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EMPLOYEE ENGAGEMENT WITH A CORPORATE PHYSICAL ACTIVITY PROGRAM: THE GLOBAL CORPORATE CHALLENGE

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Employers engage with corporate physical activity programs to foster employee wellbeing with a view to reducing the costs of absence and recruitment. This study reports on employee engagement with a commercial program, the Global Corporate Challenge, in terms of motivation, barriers, team dynamics, social aspects and self-reported physical activity levels. It uses guided introspection to explore how participation affected employee's motivation to sustain regular physical activity within the workplace setting. The program raised awareness of employees' individual physical activity levels and fostered social interaction in the workplace. Findings highlight the importance of employers providing a supportive context, fostering staff-led team formation and considering motivational readiness of employees. They offer insights into how programs can be supported and constrained by the workplace culture.

***Keywords**: corporate wellbeing programs, health promotion, leisure time physical activity, workplace health*

I. INTRODUCTION

The health risks posed by physical inactivity in the developed world are at levels comparable to the risk factors of smoking and alcohol use (Begg *et al.*, 2007; WHO, 2008). According to the World Health Organization (2002:60), physical inactivity, the main contributor to obesity, is estimated to cause, "globally, about 10-16% of cases each of breast cancer, colon and rectal cancers and diabetes mellitus, and about 22% of ischaemic heart disease". The health impacts of physical inactivity thus translate into significant direct and indirect financial costs to the economy and society.

The costs of employees with poor health can be measured in terms of productivity losses, sick days and compensation associated with illness. In Australia, illness costs Australian businesses $37 billion per year (Human Resources, 2005), with estimates by Access Economics (2008) indicating that the financial productivity costs of obesity

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alone amount to $3.6 billion, a two-fold rise since 2005 (Access Economics, 2008). These figures clearly show that employee health is increasingly becoming a critical business issue as improved health could translate to considerable direct cost savings for employers (Chapman, 2005; Haines *et al.,* 2007). Organisations must recognise that good general health in workers can be encouraged by employers and is good for business (Human Resources, 2005). For example, since implementing free health assessments and workshops for their staff, the Accor hotels group have reported increasing staff participation in these activities, and increased staff retention within the company overall (Human Resources, 2006). Similarly, the Eastman Chemical Company in the United States attributes profit gains and a sales increase in part to the implementation of a charter that includes employee wellbeing (Milliken, 1997).

To date, the importance of employee wellbeing at work has been a neglected area of inquiry in human resource management (Baptiste, 2008). Bannister (2005) suggests that Australian employers are beginning to realise that investment in the health of their employees can bring real business benefits. However, the workplace is still under-utilised as a site to promote healthy lifestyles and many workplaces, with their high level of labour-saving devices, contribute to poor staff health by encouraging sedentary behaviour (SAPAC, 2007; Henley and Redmond, 2006; Richmond *et al.,* 1998). Over a lifetime, employees spend more than four times as long in the workplace compared to engaging in leisure activities, highlighting the importance of incorporating exercise into the work environment (Get Moving Tasmania, 2006). Urwin (2006:12) proposes that workplaces should actively deliver and facilitate health promotion because "during working hours, the workforce is more susceptible to health education programs such as healthy eating, smoking cessation and stress prevention". Increasingly, pressure is also coming from employees who expect their company to promote wellbeing, particularly as workers perceive human resource managers as guardians of employees' interests, including their wellbeing (Renwick, 2003). This is reflected in a recent increase in employer support for occupational health and healthy workplace programs, including physical activity programs (O'Reilly, 2006).

Increases in physical activity contribute to individuals' improvements in health and wellbeing, reduced stress levels (e.g. Altchiler and Motta, 1994) and, on a population level, to substantial economic savings. While government campaigns promoting physical activity guidelines have contributed to an increasing population awareness of the importance of physical activity, this understanding has so far failed to translate into more physically active populations (Arora *et al.,* 2006). In Australia, only 29% of the population regularly, i.e. more than twice a week, engage in sport and physical recreation activities such as walking and population health is continuing to decrease (ABS, 2007).

Workplace physical activity programs, such as the commercially operated Global Corporate Challenge (GCC) examined in this study, have recognised the increasing role of the workplace in slowing these trends by providing at-work opportunities for employees to be more physically active. They strongly promote the physical and social health benefits of such initiatives (Scherrer *et al.,* 2008). The workplace may also provide an opportune framework for social support, which has been identified in the literature as an important factor to achieving behaviour change (Zimmerman and Connor, 1989).

