplace wellness committee activities and securing the support of senior leadership as role models and champions for physical activity. These factors have been identified as conditions important to the success of workplace health promotion programs in a synthesis of the literature conducted in Ontario as part of the Comprehensive Workplace Health Project, funded through the Ontario Stroke Strategy of the Ministry of Health and Long-Term Care (The Health Communication Unit [THCU], 2003). In that report, the importance of the “enthusiastic commitment and involvement of senior management” was emphasized based on findings that management-related factors have been shown to contribute more to the success of workplace health promotion initiatives than the actual content of the interventions (THCU, 2003, p. 3). Similar to the findings in the current study, the THCU report highlights the importance of

participatory planning involving employees from all levels of staff and the establishment of employee steering committees which contribute to increased employee awareness, participation, and satisfaction.

Call centre managers participating in the current study also spoke of factors that create barriers for the adoption of strategies to promote physical activity, one of which is their doubt that employees would be interested in such activities. This doubt may be based on the managers' perceptions that their employees are **not** concerned about their own health, and on past experiences where organized initiatives have failed to attain or sustain the expected level of participation. While it is true low rates of employee participation are reported in some workplace health promotion programs, and poor attendance has been identified in some employers' argument against the implementation of such programs, it is important to recognize that the average participation rate among even well-designed workplace health promotion programs has been found to be 60% (Goetzel & Ozminkowski, 2008). Thus, managers should expect that some employees will opt not to participate, and must be encouraged to abandon their sense of *it's all or nothing*. In their review of promising practices for work site health promotion, Goetzel and Ozminkowski (2008) suggest that many methods can be used to achieve high participation rates, such as providing easy access to activities, developing a workplace culture that promotes health, and fostering social reinforcement through the support of a spouse, family or friends. Additional methods to promote employee participation in physical activity programs include making use of available resources to survey employees regarding their interests in the early stages of program development and involving employees on workplace wellness committees to promote a sense of shared ownership of the initiatives and their success.

The concerns of some study participants that their employees would interpret their efforts to promote physical activity to be discriminatory may also be based on previous interactions with employees. However, these concerns are contradictory to the comment of one participant who believed that such programs may serve as an aid to the recruitment of new staff and are not in

keeping with the results of a 2001 survey showing that many working Canadians believe that employer encouragement would, or does, help them to be physically active (Cameron, Craig, Stephens, & Ready, 2002). The fact that some managers made reference to advocates for health promotion as “the bad guy” and were concerned that physical activity promotion efforts may be disrespectful of people who are overweight suggests that some managers may benefit from education regarding workplace health promotion theory and techniques. For example, opportunities for managers to discuss these types of concerns with other managers and experienced health promoters may help to reduce their apprehension and increase their knowledge of how to implement a range of initiatives which appeal to employees with various levels of willingness to increase their physical activity. Potential negative reactions from employees may be avoided by offering a continuum of initiatives which target different needs. Employees who have never been regularly active and are not yet contemplating making a change in their level of activity may benefit from educational brochures and pamphlets regarding the benefits of regular activity and tips on how to begin, and progress, an exercise program in small increments. Other employees who are already thinking about increasing their physical activity may receive the added encouragement needed for behaviour change through lunch-time walking groups where being active with co-workers provides a social element.

The fact that the inherent sedentary nature call centre work was identified by managers as a barrier to the implementation of workplace strategies to promote physical activity is an interesting paradox. Considering the philosophy expounded by Shain and Kramer (2004) that employee health is the result of the interaction of two major forces, one described as *what employees bring with them to the workplace*, such as personal values, behaviours, and hereditary endowment, and the other reflecting *what the workplace does to employees once they are there*, the sedentariness of work in call centres might be expected to serve more as a motivator for strategies to promote physical activity than as an barrier. This is particularly interesting in light of the fact that in the current study, participants expressed differing views as to whether the employer may have a moral responsibility

to promote employee health. While some managers believed that employers may hold at least some responsibility for the promotion of physical activity amongst employees, others felt that physical activity was solely the responsibility of individual employees. Similar differences were reported by Downey and Sharp (2007) in their cross-sectional study of 104 managers in the Ontario auto parts industry where the sense of moral obligation to improve employee well-being was found to be a stronger motivator for discretionary spending on workplace health promotion for general managers than for human resources managers, leading the authors to suggest that there is “little or limited society-wide expectation in Canada for the existence of health promotion programmes in the workplace” (p. 109). Thus, the degree to which organizations engage in workplace health promotion may be associated with the beliefs of individual managers and their ability to influence management team decision-making regarding corporate policy. The findings of the 2007-08 Opportunities for Physical Activity at Work Survey paint a more optimistic picture in that 81% of the companies with 50 or more employees stated that the physical activity behaviour of employees is a matter of interest and responsibility shared by both the employee and the employer (CFLRI, 2008).

An employer’s sense of responsibility to promote employee well-being, specifically related to the health-related impacts of *what the workplace does to employees once they are there*, may be of particular concern when considering the call centre industry. Due to the sedentary and stressful nature of their work, call centre employees may be a population at higher risk for health problems than people whose work includes more opportunity for physical activity on the job. In addition to findings of musculoskeletal symptoms (Norman et al., 2004; Norman et al., 2008; Rocha et al., 2005), depression and anxiety (Holman, 2002), and mental fatigue and exhaustion (Putnam et al., 2000; Taylor et al., 2003), there is evidence of increased health risk related to weight gain in a cross-sectional study of 393 employees in a newly opened call centre in the south-eastern United States (Boyce et al., 2008). Although they admit that some caution must be used when considering their findings due to a low response rate of 36% and potential biases commonly associated with the

use of self-report recall and weight measures, the authors found an average weight gain in all employees participating in the study of 5.1 kg within an eight-month period (SD = 5.8) and an average weight gain of 7.3kg (SD = 5.5) among the 68% of those employees who reported weight gain. Emphasizing the possible negative impact of such weight gain, the authors refer to other studies which have shown increased coronary health disease risk and a two-fold risk increase of diabetes mellitus with a weight gain of 5.0-7.8 kg in women. These findings are perhaps even more alarming when considering the high rates of smoking among call centre employees reported in the current study.

Another barrier to the implementation of physical activity promotion in call centres identified in this study is the potential cost associated of such initiatives, including predicted costs related to equipment, lost time, and insurance to address the employer's perceived liability for the safety of on-site facilities. Finances were also a concern identified in the 2007-08 Opportunities for Physical Activity at Work Survey, where the majority of smaller (72%) and mid-to-large (71%) Canadian workplaces reported that grants, subsidies, or interest-free loans would assist them in the development or expansion of physical activity programs for their employees (CFLRI, 2008). However, it is important to recognize that options for low-cost physical activity initiatives exist, such as lunch-time walking groups and the *Stairway to Health* program described on the Public Health Agency of Canada Web site which encourages stair-use (Public Health Agency of Canada, 2007) (see Appendix G).

It is important to encourage and support the efforts of managers to undertake physical activity promotion given that in some call centres, few or none of these activities are currently in place. The fact that the participants in this study agreed that the recommendations put forward in the *Healthy Weights, Healthy Lives* report (Chief Medical Officer of Health (Ontario), 2004) were "fabulous" but then went on to describe several barriers to their implementation within call centres suggests that at least some managers will need assistance to order to change the current situation. In call centres where managers doubt that their employees will participate, are afraid that their

employees will perceive health promotion activities to be discriminatory or a form of harassment, or perceive physical activity as solely the responsibility of the employee, it is unlikely that managers will make concerted efforts to implement the recommended strategies, without help. The fact that study participants were able to identify many factors which would provide such assistance is positive. As health promotion is not the forté of many managers, it is important that they are provided with the necessary information and resources to increase the success of their efforts. However, managers must not abdicate their role in attending to employee health to external third parties. Just as strides have been made to protect the health of employees working in the manufacturing industry through the implementation of occupational health and safety legislation, managers, employees and government must work together to protect the health of employees working in sedentary, information-based industries.

