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## **Physical Activity and Sedentary Time: Male Perceptions in a University Work Environment**

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### **Abstract**

Promoting physical activity and reducing sedentary time in males can be challenging, and interventions tailored specifically for males are limited. Understanding male perceptions of physical activity and sedentary behavior is important to inform development of relevant interventions, especially for males working in an office setting. As part of a larger intervention study to increase physical activity and reduce sedentary time, male university employees aged 35-64y were invited to partake in focus groups to discuss benefits, motivators, and barriers related to physical activity and sedentary time. Five semi-structured focus group sessions, ranging from 50-70 minutes in duration, were conducted on two campuses at an Australian university. A total of 15 participants (9 academic/faculty staff and 6 professional staff), with a mean ( $\pm$ SD) age of 46.1 ( $\pm$ 8.0y) took part in the study. Health and family were commonly discussed motivators for physical activity, whereas time constraints and work commitments were major barriers to physical activity participation. Sedentary time was a perceived “by-product” of participants’ university employment, as a substantial proportion of their days were spent sitting, primarily at a computer. Participants believed that physical activity should be recognized as a legitimate activity at work, embedded within the university culture and endorsed using a top-down approach. It is important to encourage breaks in sedentary time and recognize physical activity as a legitimate health-promoting activity that is supported and encouraged during working hours. These findings can be used as a platform from which to develop targeted strategies to promote physical activity in male university employees.

### **Keywords**

Physical activity, sedentary time, focus groups, middle-aged men, workplace health promotion.

## **Introduction**

The benefits of regular physical activity have been well-established, and are often identified as key motivators for being active. Regular participation in physical activity has been shown to improve overall health (Physical Activity Guidelines Advisory Committee, 2008), mental health (Blumenthal et al., 2007; Dunn, Trivedi, Kampert, Clark & Chambliss, 2005; Paluska & Schwenk, 2000), and is also associated with reduced chronic disease risk (Physical Activity Guidelines Advisory Committee, 2008; World Health Organization, 2010). In addition to the evidence on the benefits of regular physical activity, an increasing body of evidence is also emerging on the potentially deleterious health effects of sedentary time. Higher volumes of sedentary time have been shown to be associated with chronic diseases including diabetes (George, Rosenkranz & Kolt, 2013; Hu et al., 2001; Hu, Li, Colditz, Willett & Manson, 2003), hypertension (Haapanen, Miilunpalo, Vuori, Oja & Pasanen, 1997), heart disease (Haapanen et al., 1997; Katzmarzyk, Church, Craig & Bouchard, 2009) and all-cause mortality (van der Ploeg, Chey, Korda, Banks & Bauman, 2012). As evidence emerges demonstrating the independent risk of sedentary time on chronic diseases, it is increasingly important for health professionals to consider both physical activity and time spent sedentary in their efforts to promote healthy lifestyles.

Males form a particularly hard-to-reach population group for the promotion of healthy lifestyles (Department of Health and Ageing, 2010; Morgan, Warren, Lubans, Collins & Callister, 2011). Australian males have a lower life expectancy and increased rates of chronic diseases compared to their female counterparts (Department of Health and Ageing, 2010), although recruiting males to health promotion initiatives that have the potential to impact upon these inequities, can be challenging (Department of Health and Ageing, 2010; Morgan et al., 2011). Males are often underrepresented in health promotion research (Glasgow et al.,

2007; Waters, Galichet, Owen & Eakin, 2011), and a need for male-targeted interventions and initiatives to increase male participation has been identified (Waters et al., 2011). Males are also less likely than women to undertake positive health measures such as seeking advice from health professionals, or attending health education sessions (Deeks, Lombard, Michelmore & Teede, 2009). These discrepancies highlight a need to understand the factors that impact upon males' physical activity and sedentary time.

When promoting physically active lifestyles, it is important to consider the proportion of time adults spend at work, as this has the potential to negatively impact their opportunities for physical activity participation and foster a relatively sedentary lifestyle. University employees, for example, may be likely to spend large amounts of time being sedentary – a risk factor for developing overweight or obesity, independent of levels of physical activity (Ching et al., 1996; Prosser, Thomas & Darling-Fisher, 2007; Salmon, Bauman, Crawford, Timperio & Owen, 2000). Few studies have focused on university employees as a target population for the promotion of healthy lifestyle behaviors (Gilson, McKenna, Cooke & Brown, 2007; Morgan, Lubans, Collins, Warren & Callister, 2009; Prosser et al., 2007), and the need for more studies examining the potential to increase physical activity in academic and similar settings has been identified (Prosser et al., 2007).