The GCC is a four-month corporate physical activity-centred wellbeing program that places participants in a team environment, allied to the workplace, with the aim of increasing their daily physical fitness and achieving positive long-term behaviour change. It does this by encouraging a minimum daily step count of 10,000 steps per day per participant. Participants wear pedometers and enter their step-counts into a website on a daily basis, contributing to the team total. The combined steps are compared between teams across Australia in a virtual race using the GCC website and incorporated Google Earth maps. Thus a participant can compare themselves against other team members, and their team against other teams within and outside the organisation. Participants also receive regular GCC newsletters via email which are designed to encourage, motivate and maintain interest and participation.

According to the organisers, the GCC was designed to address three critical components of long-term exercise sustainability: enjoyment, measurable achievement and a supportive environment (GCC 2007). Thus achieving sustained positive behaviour change is, at least notionally, at the core of the GCC and similar workplace physical activity programs. According to Prochaska *et al.*'s (1992) change behaviour theory, there are five common stages through which people progress to achieve sustained behaviour change: pre-contemplation, contemplation, preparation, action and maintenance. Associated with these stages are a number of processes of change, ranging from consciousness raising through to self-re-evaluation, self-liberation and stimulus control (Prochaska *et al.,* 1992). More recent studies have demonstrated the importance of considering participant's motivational readiness for exercise adoption in the implementation of workplace physical activity interventions (Marcus *et al.,* 1998, Scherrer *et al.,* 2008). Scherrer *et al.* (2008) further identified elements of relapse by participants during various phases of the program, validating the relevance of Prochaska's spiral model of behaviour change to the GCC. However, significant gaps remain in our understanding of people's motivation for initial and persistent engagement with such programs. This paper aims to address that gap by specifically examining participants' motivation for engagement with the GCC, the barriers to continuation once engaged and personal benefits to participants to better equip employers to successfully implement corporate physical activity programs.

II. METHODOLOGY

Qualitative data was collected in the form of 'Guided Introspection'. Introspection was first used and documented in psychology in the late 1800s and early 1900s (Boring, 1953). Boring (1953:170) states that introspection involves *"looking into our own minds and reporting what we there discover"*. The essence of introspection is self-reflection. The technique aims to explore the feelings and emotions associated with the experiences of the respondent at the time of performing an activity to obtain rich, in-depth textual data in a timely manner. It is often in the form of verbal reports or written narratives from respondents, with limited researcher probing or guidance. The technique aims to uncover the emotions associated with experiences that may not be overtly apparent to others (Wallendorf and Brucks, 1993).

There are at least five types of introspection used in consumer research as listed by Wallendorf and Brucks (1993). In research introspection, the researcher provides the self-introspection and is the only subject of the study. In guided introspection, a sample (large or small) of subjects are asked to provide their reflections, feelings and

emotions about a specific purchase or event, usually verbally but also via written questionnaires. The third category is termed 'interactive introspection' and is used when the research and the subject are experiencing the same life experience, whereby providing a bond that can result in richer more in depth descriptions and insights. Syncretic combinations of introspection utilise the researcher introspections along with the other respondents, there is no interaction of researcher and respondents but the researcher introspections are simply added to the respondent data and analysed accordingly. The final introspection method is reflexivity within the research. This method involves the use of participant observation and involves the use of journal recordings of the researcher feelings and experiences as he/she studies the respondents group.

The application of guided introspection in this study was appropriate as it was deemed the most effective way to explore emotions and reactions while actually participating in the GCC event. Respondents were guided by a series of prompts that aimed to direct them to be self-critical in their reflection process. This provides authentic insights into the inner experiences of the individual which could not be observed overtly or detected in other ways (even in-depth interviews may not yield such rich data) but which could be critical in understanding people's motivations to behave in certain ways (Couper and Stinson, 1999).

This study was conducted in the workplace setting of a tertiary institution in Western Australia. A previous study at a comparable organisation had found that physical activity levels, measured in mean steps per day, were significantly lower (7,605 mean steps per day) compared to the general population of Western Australia (9,695 mean steps per day), indicating a higher risk of poor health, mortality and morbidity from chronic disease in staff members (Woolmer *et al.,* 2005). Participants were from a single organisation which fielded 56 GCC participants grouped in eight teams. All GCC participants were invited via email to participate in the study. The invitation explained that the study would involve four data collection points (diary-rounds). Entry into the draw of a bottle of wine for each diary-round was offered as encouragement and participants were reminded that their individual entry fee had been subsidised by the GCC to support this study. A total of 27 out of the 56 GCC participants (i.e. 48%) agreed to participate in the study and responded to at least one of four diary-rounds.