Limitations and Potential Biases

While this study offers valuable insights into the current state of physical activity promotion within Sudbury-area call centres and factors which affect its adoption or enhancement, there are some limitations that must be considered. To undertake a case study of managers within call centres using a purposive sampling technique within a limited geographic area was a methodological decision based on practicalities related to time and cost. It is acknowledged that this approach may limit the applicability of findings to other locations and industries; however, some aspects of the current study may serve to increase the transferability of findings to other settings and contexts. The use of the quantitative questionnaire to create a description of the characteristics of the represented call centres using categories and definitions consistent with those found within the broader literature allows for good comparison of the call centres involved in this study with other Canadian call centres. For example, it is possible to compare the call centres in this study with those involved in a telephone-based survey of 406 Canadian contact centres as part of a large scale international survey of work and human resource practices in the contact centre industry. Reporting on the Canadian

component of this survey (response rate of 70.0%), Van Jaarsveld, Frost and Walker (2007) found that the majority of the responding contact centres were outsourced (62.3%) with an in-bound call direction (77.0%) and were non-unionized (80.1%). Similar call centre characteristics were found in the present study where the majority were out-sourced (60.0%) and non-unionized (70.0%). However, in this study, the call direction of a smaller proportion of the participating call centres was in-bound (50.0%). This difference in the call direction reported by call centres in the national study (77.0% in-bound, 23.0% out-bound) as compared to the call direction reported in the current study (50.0% in-bound, 40.0% out-bound, 10.0% equally in-bound and out-bound) may be due in part to the fact that the response option of *equally in-bound and out-bound* was provided on the questionnaire in the current study, but not in the national study.

Support for the transferability of the findings of this study to other contexts and settings is also found in the fact that motivators, facilitators, and barriers to the implementation of physical activity promotion activities identified by call centres managers in this study are similar to those reported in other studies which included a broader range of Canadian employers (CFLRI, 2008; Makrides et al., 2007) and are consistent with promising practices identified in the wider workplace health promotion literature (Goetzel & Ozminkowski, 2008; THCU, 2003).

The decision to limit this study to the perspectives of managers representing call centre employers, without considering the perspectives of their employees, was also made based on the practicalities of time and expected success. I predicted that it may be difficult to collect the perspectives of employees in call centres within the prescribed timeframe, given that multiple levels of permission may be necessary to recruit participants through organizational channels. An alternate method of recruitment, such as through advertisements in the newspapers or posters hung in public spaces outside the call centres, could have been used.

The results of this study may have been influenced by two types of bias. The first, selection bias, may have occurred through the use of the purposive sampling strategy. Although invitations to participate were sent to all of the managers on the list of call centres operating in the City of Greater

Sudbury provided by the Business Development Officer in the Growth and Development Department, in some call centres, the letter was referred internally to another manager. It is possible that managers who were generally not supportive of physical activity promotion in the workplace self-selected out of the study and referred the invitation to participate in the study to someone else in their organization who may have held more positive attitudes towards physical activity promotion.

The second type of bias which may have impacted the results of this study is social desirability bias, described as an individual's tendency "to present themselves in a favourable light, regardless of their true feelings about an issue or topic" (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003, p. 881). Participants in this study may have over-reported their agreement with the recommendations outlined in the *Healthy Weights, Healthy Lives* report (Chief Medical Officer of Health (Ontario), 2004) in order to seek the approval of the researcher or due to a sense that it is more culturally acceptable than expressing disagreement. Similarly, over-reporting of physical activity on seven-day recall types of inquiry is a commonly identified measurement error which may be influenced by social desirability bias (Adams et al., 2005; Rzewnicki et al., 2003). In the current study, some participants may have over-reported their physical activity on the IPAQ due to their knowledge of the known benefits of regular physical activity and belief that being physically active is more culturally acceptable than being sedentary. It is also possible that the current level of physical activity of study participants may have been inflated as a result of misinterpretation of the IPAQ questions as suggested by Fogelhom et al. (2006) who found that IPAQ scores did not correlate well with other measures of physical activity and fitness in 10% of Finnish men involved in a criterion-validation study of the short form of the IPAQ.

This social desirability bias may have impacted the final objective of this study, namely, to consider associations between participants' responses to the recommendations for physical activity promotion within the workplace and their own participation in physical activity. This study did not identify any such associations given that when provided with a written list of the recommendation

and asked: *What is your reaction?*, all of the study participants responded positively, despite differences in their personal level of physical activity as reported on the IPAQ.

However, as some participants later went on to indicate that some of the strategies could not be applied to the call centre environment, I wonder if the results of this study have captured the full picture and consider two possible alternatives which may have influenced the outcome of the final objective of this study.

The fact that the participant's opinion of the recommendations was the first question asked in the interview may have resulted in an increased effect of the social desirability bias. Perhaps having just met me, the participant would be more apt to provide a response designed to seek my approval. It is interesting to consider whether repeating the question, or asking a similar question, towards the end of the interview would have resulted in a revised response, potentially due to increased comfort with me personally, or based on further reflection during the questions related to barriers and facilitators.

Another alternative which may have added to the outcome of the final objective of this study would be the use of a concurrent triangulation mixed methods strategy (Creswell, 2009). As shown in the mixed methods notation in Figure 4, the concurrent triangulation strategy is used to collect qualitative and quantitative data concurrently and gives equal weight to qualitative and quantitative findings, as demonstrated with the capitalization on "QUAL" and "QUAN". This method is used to explore convergence within, and differences between, the qualitative and quantitative data.

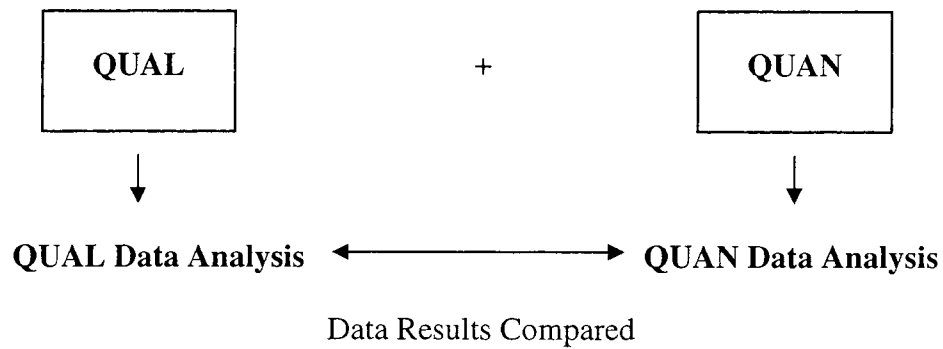


Figure 4: Concurrent Triangulation Design

To use a concurrent triangulation approach in this study, some questions could have been added to the self-administered questionnaire completed at the end of the interview asking participants to indicate, on a numerical rating scale, the degree of their support for recommendation and the extent to which they thought each specific strategy could be applied within the call centre environment. The answers to such questions could have been used to create an overall response score which could then be compared with the responses to the open-ended question. Such an approach may have assisted in the identification of differences among participants' reactions to the recommendations and contributed to the consideration of associations between participants' reactions and personal physical activity participation.

Strengths

Strengths of this study include the fact that managers in ten of the twelve call centres (83%) identified on the September 2008 list provided by the Business Development Officer in the Growth and Development Department of the City of Greater Sudbury agreed to participate. This fact suggests that the findings of this study reflect a fairly complete picture of the current physical activity promotion practices in the Sudbury-area call centre industry and has captured the views of managers working in a large proportion of the call centres operating in Sudbury. However, it is possible that other call centres were in operation in the Sudbury-area at the time of this study, but were not included on the list.

Another strength of this study is the use of a concurrent mixed methods design which blended qualitative and quantitative approaches. Through the use of questionnaires allowing for the computation of description statistics, the quantitative approach permitted a detailed description of the study participants and the call centres in which they work. The qualitative approach using semi-structured interviews allowed for the exploration of participants' responses to open-ended questions, identifying common themes from their actual words. The rigour of this study was enhanced by the inclusion of direct quotations to demonstrate the results of this study and the use of a member-checking process whereby study participants were involved in reviewing preliminary results to confirm that the findings accurately reflected their perspectives and that no theme had been overlooked.

Future Studies

As this study focussed its attention purely on the perspectives of call centre managers, future studies should also consider the views of employees. It will be important to explore call centre employees' opinions to determine if the perception of health promotion in the workplace as discriminatory or a form of harassment is a common concern. The use of participant observation data collection methods, wherein the researcher records descriptive notes based on observations made during extended periods of time spent immersed within the natural setting (Creswell, 2007), may contribute to a better understanding the culture of call centres and how the culture may impact the implementation or success of physical activity promotion initiatives. These methods may assist in determining which components of physical activity promotion are most feasible within this work environment and may shed light on why some managers fear complaints from their employees. In call centres currently engaged in strategies designed to promote physical activity, the investigation of employees' awareness of, satisfaction with, and participation in such programs is important for the identification of barriers limiting employees' involvement, some which may be unknown to managers.

Another avenue for future research is a deeper exploration of the impact of managers as physical activity champions and role models of healthy behaviour on the advancement of physical activity promotion in the workplace. While the support of senior leadership has been identified as important to the success of workplace health promotion programs (Goetzel et al., 2007; THCU, 2003), additional research is needed regarding managers' personal health-related behaviours, knowledge, and attitudes as motivation for the implementation of workplace health promotion. For example, if it is determined that managers who maintain a high level of physical activity are more likely to champion physical activity in the workplace than those managers who are less active, it may be important to the success of workplace physical activity initiatives to dedicate resources to increasing the activity level of less active managers before attempting to roll out physical activity programs for all employees.

Implications for Practice and Policy

The findings of this study indicate that as a group, managers in Sudbury-area call centres are receptive to strategies which position the workplace as a setting to promote physical activity. Managers recognize the benefits that regular physical activity can offer and are motivated to engage in physical activity promotion by their concern for the well-being of their employees, of their organization, and of society as a whole. Given the high rates of smoking reported among call centre employees, the high degree of stress under which employees work, the sedentary nature of the work, and their low socioeconomic status, call centres employees may be a group at high health risk. Through increased knowledge of the facilitators and barriers identified in this study, several opportunities exist to enhance the adoption of workplace practices which promote physical activity among call centre employees.

The results of this study lead to the following six recommendations for increased efforts on the part of call centre employers and health promotion advocates at local and provincial levels:

1. Managers in call centres should increase their awareness of existing resources designed to support workplace physical activity promotion, such as those identified in Appendix G. As many of the resources that participants in this study indicated would facilitate the implementation of strategies to promote physical activity in the workplace are already available, managers should devote some work time to educate themselves regarding how to access and make use of existing resources. Call centre managers should seek opportunities to engage with their local public health unit and associated workplace wellness experts, and to work with all levels of employees in their organization to form a workplace wellness committee. As a first step, workplace wellness committees should conduct an employee survey, in part as a means to explore employee interest in particular physical activity initiatives.
2. Given the reported rates of smoking among call centre employees and recent evidence that interventions that address multiple behaviours concomitantly, such as tobacco use and physical activity, have the potential to offer greater health benefits than initiatives focusing on a single behaviour (Prochaska et al., 2008), managers and health promotion advocates working within the call centre environment should consider the *co-promotion* of smoking cessation and physical activity.
3. While not all of the specific strategies recommended in the *Healthy Weights, Healthy Lives* Report (Chief Medical Officer of Health (Ontario), 2004) were found to fit well within the call centre environment, managers and health promotion advocates should work together to maximize the opportunity to promote physical activity amongst call centre employees. This should include developing a health-promoting culture through clear messaging within the workplace that physical activity is important for health and that the employer is doing whatever possible to encourage physical activity, even if most of that activity must be conducted outside of work time, within community facilities.
4. The opportunities for call centre representatives to come together for information- and resource-sharing presented through the existence of the Sudbury Contact Centre Network should be

maximized. This may be of particular benefit to smaller organizations which alone are limited by a lack of infrastructure and designated human resources but together may be able to achieve successful implementation of physical activity initiatives by creating partnerships with other organizations. Consideration should be given to the suggestion of an industry-wide friendly competition which engages employees from several call centres in some type of physical activity. For example, Sudbury call centres could participate in *a walk across Canada* as described on the Alberta Centre for Active Living @ Work Web site (Alberta Centre for Active Living, 2007). Employees could use pedometers to track the number of steps they take in a day to determine which call centre, or combination of smaller call centres, walks the number of steps equivalent to a route across Canada in the least amount of time.

5. Local and provincial public health advocates, such as personnel of the Sudbury & District Health Unit, should renew, or increase, their efforts to advertise their services and provide information to call centre employers, recognizing that smaller organizations may require more assistance than those with a larger number of employees. Opportunities for incentives such as financial assistance for businesses experiencing significant costs related to the implementation of recommended strategies should be explored.
6. On a broader level, the Ontario Ministries of Health Promotion and Labour should work together to promote a social marketing campaign addressing the population as a whole in order to alert Ontarians to the recommendations of the Chief Medical Officer of Health and to assist in the development of public expectations that employers actively promote employee health through physical activity.

This study extends the research knowledge on the topic of physical activity promotion within call centres and leads to recommendations for action at local and provincial levels which are expected to promote the health of call centre employees, and possibly other Ontario workers.

References

- Adams, S. A., Matthews, C. E., Ebbeling, C. B., Moore, C. G., Cunningham, J. E., Fulton, J., & Hebert, J. R. (2005). The effect of social desirability and social approval on self-reports of physical activity. *American Journal of Epidemiology*, 161(4), 389-398. doi:10.1093/aje/kwi054
- Akyeampong, E. B. (2005). *Business support services* (No. 75-001-XIE) Statistics Canada. Retrieved from <http://www.statcan.gc.ca/pub/75-001-x/10505/7931-eng.pdf>
- Alberta Centre for Active Living. (2007). *Physical activity @ work, Social level: Being active with your co-workers*. Retrieved November 25, 2009, from <http://www.centre4activeliving.ca/workplace/ideas/social.html>
- Boyce, R. W., Boone, E. L., Cioci, B. W., & Lee, A. H. (2008). Physical activity, weight gain and occupational health among call centre employees. *Occupational Medicine*, 58(4), 238-244. doi:10.1093/occmed/kqm135
- Bull, S. S., Gillette, C., Glasgow, R. E., & Estabrooks, P. (2003). Work site health promotion research: To what extent can we generalize the results and what is needed to translate research into practice? *Health Education & Behaviour*, 30(5), 537-549. doi:10.1177/1090198103254340
- Cameron, C., Craig, C. L., Stephens, T., & Ready, T. A. (2002). *Increasing physical activity: Supporting an active workforce*. Ottawa: Canadian Fitness and Lifestyle Research Institute. Retrieved from <http://64.26.159.200/pdf/e/2001pam.pdf>
- Cameron, C., Wolfe, R., & Craig, C. L. (2007). *Physical activity and sport: Encouraging children to be active*. Ottawa: Canadian Fitness and Lifestyle Institute. Retrieved from <http://www.cflri.ca/eng/statistics/surveys/documents/PAM2005.pdf>
- Canadian Fitness and Lifestyle Research Institute. (2008). *Working to become active: Increasing physical activity in the Canadian workplace* (Bulletin series). Retrieved from <http://www.cflri.ca/eng/statistics/index.php>
- Chief Medical Officer of Health (Ontario). (2004). *2004 Chief Medical Officer of Health report: Healthy weights, healthy lives* (No. 7610-2242949). Toronto: Queen's Printer of Ontario. Retrieved from http://www.mhp.gov.on.ca/English/health/healthy_weights_112404.pdf
- Collin-Jacques, C., & Smith, C. (2005). Nursing on the line: Experiences from England and Quebec (Canada). *Human Relations*, 58(1), 5-32. doi:10.1177/0018726705050933

- Craig, C. L., Marshall, A. L., Sjostrom, M., Bauman, A. E., Booth, M. L., Ainsworth, B. E., ... Oja, P. (2003). International physical activity questionnaire: 12-country reliability and validity. *Medicine & Science in Sports & Exercise*, 35(8), 1381-1395. Retrieved from <http://ovidsp.tx.ovid.com.ezproxy.lakeheadu.ca/>
- Creswell, J. W. (2007). *Qualitative inquiry & research design: Choosing among five approaches* (2nd ed.). Thousand Oaks: Sage Publications.
- Creswell, J. W. (2009). *Research design: Qualitative, quantitative and mixed methods approaches* (3rd ed.). Thousand Oaks: Sage Publications.
- Creswell, J. W., Plano Clark, V. L., Gutmann, M. L., & Hanson, W. E. (2003). Advanced mixed methods research designs. In A. Tashakkori, & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 209-240). Thousand Oaks: Sage Publications.
- Deery, S., Iverson, R., & Walsh, J. (2002). Work relationships in telephone call centres: Understanding emotional exhaustion and employee withdrawal. *Journal of Management Studies*, 39(4), 471-496. Retrieved from <http://journals1.scholarsportal.info.ezproxy.lakeheadu.ca/tmp/6849284625182236145.pdf>
- Dishman, R., Oldenburg, B., O'Neal, H., & Shephard, R. (1998). Worksite physical activity interventions. *American Journal of Preventive Medicine*, 15(4), 344-361. doi:10.1108/17538350810865578
- Downey, A. M., & Sharp, D. J. (2007). Why do managers allocate resources to workplace health promotion programmes in countries with national health coverage? *Health Promotion International*, 22(2), 102-111. doi:10.1093/heapro/dam002
- Dugdill, L., Brettell, A., Hulme, C., McCluskey, S., & Long, A. F. (2008). Workplace physical activity interventions: A systematic review. *International Journal of Workplace Health Management*, 1(1), 20. Retrieved from <http://proquest.umi.com/pqdweb?did=1574087991&Fmt=7&clientId=29636&RQT=309&VName=PQD>
- Emmons, K., Linnan, L. A., Shadel, W. G., Marcus, B., & Abrams, D. B. (1999). The working healthy project: A worksite health-promotion trial targeting physical activity, diet and smoking. *Journal of Occupational and Environmental Medicine*, 41(7), 545-555. Retrieved from <http://ovidsp.tx.ovid.com.ezproxy.lakeheadu.ca/>
- Fernie, S., & Metcalf, D. (1998). *(Not) hanging on the telephone: Payment systems in the new sweatshops* (Discussion paper No. 390). London School of Economics: Centre for Economic Performance. Retrieved from <http://cep.lse.ac.uk/pubs/download/dp0390.pdf>