Respondents were asked to provide written reports on how they were feeling at certain times during the course of the GCC. They were encouraged to write as much (or as little) as they wanted to and to express how they were feeling generally about their participation in the challenge. In addition, they were prompted with specific questions at each stage of the process:

(1) before commencement, the study prompted for feelings of anticipation, mastery or apprehension;

(2) in the first month, the study prompted for early impressions, team cohesion and competitive feelings;

(3) in the third month, the study prompted for experiences and feelings towards the Challenge, and on sustaining or improving early levels of physical activity; and

(4) one week after the finish, the study prompted for assessments of their own levels of physical activity, the value of being part of a workplace initiative, the value of being part of a team, and their strategies for being more physically active.

The submitted diary entries were de-identified and entered into the qualitative data management software NVivo 7 for analysis. The researchers separately reviewed the transcripts and identified themes which were then cross-referenced by all researchers to ensure reliability. To protect the identity of the participants, gender identifying pseudonyms were used for each individual. Verbatims are identified according to the gender pseudonym and from which of the four diary entry dates the verbatim was obtained (D1 to D4). For example, a female participant aged 18-24 years was given the pseudonym of 'Alice'; a male participant aged 25-44 years was given the pseudonym 'Bob' and a female 45-64 years 'Caitlin'. Diary entries were numbered and classified as D1-D4. Therefore a typical verbatim in the text following could be allocated to 'Alice D2' which would indicate a verbatim from diary 2 entry for a female participant aged between 18-24 years.

Limitations

This paper presents a case study examining the impact of a corporate physical activity program within one workplace setting. Cognisant of this limitation, given varying workplace populations, cultures and physical activity awareness, the discussion is presented with reference to appropriate literature to broaden the context relevance of the findings.

III. MOTIVATIONS BEHIND ENGAGEMENT WITH THE PROGRAM

Participants enrolled in this corporate wellbeing program for a variety of reasons. However, there were two key themes which centred broadly on health and fitness benefits, and the perceived enjoyment and fun of participating in this type of competition.

Many participants expected general beneficial health and fitness outcomes from increasing their walking each day: *'fitness and weight loss'* (Clare D1) and *'health benefits, blood sugar, blood pressure, weight loss'* (Caitlin D1) and *'I want to lose some of the additional excess before adding variety to my exercise routines'* (Christine D1). Some participants had high and specific expectations that the Challenge would increase their weekly activity and general fitness: *'[I] would like to increase my weekly average to five hours plus my monthly bushwalks (around 30 km). Weight loss, general fitness, enjoyment'* (Colin D1). However most had lesser expectations, merely looking forward to an increase in their fitness levels and daily exercise. *'What I hope is that my activity levels increase...I have been complaining about the weight and the fitness for ages. This seemed like an opportunity to finally do something about it'* (Brenda D1), or *'I am not out to lose weight, but I like the idea of improving my fitness level'* (Clare D1). Some participants entered the GCC in the hope of utilising the support of the workplace setting to achieve health goals: *'[It is] an opportunity to become physically active, all my attempts in the past have failed, and I figured that this time around with the support of other people I would have a better chance of succeeding'* (Alice D1). There were also some participants who simply wished to be more aware of or to quantify their actual physical activity levels: *'I thought it would*

be a great way to find out how many steps I walk and how active I actually am' (Betty D1), or *'I thought it would be good to track my exercise, as I felt that I would average 10,000 steps on a normal day'* (Clare D1).

Aside from the expected health and fitness benefits, participation in the GCC was expected to be fun and enjoyable: *'...it seemed like a fun thing to do'* (Cadence D1). The concept of walking 'together' around the globe generated excitement: *'It is an unusual competition that sounded like fun – touring the world in a virtual race'* (Belinda D1). Combining a global concept, personal monitoring and a team competition utilising web technology was appealing to those seeking variety in their exercise regimes: *'I also look forward to recording the number of steps I take each day to see how far around the world we will walk'* (Bethany D1), and *'I thought it would provide incentive to exercise and be fun'* (Brenda D1).

IV. BARRIERS TO PARTICIPATION

The two critical workplace barriers cited by participants were time and team structure as outlined below.

Time conflict: Exercise or work?

The perceived lack of time available for exercise was identified as a barrier by participants even before the GCC commenced. *'There never seem to be enough hours in the day to do more exercise!'* (Beatrice D1). Some participants recognised the importance of priority and commitment to participation in daily exercise. *'It has to be a deliberate decision to participate in scheduled exercise, and when other options arise or work commitments are pressing, exercise often suffers'* (Bart D1). Others acknowledged that pressures at work and home took precedence over exercise. *'Getting out and walking seems to be a pain in the butt and secondary to doing work, cooking dinner etc'* (Becky D1). Participants were tired from working long hours and lacked the commitment to exercise regularly. *'I am spending more time in the office now than ever. I am tired, and when I do get home, procrastinate on doing anything active. I am learning to love my couch'* (Brenda D1).