- Fogelholm, M., Malerg, J., Suni, J., Santtila, M., Kyrolainen, H., Mantysaari, M., & Oja, P. (2006). International physical activity questionnaire: Validity against fitness. *Medicine & Science in Sports & Exercise*, 38(4), 753-760. doi:10.1249/01.mss.0000194075.16960.20
- Goetzel, R. Z., & Ozminkowski, R. J. (2008). The health and cost benefits of work site health-promotion programs. *Annual Review of Public Health*, 29(1), 303-323. doi:10.1146/annurev.publhealth.29.020907.090930
- Goetzel, R. Z., Shechter, D., Ozminkowski, R. J., Martinson, B., Tabrizi, M. J., & Roemer, E. C. (2007). Promising practices in employer health and productivity management efforts: Findings from a benchmarking study. *Journal of Occupational and Environmental Medicine*, 49(2), 111-130. doi:10.1097/JOM.0b013e31802ec6a3
- Holman, D. (2002). Employee wellbeing in call centres. *Human Resource Management Journal*, 12(4), 35-50. Retrieved from <http://dx.doi.org/10.1111/j.1748-8583.2002.tb00076.x>
- Holman, D. (2003a). Call centres. In D. Holman, T. D. Wall, C. W. Clegg, P. Sparrow & A. Howard (Eds.), *The new workplace* (pp. 115-134). West Sussex, UK: John Wiley & Sons.
- Holman, D. (2003b). Phoning in sick? an overview of employee stress in call centres. *Leadership & Organization Development Journal*, 24(3), 123. doi:10.1108/01437730310469543
- Human Resources Development Canada. (2002). *The Canadian customer contact centre landscape: An industry in transition (executive summary)*. Ottawa, ON: Human Resources Development Canada. Retrieved from http://www.callcentres.org/media_lib/Documents/Sector_study_Executive.pdf
- International Physical Activity Questionnaire. (2002). *International physical activity questionnaire*. Retrieved July 5, 2008, from <http://www.ipaq.ki.se/>
- International Physical Activity Questionnaire. (2005). *Guidelines for data processing and analysis of the international physical activity questionnaire*. Retrieved from <http://www.ipaq.ki.se/scoring.htm>
- Juhász, A. (2005). Worksite health promotion - A Hungarian experiment introduction. *Periodica Polytechnica Social and Management Sciences*, 13(1), 31-44. Retrieved from http://www.pp.bme.hu/so/2005_1/pdf/so2005_1_04.pdf
- Katzmarzyk, P. T., & Janssen, I. (2004). The economic costs associated with physical inactivity and obesity in Canada: An update. *Canadian Journal of Applied Physiology*, 29(1), 90-115. doi:10.1139/h04-008
- Krahn, H. J., Lowe, G. S., & Hughes, K. D. (2007). *Work, industry & Canadian society* (5th ed.). Toronto: Thompson Nelson.

- Kruger, J., Yore, M. M., Ainsworth, B. E., & Macera, C. A. (2006). Is participation in occupational physical activity associated with lifestyle physical activity levels? *Journal of Occupational and Environmental Medicine*, 48(11), 1143-1148. doi:10.1097/01.jom.0000245919.37147.79
- Lalonde, M. (1981). *Perspective on the health of Canadians* (No. H31-1374). Ottawa: Minister of Supply and Services Canada. Retrieved from <http://www.phac-aspc.gc.ca/ph-sp/pdf/perspect-eng.pdf>
- Linnan, L., Bowling, M., Childress, J., Lindsay, G., Blakey, C., Pronk, S., Wieker, S., & Royall, P. (2008). Results of the 2004 national worksite health promotion survey. *American Journal of Public Health*, 98(8), 1503. Retrieved from <http://proquest.umi.com/pqdweb?did=1543553841&Fmt=7&clientId=29636&RQT=309&VName=PQD>
- Macdonald, S., Csiernik, R., Durand, P., Rylett, M., & Wild, T. C. (2006). Prevalence and factors related to Canadian workplace health programs. *Canadian Journal of Public Health*, 97(2), 121-125. Retrieved from <http://journal.cpha.ca/index.php/cjph/article/viewPDFInterstitial/685/685>
- Makrides, L., Heath, S., Farquharson, J., & Veinot, P. L. (2007). Perceptions of workplace health: Building community partnerships. *Clinical Governance*, 12(3), 178. doi:10.1108/14777270710775891
- McMurray, A. (2003). *Community health and wellness - a socioecological approach* (2nd ed.). Marrickville, NSW Australia: Mosby.
- Ministry of Health Promotion. (2006). *Ontario's action plan for healthy eating and active living*. Toronto: Queen's Printer for Ontario. Retrieved from <http://www.mhp.gov.on.ca/english/health/HEAL/actionplan-EN.pdf>
- Muhr, T. (2004). *User's manual for ATLAS.ti 5.0* (2nd ed.). Berlin: ATLAS.ti Scientific Software Development. Retrieved from <http://www.atlasti.com/downloads/atlman.pdf>
- Norman, K., Floderus, B., Hagman, M., Toomingas, A., & Tornqvist, E. W. (2008). Musculoskeletal symptoms in relation to work exposures at call centre companies in Sweden. *Work*, 30(2), 201-214. Retrieved from <http://search.ebscohost.com/login.aspx?direct=true&db=bth&AN=31607264&site=ehost-live>
- Norman, K., Nilsson, T., Hagberg, M., Tornqvist, E. W., & Toomingas, A. (2004). Working conditions and health among female and male employees at a call center in Sweden. *American Journal of Industrial Medicine*, 46(1), 55. doi:10.1002/ajim.20039
- Palys, T., & Atchison, C. (2008). *Research decisions: Quantitative and qualitative perspectives* (4th ed.). Toronto: Thomson Nelson.

- Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Newbury Park: Sage Publications.
- Plotnikoff, R. C., Prodaniuk, T. R., Fein, A. J., & Milton, L. (2005). Development of an ecological assessment tool for a workplace physical activity program standard. *Health Promotion Practice, 6*(4), 453-463. doi:10.1177/1524839904263730
- Podsakoff, P. M., MacKenzie, S. B., Lee, J., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*(5), 879-903. doi:10.1037/0021-9010.88.5.879
- Prochaska, J. J., Hall, S. M., Humfleet, G., Muñoz, R. F., Reus, V., Gorecki, J., & Hu, D. (2008). Physical activity as a strategy for maintaining tobacco abstinence: A randomized trial. *Preventive Medicine, 47*(2), 215-220. doi:10.1016/j.ypmed.2008.05.006
- Prodaniuk, T. R., Plotnikoff, R. C., Spence, J. C., & Wilson, P. M. (2004). The influence of self-efficacy and outcome expectations on the relationship between perceived environment and physical activity in the workplace. *The International Journal of Behavioral Nutrition and Physical Activity, 1*(1), 7. doi:10.1186/1479-5868-1-7
- Proper, K. I., Koning, M., van der Beck, Allard J., Hildebrandt, V. H., Bosscher, R., J., & van Mechelen, W. (2003). The effectiveness of worksite physical activity programs on physical activity, physical fitness, and health. *Clinical Journal of Sport Medicine, 13*, 106-117. Retrieved from http://reps.ku.dk/PhD_Courses/reps/pahealth/readinglist/proper2003.pdf
- Public Health Agency of Canada. (2004). *Business case for active living*. Retrieved July 27, 2008, from http://www.phac-aspc.gc.ca/pau-uap/fitness/work/supp_material_e.html
- Public Health Agency of Canada. (2007). *Stairway to health*. Retrieved November 18, 2008, from <http://www.phac-aspc.gc.ca/sth-evs/english/index-eng.php>
- Putnam, C., Fenety, A., & Loppie, C. (2000). *Who's on the line? Women in call centres talk about their work and its impact on their health and well-being*. Halifax: Maritime Centre of Excellence for Women's Health. Retrieved from <http://www.acewh.dal.ca/eng/reports/CallCtrPutnam.pdf>
- Quinlan, M. (1999). The implications of labour market restructuring in industrialized societies for occupational health and safety. *Economic and Industrial Democracy, 20*(3), 427-460. doi:10.1177/0143831X99203005
- Rocha, L. E., Glina, D. M. R., Marinho, M. d. F., & Nakasato, D. (2005). Risk factors for musculoskeletal symptoms among call center operators of a bank in Sao Paulo, Brazil. *Industrial Health, 43*(4), 637-646. Retrieved from http://www.jniosh.go.jp/old/niih/en/indu_hel/2005/pdf/43-4-4.pdf

- Russell, B. (2004). Are all call centres the same? *Labour & Industry*, 14(3), 91(19). Retrieved from <http://find.galegroup.com.ezproxy.lakeheadu.ca/>
- Rzewnicki, R., Auweele, Y. V., & De Bourdeaudhuij, I. (2003). Addressing overreporting on the international physical activity questionnaire (IPAQ) telephone survey with a population sample. *Public Health Nutrition*, 6(3), 299. doi:10.1079/PHN2002427
- Sallis, J. F., & Owen, N. (2002). Ecological models of health behavior. In K. Glanz, B. K. Rimer & F. M. Lewis (Eds.), *Health behavior and health education: Theory, research, and practice* (3rd ed., pp. 462-484). San Francisco: Jossey-Bass.
- Secretariat for the Intersectoral Healthy Living Network. (2005). *The integrated pan-Canadian healthy living strategy* (No. HP10-1/2005). Ottawa, ON: Minister of Health. Retrieved from http://www.phac-aspc.gc.ca/hl-vs-strat/pdf/hls_e.pdf
- Shain, M., & Kramer, D. M. (2004). Health promotion in the workplace: Framing the concept; reviewing the evidence. *Occupational and Environmental Medicine*, 61(7), 643-648. doi:10.1136/oem.2004.013193
- Sorensen, G., Stoddard, A., Peterson, K., & Cohen, N. (1999). Increasing fruit and vegetable consumption through worksites and families in the Treatwell 5-a-day study. *American Journal of Public Health*, 89(1), 54. Retrieved from <http://proquest.umi.com/pqdweb?did=40874224&Fmt=7&clientId=65345&RQT=309&VName=PQD>
- Spence, J. C., & Lee, R. E. (2003). Toward a comprehensive model of physical activity. *Psychology of Sport and Exercise*, 4, 7-24. doi:10.1016/S1469-0292(02)00014-6
- Ståhl, T., Rütten, A., Nutbeam, D., Bauman, A., Kannas, L., Abel, T., ... van der Zee, J. (2001). The importance of the social environment for physically active lifestyle — results from an international study. *Social Science & Medicine*, 52(1), 1-10. Retrieved from <http://www.sciencedirect.com.ezproxy.lakeheadu.ca/>
- Statistics Canada. (2008). *2006 community profile - Greater Sudbury*. Retrieved July 28, 2008, from <http://www12.statcan.ca/english/census06/data/profiles/community/Details/Page.cfm?Lang=E&Geo1=CSD&Code1=3553005&Geo2=PR&Code2=35&Data=Count&SearchText=greater%20sudbury&SearchType=Begins&SearchPR=35&B1=All&Custom=>
- Sudbury & District Health Unit. (2008). *Health status report: Sudbury & district health unit*. Sudbury, ON: Author. Retrieved from <http://www.sdhu.com/uploads/content/listings/HealthStatusReportSDHU2008.pdf>

- Tavares, L. S., & Plotnikoff, R. C. (2008). Not enough time? Individual and environmental implications for workplace physical activity programming among women *with and without* young children. *Health Care for Women International*, 29(3), 244.
doi:10.1080/07399330701880911
- Taylor, P., Baldry, C., Bain, P., & Ellis, V. (2003). 'A unique working environment': Health, sickness and absence management in UK call centres. *Work, Employment & Society*, 17(3), 435-458. doi:10.1177/09500170030173002
- Teddlie, C., & Tashakkori, A. (2003). Major issues and controversies in the use of mixed methods in the social and behavioral sciences. In A. Tashakkori, & C. Teddlie (Eds.), *Handbook of mixed methods in social & behavioral research* (pp. 3-50). Thousand Oaks: Sage Publications.
- The Health Communication Unit, Centre for Health Promotion, University of Toronto. (2003). *Conditions for successful workplace health promotion initiatives* (No. 3). Toronto: Retrieved from <http://www.thcu.ca/Workplace/documents/ConditionsForSuccessWrittenApril02FormatAug03.doc>
- Van Jaarsveld, D., Frost, A. C., & Walker, D. (2007). *The Canadian contact centre industry: Strategy, work organization & human resource management*. Retrieved from http://www.gccproject-canada.com/docs/CA_Call_Centre_Report_2007.pdf
- Wegge, J., Van Dick, R., Fisher, G. K., Wecking, C., & Moltzen, K. (2006). Work motivation, organisational identification, and well-being in call centre work. *Work & Stress*, 20(1), 60. Retrieved from <http://www.informaworld.com/10.1080/02678370600655553>
- Wikipedia. (2008, July 29). *Panopticon*. In *Wikipedia, the free encyclopedia*. Retrieved July 30, 2008, from <http://en.wikipedia.org/w/index.php?title=Panopticon&oldid=228615192>
- Wolf, Z. R. (2003). Exploring the audit trail for qualitative investigations. *Nurse Educator*, 28(4), 175-178. Retrieved from <http://ovidsp.tx.ovid.com.ezproxy.lakeheadu.ca/>
- World Health Organization. (2008). *Benefits of physical activity*. Retrieved August 9, 2008, from http://www.who.int/dietphysicalactivity/factsheet_benefits/en/

Appendix A: Interview Guide

An Exploratory Study of Physical Activity Promotion in Sudbury-area Call Centres

Interview Date: _____ **Place:** _____

Name of Interview Participant: _____

Title of Interview Participant: _____

- A. Researcher introduces self and reviews purpose of the research study
I am a distance education student of the Masters of Public Health Program at Lakehead University, and live here in Sudbury. The purpose of this study is to explore the reactions of call centre employers in the Sudbury area to the Ontario government's recommendation that workplaces should promote physical activity, and to learn more about what motivates call centre employers to promote physical activity. This study is designed to increase our knowledge of any current workplace practices in Sudbury-area call centres that promote physical activity and to understand call centre employers' perceptions regarding factors that might assist or hinder efforts to promote physical activity in call centres.
- B. Researcher asks if the participant has any questions about the study or the process.
- C. Researcher reviews plan to audiotape the interview and demonstrates how the participant can stop the recorder at any time.
- D. Researcher reviews consent form and asks participant to sign. The researcher asks the participant to retain the letter of information.
- E. Researcher thanks interviewee for agreeing to participate.
- F. Researcher starts the interview by asking the participant several the open-ended interview questions (see pages 2-4).
- G. When the discussion regarding the questions seems to have been exhausted, the researcher asks the participant to provide some general information about the characteristics of the call centre by completing a brief questionnaire (see page 5).
- H. Then the researcher asks the participant to provide some general demographic information (i.e. age and gender) and to complete the International Physical Activity Questionnaire (see pages 6-8).
- I. At the end of the interview, the researcher thanks the participant again and if participant has indicated that he/she would like to be part of the member-checking

process, the researcher says “I will be in touch with you when we are ready to review the emerging themes”.

Interview questions

1. As part of a plan to help Ontarians achieve and maintain healthy weights, the workplace has been identified by Ontario’s Chief Medical Officer of Health as a key setting for the implementation of strategies for the promotion of physical activity. Here is a list of the specific recommendations (*Researcher provides list -see page 4*). What is your reaction to these?

Possible probes:

- To what extent do you think this can be accomplished in your organization?*
- Which strategies do you think would be most practical in your organization?*

2. What current practices does your workplace have to promote physical activity?

Possible probes:

Some examples might be:

- promoting stair use by hanging signs and keeping the stairways clean and inviting,*
- supporting staff in activities such as the Heart and Stroke Big Bike event, or sponsoring golf tournaments,*
- making bike racks, showers, and/or lockers available in order to encourage active transport to work,*
- having flex time policies which allow employees to exercise at times convenient to them,*
- offering an exercise room or supporting gym membership at local gyms*

3. What has motivated, or might motivate, your organization to promote physical activity in the workplace?

Possible probes:

- Some organizations are motivated by the belief that healthy employees are more productive at work and make be absent from work less often.*
- Some employers may promote physical activity in order to decrease health benefit costs.*
- Some employers promote physical activity in the workplace in order to increase morale.*

4. What has assisted, or would assist, your organization with the implementation of strategies to promote physical activity in the workplace?