Participating in the GCC did not seem to alleviate any of these pressures, as work commitments continued to either inhibit time for exercise, or served as a de-motivator for the Challenge: *'I don't have time to increase my training to desired levels due to work commitments'* (Christopher D2). *'My motivation for this activity has somewhat diminished. I am working far longer hours recently – over 10 hours a day and haven't been dedicating much time for exercise. I am even not wearing the stepper some days!!'* (Belinda D3). For many participants, work took precedence over physical exercise when achieving both was difficult. *'I am now working full time and I really cannot be bothered exercising'* (Alice D3).

The effect the Challenge had on productivity at work was both positive and negative. Some participants recorded that they lost valuable time to exercise that would normally have been devoted to work: *'Reduced it considerably. Instead of getting in by 7am and doing 2 hours solid work before anyone gets in, I was walking, getting in at 9. I would have lost 10 hours a week but maybe improved my health so I can live longer, work longer... I felt anxious not getting to work so early'* (Caitlin D4).

However, this was not always viewed as a negative result. *'Because I'm a workaholic anyway it reduced my productivity in two ways. Firstly, I was walking in the early morning – my most productive period. Secondly, I was tired at night, when I usually catch up on emails. I may have been more effective. I think I was more positive. My work/life balance was certainly improved!'* (Christine D4). Others expressed the belief that increasing exercising levels increased productivity at work. *'Regular exercise improves my ability to concentrate and do non-physical work. The wearing of a pedometer encouraged me to do more regular activity, though I am uncertain whether overall the GCC made any difference'* (Bart D4).

Some participants noticed an improvement in their work/life balance and attributed the Challenge with assisting them to prioritise. *'While I was committed to this – I think it helped me focus at work. It enabled me to prioritise the different areas of my life – work, friends, family, exercise and relaxing time. It helped to put things in perspective and balance my life better and give 100% during the time that I had dedicated to the different aspects – which included work'* (Belinda D4).

Team Structure:
Creating the right mix for maximum personal and organisational results

GCC teams in the organisation were assigned by circulating an open email asking for expressions of interest as well as word-of-mouth invitations to participate. Several work areas engaged their employees and submitted a group of people and thus some teams roughly aligned with work areas, with other individuals slotted into teams to make up the required seven members. This slotting into teams to make up numbers caused some participants to revisit their commitment to the Challenge. *'I got shuffled onto a team of people I don't know and I was tossing up whether to pull out or not'* (Brenda D1). The method of team formation was seen as a factor in team function. *'I don't think the approach taken in forming the teams was successful. There is no team motivation, no team focus, so this is really an individual effort'* (Colin D3).

Participants had preconceived ideas of how a team should interact and some were apprehensive at commencement as to the dynamics of their team and the peer pressure that may be applied to individuals as they participated in the Challenge. *'A bit apprehensive. I never liked team sports at school and have not participated in any team activity such as this before. Would hate to find myself unable to meet expected targets and letting the side down'* (Caitlin D1).

This study highlights both the positive and the negative aspects of participating in a team. Some participants felt that their team members were not committed enough to the Challenge. *'I ask other team members, and they are not even worried about achieving 10,000 steps, which I find quite disappointing'* (Clare D2). Others, for reasons considered earlier, found the group cohesion of their team to be limited and this then affected their team members' commitment. *'Only one person really made any kind of contact or effort on my team, which was a shame. But we were the team of people who didn't fit on other teams so I guess it was only to be expected and from water-cooler gossip it wasn't just my team that had that problem. What was really frustrating was logging on and seeing that there were people with up to 28 days missed steps. Either do it or don't, but if you sign up it is a promise to try at least!!'* (Brenda D4). Some participants believed that at the commencement of the Challenge specific goals should have been set to outline minimum expectations. *'It was quite*

disappointing to see how little people on our team got involved. It seemed to be much more of a chore and maybe that was because there was no team goal that was set at the beginning of the challenge towards which to strive and motivate each other' (Bart D4). Other participants took on the role of coach to encourage better participation from their colleagues. *'I do feel that some on my team aren't taking it as seriously. However, I send weekly pep emails to the team trying to encourage them to walk more'* (Cathy D3).

Communication between individual team members declined as the Challenge progressed and not entering steps online on a daily basis affected the motivation of other team members. *'I keep an eye on the team progress, but don't feel it is a team anymore. We have one member who has not lodged steps for over 10 days'* (Colin D2).