Possible probes:

Some examples might be:

- having pre-packaged resources that can easily be rolled out in the workplace, such as resources available on Health Canada’s website, e.g. the Stairways to Health program*

- being involved with, or receiving resources from, the Sudbury & District Health Unit's Healthy Workplace Team
- having a Workplace Wellness Committee
- doing a survey of employees to see what their interests/needs are
- support from the union

5. What barriers presently exist or did your organization have to overcome in order to implement strategies to promote physical activity in the workplace?

Possible probes:

Some examples might be:

- lack of leadership support
- strong emphasis on making, not spending, money
- lack of designated funds or human resources to implement a program
- employers' perceptions that staff would not participate
- lack of union support

Is there anything else that you would like to tell me? Is there anyone else in your organization with whom I should I speak?

(To be handed to participant as part of open-ended question #1)

Specific recommendations from the **2004 Chief Medical Officer of Health Report: Healthy Weights, Healthy Lives**¹ are that “workplaces should:

1. Develop a corporate culture that values and supports healthy eating, physical activity and employee wellness.
2. Audit the workplace, assessing available food choices and opportunities for physical activity. Discuss findings with staff and identify ways to make improvements.
3. Plan “Health Days”: quarterly events that focus on aspects of healthy weights and healthy living.
4. Implement strategies to help people be more physically active at work, such as:
 - Using stepmeters/pedometers
 - Building a task team to identify ways to increase physical activity opportunities
 - Making stairways accessible
 - Arranging for exercise breaks
 - Allowing employees time to be physically active during the day
 - Adjusting working hours to allow parents to walk their children to school
 - Providing physical activity facilities, programs and incentives.” (page 53)

¹ Chief Medical Officer of Health (Ontario). (2004). *2004 Chief Medical Officer of Health Report: Healthy weights, healthy lives* No. 7610-2242949). Toronto, ON: Queen's Printer of Ontario. from http://www.mhp.gov.on.ca/English/health/healthy_weights_112404.pdf

Appendix B: Call Centre Characteristics Questionnaire

Name of Call Centre: _____

Please provide some general information about the call centre in which you work.

1. Which of the following best describes the type of work done in your call centre? (check only one)

- customer sales and service
- telemarketing and fundraising
- market research and survey
- financial services
- medical services

Other: (please describe) _____

2. Which of the following classifications best describes your call centre? (check only one)

- in-house
- out-sourced
- combined in-house and out-sourced

3. Which of the following terms best describes the majority of the calls conducted in your call centre? (check only one)

- out-bound
- in-bound
- equally out-bound and in-bound

4. Where is your organization's head office?

5. What is the approximate total number of part-time and full-time employees working from your Sudbury location?

- 0-50
- 51-99
- 100-200
- 201-350
- more than 351

6. What type of employment do the majority of your Call Service Representatives have?

- part-time
- full-time

7. Is your call centre unionized?

- yes
- no

Appendix C: International Physical Activity Questionnaire

Name: _____

Title: _____

Age: _____

Gender: Female Male Other _____

INTERNATIONAL PHYSICAL ACTIVITY QUESTIONNAIRE

We are interested in finding out about the kinds of physical activities that people do as part of their everyday lives. The questions will ask you about the time you spent being physically active in the **last 7 days**. Please answer each question even if you do not consider yourself to be an active person. Please think about the activities you do at work, as part of your house and yard work, to get from place to place, and in your spare time for recreation, exercise or sport.

Think about all the **vigorous** activities that you did in the **last 7 days**. **Vigorous** physical activities refer to activities that take hard physical effort and make you breathe much harder than normal. Think *only* about those physical activities that you did for at least 10 minutes at a time.

1. During the **last 7 days**, on how many days did you do **vigorous** physical activities like heavy lifting, digging, aerobics, or fast bicycling?

_____ **days per week**

No vigorous physical activities → **Skip to question 3**

2. How much time did you usually spend doing **vigorous** physical activities on one of those days?

_____ **hours per day**

_____ **minutes per day**

Don't know/Not sure

Think about all the **moderate** activities that you did in the **last 7 days**. **Moderate** activities refer to activities that take moderate physical effort and make you breathe somewhat harder than normal. Think only about those physical activities that you did for at least 10 minutes at a time.

3. During the **last 7 days**, on how many days did you do **moderate** physical activities like carrying light loads, bicycling at a regular pace, or doubles tennis? Do not include walking.

_____ **days per week**

No moderate physical activities → ***Skip to question 5***

4. How much time did you usually spend doing **moderate** physical activities on one of those days?

_____ **hours per day**

_____ **minutes per day**

Don't know/Not sure

Think about the time you spent **walking** in the **last 7 days**. This includes at work and at home, walking to travel from place to place, and any other walking that you might do solely for recreation, sport, exercise, or leisure.

5. During the **last 7 days**, on how many days did you **walk** for at least 10 minutes at a time?

_____ **days per week**

No walking → ***Skip to question 7***

6. How much time did you usually spend **walking** on one of those days?

_____ **hours per day**

_____ **minutes per day**

Don't know/Not sure

The last question is about the time you spent **sitting** on weekdays during the **last 7 days**. Include time spent at work, at home, while doing course work and during leisure time. This may include time spent sitting at a desk, visiting friends, reading, or sitting or lying down to watch television.

7. During the **last 7 days**, how much time did you spend **sitting** on a **week day**?

_____ **hours per day**

_____ **minutes per day**

Don't know/Not sure

This is the end of the interview, thank you for participating.

Appendix D: Letter of Information

An Exploratory Study of Physical Activity Promotion in Sudbury-area Call Centres

Investigators: Dr. Nancy Lightfoot (Supervisor)
Director, School of Rural and Northern Health
Laurentian University
935 Ramsey Lake Road
Sudbury, ON P3E 2C6

Dr. Marion Maar (Co-Investigator)
Assistant Professor,
Northern Ontario School of Medicine
Laurentian University
935 Ramsey Lake Road
Sudbury, ON P3E 2C6

Sheila Renton (Student Researcher)
Master of Public Health Program
Lakehead University

Purpose of the Study

The purpose of this study is to explore the reactions of call centre employers in the Sudbury area to the Ontario government's recommendation that workplaces promote physical activity. This research will increase our understanding of any current workplace practices that promote physical activity, as well as provide insight into what might motivate call centre employers to promote physical activity and what factors assist or hinder such efforts. This study will also determine your current total level of physical activity.

Procedures involved in the Research

You will be invited to participate in a face-to-face confidential interview with the student researcher at a time of their choice. Each interview is expected to take approximately one hour and, with your consent, will be audiotaped. You will also be asked to complete two brief questionnaires. One questionnaire is designed to collect information about your call centre, while the other questionnaire is designed to collect your basic demographic information (i.e. age and gender) and to determine your current total level of physical activity. It is expected that these questionnaires will take approximately 10 minutes for completion.

Potential Harms or Risks:

This research will not create any risks for you or for your employer. Your comments will remain anonymous and will not be associated with you or your workplace. All results will be for data collected from several workplaces. No results will identify any specific study participant or workplace.

Potential Benefits

This study will provide insight into what challenges, or barriers, and facilitators may exist for the implementation of recommendations for workplace physical activity promotion within the call centre environment. Results will be useful to public health advocates and human resources and workplace health promotion personnel who are concerned about promoting physical activity among workers within the call centre environment.

At the end of the interview, you will receive a list of resources that support physical activity promotion in the workplace and each participating workplace will receive a pedometer. These resources are expected to be of benefit to you through increased knowledge, and potentially assist you with the implementation of initiatives designed to promote physical activity in your workplace. Such initiatives may, in turn, benefit many employees in your organization.

Your name will be entered into a draw to be held at the end of the study to win one of five, free, three-month membership to GoodLife Fitness. Winners of these memberships will benefit personally through the opportunity to engage in physical activity at GoodLife Fitness at no financial cost for a three-month period.

Confidentiality:

Anything that you say or do in the study will not be attributed to you personally or to your workplace.

At no time will any information be associated with your name or that of your workplace. Only aggregate data will be presented in the final report and any publications. Your name and that of your employer, or any other identifying information, will not be revealed in any published materials.

All identifiable information obtained in this study will be kept in a locked filing cabinet and in password-protected electronic records. This information will be available only to the investigators involved in the study. Following completion of the study, the original documents will be securely stored for five years, in a locked cabinet, in a locked room, at the School of Rural and Northern Health at Laurentian University.

Participation:

Participation in this study is completely voluntary. You can refuse to answer any question and can withdraw at any time, even after signing the consent form or part-way through the interview. If you decide to stop participating, there will be no consequences to you.

Information about the Study Results:

You will be invited to review and comment on the findings of the study prior to the completion of the final report and will receive an electronic copy of the final report, by indicating your request and providing your email address at the bottom of the attached consent form.