This perceived lack of commitment by some team members began to erode team communication and created tension among participants. Some participants suspected their fellow team members were more focused on individual achievement than that of the combined team effort. *'My team isn't working particularly well together on this – I think we are all measuring ourselves against individual goals'* (Caitlin D3).

Where teams functioned well, positive aspects included: comradeship, motivation, support, encouragement and a sense of belonging. Team members encouraged each other to perform better. *'My team's great. We encourage each other and I know they have driven me to walk more'* (Cassie D2). Communication between team members provided encouragement and a sense of belonging. *'The main motivation was being a part of a team and able to share and talk about what happened each day'* (Bob D2). Developing better social relations and bonding with work colleagues was an important part of the GCC as further outlined in the following section. Many participants were motivated to perform at their best. *'Being in a team (and especially my team!) makes you feel like you don't want to let them down and you need to keep doing your part to help the team'* (Betty D3). Others worried that their poor performance would let their team members down. *'I didn't want to let the team down. I tried to make sure that my average at least matched the team's'* (Christine D4). Indeed, feelings of guilt, disappointment and embarrassment were reported when performing below team average. *'I didn't want to record a low step count as it would be "embarrassing"'* (Bernice D4). This acted as a motivator to increase their performance in the future. *'I find that I am looking at my step count and when it is low I feel 'slack' and embarrassed (I don't want to let the team down) and that is forcing me to exercise more'* (Bernice D2). However, not all shared the feelings of guilt: *'I do admire those dedicated few that get upset when they let their team down'* (Alice D3).

Thus while some groups were unable to harness the potential group dynamic to improve both the physical activity levels of the group and its individuals, other teams functioned well and contributed to bonding and social relationships in the workplace.

V. PERSONAL BENEFITS FROM ENGAGING IN THE WORKPLACE WELLBEING PROGRAM

Social aspect

Overall, the GCC appeared to have a positive impact on the social relations within the workplace. It provided a topic for corridor conversations thus facilitating social interaction. *'We've had heaps to talk about in the corridors and it has broken down barriers with people I don't know very well. On a weekend bushwalk [organised by and for GCC participants], with 12 people from work, I had a long chat with someone I didn't know very well before and the conversation carried on the next day'* (Cassie D2). Team members actively encouraged each other throughout the day and the Challenge helped develop a sense of community within the workplace that was not present prior to the GCC. *'I am loving this! It has created a real sense of community among the participants'* (Cecilia D2).

The interaction between work colleagues facilitated by the GCC created a motivating element of competition. *'It's also certainly given rise to a large number of conversations between colleagues at work discussing step counts and strategies, but there has also been quite a large element of competition between colleagues or the different teams'* (Bernice D2). Some participants together developed strategies to increase their daily step counts, with one participant noting: *'Quite a few of us were getting really creative and enthusiastic – anything a bit social that would increase our step rate was fair game'* (Brenda D1). GCC participants initiated team or group activities much enjoyed and popular activities also outside work. *'It has also encouraged people to organise group activities such as hikes, which I think are great for team and workplace bonding'* (Betty D2).

Support from work colleagues and the workplace environment to continue and achieve step goals played an important role in motivating participants, leaving participants without at a disadvantage. *'I'm on a campus that isn't much involved in the GCC so I don't get much tacit support from my direct work environment'* (Christine D2). As the Challenge progressed, however, in some instances support at work diminished *'...the initial hype and the novelty has worn off, down the corridor people are barely talking about it anymore'* (Alice D3).

Increased awareness of physical activity levels

Participants had preconceived ideas of their activity prior to the Challenge. *'Before I started to wear the pedometer I thought I would easily make 10,000 steps. This was not the case. I have realised that you will actually have to make an effort to get to 10,000'* (Bethany D2). As the GCC progressed, some participants realised they were not as active as they thought they were. *'I have been surprised at how little exercise I actually do during some days. I thought I was fairly active but find it a challenge some days to get to 10,000....the magic number to strive for. I find myself walking at night to get the steps up'* (Carla D2).

Some participants made determined efforts to meet the minimum step requirements of the Challenge, increasing their physical activity in order to increase their step counts. *'I find I haven't done 'enough' steps by mid afternoon, I go for a long walk to up the count'* (Cathy D2). Participants evaluated their daily activities to facilitate more

physical activity and found creative ways to increase their daily step counts. *'My behaviour has definitely changed as a result of the Challenge, I am always looking for ways to get a few extra steps now, parking the car further away, walking to places I might have driven to, etc.'* (Betty D3). Those who increased their daily physical activity experienced a sense of achievement and happiness. *'It's amazing how disappointed I feel when I get a low step count and how good I feel when I improve my daily average or record a big step count'* (Betty D3).

Generally participants were motivated to increase their daily step counts and in some cases their physical activity levels increased. They were actively engaged in creating new ways to increase their physical activity levels and were disappointed when they failed in their goals and experienced a sense of achievement when they were successful.

VI. DISCUSSION

Corporate physical activity programs such as the GCC can contribute positively to employee health by increasing staff's awareness of low personal physical activity levels and fostering social interaction and engagement in physical activity in the workplace. As such, the GCC may be a useful tool for organisations to engage their employees in developing healthy physical activity habits, but is no panacea to the health challenges associated with many of today's desk and computer-based workspaces. As highlighted by this case study, the implementation alone of the program within an organisation, complete with GCC support through the website and emails, may not be sufficient to sustainably engage employees for the four month program period, let alone beyond the challenge.

Indeed, this study highlights the important role of the implementing organisation in setting a supportive context as well as the importance of ground-up participation in the team-formation and goal-setting processes by employees. Thus organisations taking part in the GCC should focus on facilitating the process, such as by encouraging the self-formation of teams, and linking the program with other employee wellbeing initiatives, including social events. Such an approach could foster a sense of ownership and responsibility in team members, likely increasing their motivation, sustained participation and contribution to team support (Byrne, 2005). Providing organisational support for the program concept and facilitating the positive social dimensions highlighted by this study could further contribute to the strengthening of the employee-employer relationship, as employees recognise the organisational support as being valued. This notion is supported by Boxall *et al.* (2003) who found that employees felt valued and supported in organisations that supported social networks. Job satisfaction was closely linked to "...being happy with co-workers and having a good relationship with one's supervisors – the social ties that bind employees to employers" (Boxall *et al.*, 2003:210).

Support motivates and makes physical activity participation fun as also highlighted by Zimmermann and Connor (1989) in their paper on the effects of 'Significant Others' on health behaviour change. Whether sedentary or highly active, participants recognised that being physically active would be beneficial for their health. Staff engaged with the program as they saw it as a motivator and avenue for support, by adding an element of fun and providing a self- and peer-monitoring tool to benchmark

their performance. This initial engagement is seen to be particularly important to sedentary people, the most-at-risk group, where even relatively small increases in physical activity can result in a dramatic reduction of health risk. Two key challenges, in particular, require further attention:

1. Participation of sedentary people; and
2. Sustaining positive physical activity behaviour for the longer term.

First, gaps remain to date in our knowledge of program up-take in particular by sedentary people. The ever increasing achievements of the leading team in the GCC, averaging 34,286 steps per person per day in 2009, are unlikely to encourage participation of sedentary people, but rather could act as a further barrier to program entry. The concept of motivational readiness, as also highlighted by Marcus et al. (1998) and which links with Prochaska *et al.*'s (1992) stage model of behaviour change, thus remains neglected in standard one-goal-fits-all programs such as the GCC. Indeed, workplace physical activity programs may reinforce inequalities and may contribute to indirect discrimination of non-participants, with less active workers often avoiding recruitment (McGillivray, 2002; Marshall, 2004). Second, Prochaska *et al.*'s (1992:1104) work on how people change identified that behaviour modification involves progression through a series of stages in which frequent relapses are "the rule rather than the exception". Indeed, the success of program interventions was closely linked to the people's readiness for change as reflected by their stage of progression. These findings were supported by Scherrer *et al.* (2008) in the context of corporate physical activity programs who also reported that participants struggled to maintain the momentum once the novelty had worn off and personal bests had less and less influence on the overall average of their results.

Findings from a recent study by Craike (2007) further emphasise the difficulty of achieving regular physical activity participation, indicating that for the behaviour to become sustained, physical activity has to become a life priority for people. Craike's (2007) findings, nevertheless, were in a leisure time context whereas programs such as the GCC focus on physical activity more broadly, including the work context and particularly increasing incidental activity, such as for example using the stairs instead of the lift. Thus in a work context, physical adjustments such as making pedestrian access-ways safe and pleasant environments, providing attractive outdoor spaces and encouraging social interaction and networks during work days, could contribute to an increase in incidental physical activity. This notion is also supported in social ecological approaches where space and place provide an important link with physical activity and healthy behaviours (Henderson, 2006; Kaczynski and Henderson, 2007).