Information about Participating as a Study Subject:

If you have questions or require more information about the study itself, please contact Sheila Renton at (705) 523-4709, or sheila.renton@persona.ca. You can also contact Dr. Nancy Lightfoot at (705) 675-1151, ext. 3972.

This study has been reviewed and approved by the Lakehead University's Research Ethics Board. If you have concerns or questions about your rights as a participant or about the way the study is conducted, you may contact Lakehead University's Research Ethics Board at (807) 343-8283.

Appendix E: Consent Form

I, _____ (*print name*), have read the Letter of Information regarding the research study entitled, “**An Exploratory Study of Physical Activity Promotion in Sudbury-area Call Centres**” and have received explanations to any questions that I have had about the purpose and procedures of this study.

I understand that:

1. I am a volunteer in this study and can refuse to answer any question and can withdraw at any time from the study.
2. This interview will be audiotaped and I can turn off the tape recorder at any time.
3. This research will not create any risks for me or for my employer. The results of this study will be useful to public health, human resources and workplace health promotion personnel. At the end of the interview, I will receive a list of resources available for the promotion of physical activity in the workplace and each workplace will receive a pedometer. My name will be entered in a draw to win one of five free, three-month memberships at GoodLife Fitness.
4. All information will be kept anonymous and only aggregate data will be presented (i.e. data will not be presented by workplace). No results will identify any specific workplace.
5. Information will be securely stored at Laurentian University for five years.
6. Prior to completion of the report, I will have the opportunity to review and comment on the findings of the study.
7. If I so request, I will receive an electronic copy of the findings of this study upon its completion.

I agree to participate in this research study.

(signature)

(date)

- Yes, I would like to review and comment on the findings of this study.
- Yes, I would like to receive a copy of the final report of this study.

Please provide email address: _____

Appendix F: Letter of Invitation

Dear [name of manager]:

Please accept this invitation to participate in a research study entitled, “**An Exploratory Study of Physical Activity Promotion in Sudbury-area Call Centres**”. Your input is very important.

As a student of the Masters of Public Health Program at Lakehead University, I am conducting this study with my supervisor, Dr. Nancy Lightfoot, Director, School of Rural and Northern Health, at Laurentian University, and Dr. Marion Maar, Assistant Professor, Northern Ontario School of Medicine, in order to explore the reactions of call centre employers in the Sudbury area to the Ontario government’s recommendation that workplaces promote physical activity. This research will increase our understanding of any current workplace practices that promote physical activity, as well as provide insight into what might motivate call centre employers to promote physical activity and what factors assist or hinder such efforts.

Your opinions about this topic are important. I invite you to participate in a face-to-face, confidential interview at a time convenient to you. My questions will focus on your perceptions of workplace promotion of physical activity, and you will be asked to complete two short questionnaires, each of about five minutes duration, about you and your call centre. It is expected that the interview will take approximately one hour of your time, and if you agree, the interview will be tape-recorded. All information will be kept anonymous.

This research will not create any risks for you or for your employer. Participation in this study is completely voluntary. You can refuse to answer any question and can withdraw at any time. Your name and that of your employer, or any other identifying information, will not be revealed in any published materials. Only the researchers involved in this study will have access to the data and all information will be securely stored at Laurentian University for five years following the study’s completion.

You will also be invited to review and comment on the findings of the study prior to the completion of the final report and will receive a copy of the final report, upon request.

In appreciation of your participation in this study, you will receive a list of resources regarding workplace physical activity promotion at the end of the interview and each workplace will receive a pedometer. Furthermore, to thank you for providing your opinions, your name will be entered in a **draw to win one of five, free, three-month memberships at GoodLife Fitness**.

I will be contacting you near the week of _____ to answer any questions. If you would like to reach me before that time, please do not hesitate to contact me at (705) 523-4709, or at sheila.renton@persona.ca. You may also contact my supervisor, Dr. Nancy Lightfoot at (705) 675-1151, ext. 3972 or Lakehead University’s Research Ethics Board at (807) 343-8283.

I look forward to speaking with you.
Yours truly,

Sheila Renton, OT Reg. (Ont.)
Master of Public Health (candidate)

Appendix G: Resources for Workplace Physical Activity Promotion

Sudbury & District Health Unit's Workplace Wellness Team

The Sudbury & District Health Unit's Workplace Wellness Team of professional consultants in the area of workplace health promotion strives to improve the health of workers by promoting a comprehensive workplace wellness program. See attached brochure for more information.

Canada's Healthy Workplace Online Resource

Visit www.healthyworkplaceweek.ca to learn about **Canada's Healthy Workplace Month, starting October 5th 2009.**

This initiative is designed to introduce workplace health to Canadian organizations and to support those organizations already engaged in workplace health. Canada's Healthy Workplace Month is managed by the National Quality Institute in collaboration with the Canadian Centre for Occupational Health and Safety. Over the course of Canada's Healthy Workplace Month, workplaces are encouraged to engage in various health-related activities and to compete with other workplaces across Canada. This Web site provides many resources to assist workplaces to become more active during Canada's Healthy Workplace Month and to keep up their activity throughout the year.

Public Health Agency of Canada – Active Living at Work

Visit www.phac-aspc.gc.ca/pau-uap/fitness/work/index.html

The *Business Case for Active Living at Work* is an initiative of Health Canada, now maintained by the Public Health Agency of Canada. Along with the development of *Canada's Physical Activity Guide to Healthy, Active Living*, the *Business Case for Active Living at Work* has been developed to assist in increasing the physical activity levels of Canadians. The *Business Case for Active Living at Work* has been developed in partnership with the Canadian Council for Health and Active Living at Work (see below).

The resources available on this Web site include a summary of the suggested benefits of being active in the workplace, a summary of previously conducted research, and an outline of how to get started. *Active Living at Work* provides a template which health promotion and human resources practitioners can use to develop a business case for active living in their own organizations.

Also available at the Public Health Agency of Canada Web site is the *Stairway to Health* Program, a Web-based resource developed to promote physical activity in the workplace through stair climbing. This Web site provides resources for getting started and suggests strategies for engaging support from management, property managers, and employees.

Downloadable fact sheets and resources include tools to address risk management concerns, to motivate employees to participate through challenges such as climbing virtual mountains and famous buildings, and to evaluate the success of the program. Employees can register on-line as a member of a participating organization in order to electronically track their progress towards selected goals and to receive immediate feedback. Find out more about the *Stairway to Health* program at www.phac-aspc.gc.ca/sth-evs

Canadian Council for Health and Active Living at Work (CCHALW)

The CCHALW contributes to the advancement of health and active living at work by providing resources, tools and expertise to active living and health professionals in Canadian workplaces. Visit their Web site at www.cchalw-ccsvat.ca

One such resource on their Web site is *Making It Work with Active Living in the Workplace*. This 80 page manual is a “how to” guide for those in preliminary stages of program planning and development. It provides practical ideas to help organizations create effective approaches to active living. Chapter titles include:

- Building Foundations
- Human Resource Development and Leadership
- Program Mix
- Marketing and Promotion.

The *Making It Work with Active Living in the Workplace* manual can be downloaded at no cost from

http://www.cchalw-ccsvat.ca/english/info/Making_It_Work_Eng%20_2.pdf

Alberta Centre for Active Living’s Physical Activity @ Work

The Alberta Centre for Activity Living has devoted a section of their Web site to the promotion of physical activity at work.

Visit www.centre4activeliving.ca/workplace/en/index.html

These Web pages have been designed as a user-friendly resource to assist employers, employees, workplace wellness coordinators and human resources personnel encourage physical activity at work. The “Bottom-Line Benefits” section outlines the benefits of healthier, more active employees and the “Keys to Success” section provides practical tips to make changes in the workplace that can promote physical activity.

As research demonstrates that workplace physical activity initiatives focusing only on individuals have limited success and that initiatives designed to reach people in a variety of ways offers better chances for long-term success, this section is based on an ecological model, which includes interventions at multiple levels. Refer to the “Keys to Success” section for more information regarding:

- Individual Level: What Do Employees Know, Believe and Do?
- Social Level: What's The Level of Social Support in Your Workplace?
- Organizational Level: How Does Your Organization Support Physical Activity?
- Community Level: How Does Your Organization Connect With the World Outside?
- Policy Level: What Policies Make It Easier to Be Physically Active?

The “Steps” section provides guidance for progress through five steps which will assist with the development of a successful workplace physical activity initiative. The Steps include:

- Step 1: Gaining Support From Management
- Step 2: Forming an Employee Committee
- Step 3: Finding out What's Possible in Your Workplace
- Step 4: Finding out What Employees Want and Need
- Step 5: Developing an Action Plan

Other resources included at the Alberta Centre for Active Living's Physical Activity @ Work Web site are a personal activity tracking tool and free videos entitled “*Yoga @ Your Desk*”, “*Stretching @ Your Desk*” and “*Exercising Your Hands and Wrists @ Your Desk*”.