From an organisational perspective, work culture and workload management may also play important roles in improving employee physical activity participation (Byrne, 2005; Smith and Sainfort, 1989). Our findings indicate that maintaining a daily level of physical activity was often one of the first priorities to be dropped by participants when the workload was high. Where people did adjust their work schedule to accommodate regular physical activity, some continued to fight an internal conflict of recognising the health benefits and even reported improvements in effectiveness versus the loss of actual hours worked. The type of work and nature of the organisation may contribute to this apparent conflict, though similar results from studies in the UK and US support our findings, highlighting that a lack of time due to

work commitments was one of the main barriers to implementing healthier lifestyles (Haines *et al.,* 2007; O'Reilly, 2006).

Although participants in all studies were encouraged by their organisations to commit to the program, they did not perceive support from the organisation to "take time out" from work for exercise; instead it was considered an additional activity leading to the stresses associated with time pressures. Thus the shift from relegating physical activity to leisure time towards a more integrated approach, recognising the value of incidental physical activity and the role of the workplace in achieving healthy physical activity behaviour, remains to be achieved in practice. Many studies outline that leisure environments are not always conducive to exercise, hence organisations can no longer transfer that responsibility and rely on the leisure environment (Godbey *et al.,* 2005; Owen *et al.,* 2007). With a growing body of evidence of the importance of place and space to physical activity behaviour (Henderson, 2006; Kaczynski and Henderson, 2007), perceived access to facilities is also an important, though yet little understood, factor (Kruger *et al.,* 2007). Organisational measures to reduce these barriers to participation should include a combination of providing flexible work schedules to facilitate staff participation in exercise opportunities, senior management leading by example with active participation in activities and the provision of appropriate places and facilities, demonstrating the organisation's commitment to encouraging physical activity participation with view to a healthy work/life balance.

Physical exercise within the workplace setting encouraged relationship building between people with whom they would ordinarily have had little contact. Indeed, the GCC succeeded in stimulating a range of positive actions by participants, with some taking deliberate steps to incorporate physical activity into their and their colleagues' working days and arrange special 'GCC community' events such as walks on weekends. Some participants worked with each other to achieve the minimum step counts each week, appreciating the support and encouragement offered by their colleagues. In this way, it can be concluded that the 'community' within the workplace was strengthened. Nevertheless, whether the GCC increased productivity at work was perceived differently by different participants in this study and appears to be linked to the physical and motivational state of participants at the time of participation in the program.

Future research

Three key areas for future research are suggested. First, as highlighted in the previous section, uptake behaviour of the most-at-risk group of sedentary people and the integration of the motivational readiness concept requires further investigation, particularly with focus on non-participation. Second, the impact of organisational interventions to support and facilitate continuing participation through measurement pre and post support intervention or using a control group could offer organisations information on how to maximise the benefits of the program. A third area for future research is the role of organisations in facilitating employee work/life balance and interventions targeting unhealthy organisational culture.

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REFERENCES

Access Economics. 2008. *The growing costs of obesity in 2008: Three years on.* Report for Diabetes Australia. Canberra: Access Economics.

Altchiler, L., and R. Motta. 1994. Effects of aerobic and nonaerobic exercise on anxiety, absenteeism and job satisfaction. *Journal of Clinical Psychology* 50(6): 829-840.

Australian Bureau of Statistics (ABS). 2007. *One in three Australians regularly play sport or exercise.* Retrieved 13 March 2008 from www.abs.gov.au/AUSSTATS/abs@.nsf/ mediareleasesbyReleaseDate!OpenView&Start=1&Count=1000&Expand=3.11#3.11.

Bannister, L. 2005. *A healthy helping hand: Corporate health and fitness programs.* Retrieved 13 March 2008 from www.humanresourcesmagazine.com.au/articles?OB.

Begg, S., Vos, T., Stevenson, B.C., Stanley, L., and A.D. Lopez. 2007. *The burden of disease and injury in Australia 2003. PHE 82*, Canberra: Australian Institute of Health and Welfare.

Baptiste, N. 2008. Tightening the link between employee wellbeing at work and performance: A new dimension for HRM. *Management Decision* 46(2): 284-309.

Boring, E.G. 1953. A history of introspection. *Psychological Bulletin* 50(May): 169-89.

Boxall, P., Macky, K., and Rasmussen, E. 2003. Labour turnover and retention in New Zealand: The causes and consequences of leaving and staying with employers. *Asia Pacific Journal of Human Resources* 41(2): 196-214.

Byrne, U. 2005. Work-life balance: why are we talking about it at all? *Business Information Review* 22(1) 53-59.

Chapman, L.S. 2005. Meta-evaluation of worksite health promotion economic return studies: 2005 update. *The Art of Health Promotion* 6(6): 1-16.

Couper, M., and Stinson, L. 1999. Completion of self-administered questionnaires in a sex survey. *The Journal of Sex Research* 36(4): 321-330.