Also on the Alberta Centre for Active Living Web site are links to other programs, resources, and key facts related to workplace health, as well as a list of academic journal articles and reports related to active living in the workplace. Use the following link to begin an exploration of this wealth of material:

<http://www.centre4activeliving.ca/category.cgi?c=2;s=10>

Occupational Health Clinics for Ontario Workers

There are five Occupational Health Clinics for Ontario Workers (OHCOW) across Ontario, in Sudbury, Hamilton, Toronto, Windsor and Sarnia. Using a multi-disciplinary team approach including physicians, nurses, occupational hygienists, ergonomists, and researchers, OHCOW provides comprehensive occupational health services and information in five areas:

- An inquiry service to answer work-related health and safety questions;
- Medical diagnostic services for workers who may have work-related health problems;
- Group service for workplace health and safety committees and groups of workers;
- Outreach and education to increase awareness of health and safety issues, and promote prevention strategies; and
- Research services to investigate and report on illnesses and injuries.

Visit their Web site for more information: http://www.ohcow.on.ca/about_us/index.html
One of OHCOW's on-line resources is “**Exercise at Your Workstation**”, a 5 page workbook which highlights the importance of stretching exercises to reduce muscle fatigue and tightness often associated with frequently repeated movements and positions held for a

long time. This workbook describes a set of exercises that can be done at the workstation and can be downloaded from www.ohcow.on.ca/resources/handbooks/execomp/compexercise.pdf

Healthy Steps @ Work

Healthy Steps @ Work is a web-based toolkit developed by the Simcoe Muskoka District Health Unit to provide resources and activities related to healthy eating, physical activity, and sun safety.

The topic of physical activity can be found at http://www.simcoemuskokahealth.org/Resources_04/workplace/activity1.asp

where information is divided into four sections.

The “Be Aware” section describes the benefits of physical activity and provides a variety of fact sheets, newsletter inserts, posters, and brochures which can be used to increase awareness about physical activity.

The “Make It Easy” section offers quizzes, contests, challenges, and activities which can be used in the workplace to promote physical activity, while the “Be Involved” section provides ideas for creating an environment within the workplace which is supportive of physical activity

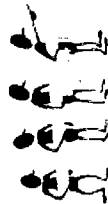
The “Speak Out” section offers ideas for the adoption of health-supporting policies within the workplace. Resources in this section include:

- *Commitment to Workplace Wellness* - a business case presentation for staff and management outlining the benefits of an ongoing wellness program.
- *The Workbook for Influencing Physical Activity Policy*
- *The Simcoe Muskoka District Health Unit - Policy: The Key to a Healthy Workplace Manual* - a handbook to assist with the development and implementation of policies on several health-related issues.

** Please note that this document is not meant to be an exhaustive list, but simply to indicate that there are several resources available to assist with the development and implementation of programs for the promotion of physical activity within the workplace.*

La santé au travail

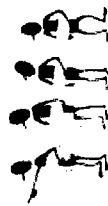
La solution-clé pour
une meilleure santé



Vivez
Santé
des aujourd'hui!

Workplace Wellness

The Key to Better Health



Make it a
Healthy
Day!

he place where you work and the work you do can affect your health. How you feel can affect how well you do your job. The Workplace Wellness team provides opportunities for skill building, education and support or consultation. We help employers create and implement workplace policies that reduce the risk of injury and promote the health of workers.

otre milieu de travail et le type de travail que vous y faites peuvent avoir des conséquences sur votre santé. Inversement, votre état de santé peut avoir un effet sur votre rendement au travail. L'équipe La santé au travail du Service de santé publique de Sudbury et du district fournit un service de consultation gratuit ainsi que de l'information sur l'acquisition d'habiletés personnelles et les programmes de formation et de soutien. Nous aidons les employeurs à créer et à appliquer des politiques qui réduisent les risques de blessures au travail et favorisent la bonne santé des travailleurs.

Workplace Wellness

La santé au travail

Sudbury & District Health Unit

Service de santé publique de Sudbury et du district

1300 rue Paris Street

Sudbury, Ontario P3E 3A3

705-522-9290 x.299

1-866-322-9200

Branch Offices - Succursales

101 one Pine Street East

Box/Boîte 485

Chapleau, Ontario P1M 1K0

705-862-1610

6163 Highway/Route 542

Box/Boîte 87

Mindenota, ON P3P 1S0

705-377-4774

Espanola Mall

800 rue Centre Street

Unit/Unité 100 C

Espanola, Ontario P5E 1J3

705-222-9292

1 rue King Street

Box/Boîte 38

St. Charles, Ontario P1M 2W0

705-222-9201

Your Workplace Wellness Team

We are professional consultants in the area of workplace health promotion. We strive to improve the health of workers by promoting a comprehensive workplace wellness program that includes consideration of the worker, the type of work, the work environment/culture, management practices, the worker's lifestyle and the worker's life beyond the workplace. Your comprehensive approach to workplace wellness includes awareness, education, environmental support and policy support for occupational health and safety, voluntary health practices and organizational culture.

What we can do for you

The Workplace Wellness team is an invaluable resource as you plan, and implement your workplace wellness strategies. We offer support and advice on how to get commitment from all levels within your agency, to setup a wellness committee, to assess the needs of your workers, to write and implement your plan, and to track your progress. By working together we can simplify the process and help you choose programs that work well the first time around.

A public health nurse or dietitian can educate workers on wellness issues, provide tools to create a supportive work environment, and share their expertise when it comes time for you to write your workplace wellness policies. Some of the wellness topics we cover are stress, reproductive hazards in the workplace, and safety and health.

Workplaces can also take advantage of our programs. "Workplace Resources", plus health, wellness and safety information from the Greater Sudbury Public Library. "SASSY" is an information kit for young workers. We also offer a variety of networking opportunities such as the "Workplace Health Network", the "Heart Health Workplace Advisory Committee", at the "Healthy and Wise" conference series. The "Workplace Wellness" news letter provides information that can be shared with employees, and the "Workplace Health Network" offers a forum to ask questions and discuss issues so you can overcome any challenges.

For all our services are free. Call us, Together, we can create a healthy workplace.

Votre équipe La santé au travail

Nous sommes des conseillers professionnels en matière de promotion de la santé en milieu de travail. Nous pourrions nos efforts en vue d'améliorer la santé des travailleurs par la promotion d'un programme complet de bien-être au travail qui tient compte du travailleur, du type de travail, de milieu de travail, de la culture organisationnelle, des pratiques de gestion, du style de vie en travailleur et de sa vie hors du bureau. Une approche globale de bien-être au travail comprend la sensibilisation, l'éducation, les ressources du milieu, l'appui en matière de politiques de santé et assurer au travail, les pratiques volontaires saines et la culture organisationnelle.

Ce que nous pouvons faire pour vous

L'équipe La santé au travail est une ressource précieuse au moment de planifier et de mettre en œuvre vos stratégies de bien-être au travail. Nous offrons soutien et conseil sur le choix de projets, les besoins de vos travailleurs, de rédiger et de mettre votre plan en œuvre puis évaluer le progrès. En collaboration, nous pouvons simplifier le processus et vous aider à choisir des programmes qui fonctionnent du premier coup.

Une infirmière ou une diététicienne de la santé publique peut intervenir les travailleurs sur les questions de bien-être, fournir des outils pour créer un milieu de travail plus sûr et offrir son expertise au moment de rédiger les politiques de bien-être. Le stress, les risques pour la production influents au milieu de travail, la sécurité au travail et la santé cardiovasculaire sont quelques-uns des sujets abordés.

Les milieux de travail peuvent aussi profiter de nos programmes. « Programme de ressources pour le milieu de travail » permet de consulter des renseignements sur la santé, le bien-être et la sécurité à la Bibliothèque publique de Grand Sudbury « SASSY » est une trousse d'information à l'intention des jeunes travailleurs. Nous offrons aussi diverses occasions de réseautage comme le « Réseau de santé au travail », le « Comité consultatif Santé et santé au travail », ou à titre de conférenciers « Healthy and Wise ». Le bulletin « La santé au travail » fournit des renseignements qui peuvent être partagés entre employés, et les Ressources éducatives de votre travail offre un forum pour poser des questions et discuter de questions saines pour vous aider à faire face à n'importe quel défi.

Le meilleur dans tout ça, c'est que nos services sont gratuits. Together, nous pouvons créer un milieu de travail sûr.