Craike, M. 2007. The influence of leisure preference, life priority and making time on regular participation in leisure time physical activity. *Annals of Leisure Research* 10(2): 122-145.

GCC. 2007. *About the Global Corporate Challenge.* Retrieved 26 February 2007 from www.gcc2007.com.

Get Moving Tasmania. 2006. *Get Moving Tasmania - Workplace*. Retrieved 13 March 2008 from www.getmoving.tas.gov.au.

Godbey, G., Caldwell, L., Floyd, M., and Payne, L. 2005. Contributions of leisure studies and recreation and park management research to the active living agenda. *American Journal of Preventative Medicine* 28(2): 150-158.

Haines, D., Davis, L., Rancour, P., Robinson, M., Neel-Wilson, T., and Wagner, S. 2007. A pilot intervention to promote walking and wellness and to improve the health of colleague faculty and staff. *Journal of American College Health* 55(4): 219-225.

Henderson, K.A. 2006. Urban parks and trails and physical activity. *Annals of Leisure Research*, 9(4): 201-213.

Henley, N., and Redmond, J. 2006. *Health and well-being benefits of participation in Travel Demand Management Programs: Evidence from the literature.* Perth, Western Australia: Centre for Applied Social Marketing Research, Edith Cowan University.

Human Resources. 2005. *Healthy workers more productive.* Retrieved 13 March 2008 from www.humanresourcesmagazine.com.au.

Human Resources. 2006. *Firing up workforce health and fitness.* Retrieved 13 March 2008 from www.humanresourcesmagazine.com.au.

Kaczynski, A.T., and Henderson, K.A. 2007. Environmental correlates of physical activity: A review of evidence about parks and recreation. *Leisure Sciences* 29(4): 315-364.

Kruger, J., Carlson, J. and Kohl, H. 2007. Fitness facilities for adults: Differences in perceived access and usage. *American Journal of Preventative Medicine* 32(6): 500-505.

Marcus, B.H., Emmons, K.M., Simkin-Silverman, L.R., Linnan, L.A., Taylor, E.R., Bock, B.C., Roberts, M.B., and Rossi, J.S. 1998. *American Journal of Health Promotion* 12(4): 246-253.

Marshall, A. 2004. Challenges and opportunities for promoting physical activity in the workplace. *Journal of Science and Medicine in Sport* 7(1): 60-66.

Milliken, W. 1997. Eastman makes the most of motivation. *Human Resource Management International Digest* 5(2): 5-7.

O'Reilly, N. 2006. Survey shows investment in OH is set to grow. *Occupational Health* 58(10): 9.

Owen, N., Cerine, E., Leslie, E., Du Toit, L., Frank, L., Bauman, A., Hugo, G., Saelens, B., and Sallis, J. 2007. Neighbourhood walkability and the walking behaviour of Australian adults. *American Journal of Preventative Medicine* 33(5): 387-395.

Renwick, D. 2003. HR managers Guardians of employee wellbeing? *Personnel Review* 32(3): 341-359.

Richmond, R., Wodak, A., Bourne, S., and Heather, N. 1998. Screening for unhealthy lifestyle factors in the workplace. *Australian and New Zealand Journal of Public Health* 22(3): 324-331.

Scherrer, P., Henley, N., Sheridan, L., Sibson, R., and Ryan, M. 2008. Maintaining Momentum: The challenge of a workplace physical activity program to sustain motivation and activity. *Journal of Research for Consumers*. Issue 14: 1-12.

Smith, M.J., and Sainfort, P.C. 1989. A balance theory of job design for stress reduction. *International Journal of Industrial Ergonomics* 4(1): 67-79.

South Australian Physical Activity Council (SAPAC). 2007. *Workplace Physical Activity Resource Kit*. Retrieved 13 March 2008 from www.beactive.com.au/workplace.html.

Urwin, T. 2006. How to...Manage Stress. *Occupational Health* 58(8): 12.

Wallendorf, M., and Brucks, M. 1993. Introspection in Consumer Research: Implementation and Implications. *The Journal of Consumer Research* 20 (3): 339-359.

Woolmer, J., Howat, P., and Sauer, K. 2005. *Effectiveness of e-mail support to increase physical activity within the workplace*. Successes in Public Health - 36th Public Health Association of Australia Annual Conference, 25-28 September, Perth, Western Australia.

World Health Organization (WHO). 2002. *The World Health Report 2002: Reducing risks, promoting healthy lifestyle*. Geneva: World Health Organization.

World Health Organization (WHO). 2008. Move for health. Retrieved 6 June 2008 from www.who.int/moveforhealth/en/

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