While the benefits of regular physical activity and the risks of inactivity are well known, the presence of perceived barriers is a strong and common correlate of physical activity non-participation (Troost, Owen, Bauman, Sallis & Brown, 2002). Barriers to, and motivators for, participating in regular physical activity vary within and between populations, and it is important to understand the impact of barriers and motivators on participation. Adults frequently identify work and family commitments, time constraints, associated costs, stress, lack of motivation, and a lack of convenient opportunities as barriers to participation in

physical activity (Caperchione et al., 2012; Salmon, Owen, Crawford, Bauman & Sallis, 2003; Schwetschenau et al., 2008). Factors such as inadequate health, lack of motivation, laziness, and disability or injury have been cited as weight-related barriers (Ball, Crawford & Owen, 2000); while environmental factors and a lack of access to facilities have also been reported as barriers to participation in physical activity, particularly for those living in rural or low socioeconomic areas (Australian Institute of Health and Welfare, 2010; Humpel, Owen & Leslie, 2002). Although motivators and barriers related to physical activity participation have been investigated in various population groups, there is a lack of research examining motivating factors and barriers related to sedentary time. Given that individuals working in office settings spend a large proportion of their work day sitting (Parry & Straker, 2013), it is equally important to understand factors related to sedentary time.

Caperchione et al. (2012) recruited middle-aged males living in a regional area of Queensland, Australia and conducted a series of focus groups to gain insight into physical activity and nutritional behaviors. In that study, improving health, losing weight, enjoyment, and setting good examples for children were cited as motivating factors for being physically active (Caperchione et al., 2012). Caperchione et al. (2012) also reported that males in their study identified maintaining a good quality of life and being able to undertake daily tasks as motivators for being physically active, particularly as they got older. In a similar population group, socializing and maintaining strength were recognized as key benefits for physical activity (Wandel & Roos, 2006). Not all participants in that study placed as much importance on regular physical activity though, as some believed that it was acceptable to allow the aging process to occur naturally (Wandel & Roos, 2006).

Although motivators and barriers related to physical activity participation have been investigated in various population groups, there is much less research that has examined

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motivating factors and barriers related to sedentary time. Given that individuals working in office settings spend a large proportion of their work day sitting (Parry & Straker, 2013), it is equally important to understand factors related to sedentary time. Gilson, Burton, van Uffelen and Brown (2011) targeted men and women employed in a sedentary occupation to explore perceptions of health risks and potential intervention strategies related to workplace sedentary behaviors. Gilson et al. (2011) found that participants welcomed the idea of implementing strategies to reduce sedentary behavior and identified the need for future qualitative research into perceptions of sedentary behavior in other employee groups.

As evidence emerges on the independent risk of chronic disease from both physical activity and sedentary time, understanding male perceptions of physical activity and sedentary behavior is important to inform the development of relevant interventions, especially for males who work in sedentary occupations. The purpose of this study was to explore middle-aged men's perceptions on a range of issues related to physical activity and sedentary time. More specifically, this study explored middle-aged men's perceived benefits of leading a physically active lifestyle; motivators for physical activity; barriers related to participation in regular physical activity; barriers related to sedentary time; and strategies to increase physical activity and reduce sedentary time. This study formed part of the substantive ManUp UWS project, aimed at increasing physical activity and reducing time spent sedentary in male university employees. Insights and opinions obtained during these focus groups were used to help inform the final design and shaping of the ManUp UWS intervention, a 12-week internet-based physical activity intervention for this population.

## Methods

A purposive sampling strategy was used to recruit male employees aged 35-64 years from a large multi-campus Australian university, to partake in focus group sessions between November 2011 and May 2012. The primary aim of purposive sampling is to develop an “Understanding of an issue or topic in sufficient detail to provide information to design subsequent studies” (Vaughn, Schumm & Sinagub, 1996, p. 58), and as such, is common to focus group research. Recruitment flyers were distributed across two campuses and interested participants were asked to contact the primary researcher (ESG) by email. Participants were deemed eligible if they were employed in an ongoing or fixed-term position at the university, were aged between 35 and 64 years, and were not highly active (i.e., as a rule, they were not participating in at least 30 minutes of moderate to vigorous physical activity – such as walking or sport – on five or more days per week). Eligible participants provided their focus group session scheduling preferences and were sent detailed study information before attending the session. The study information was also given to participants again at the beginning of the session, before they gave their informed consent to participate in the study. At this time, participants were also asked to complete a brief demographic questionnaire (Table 1).

Participants were informed that the focus groups would be digitally recorded to ensure none of the information they shared during the session was missed, and two digital recorders were used to record the audio data during each focus group session. Participation in the focus groups was completely voluntary, and all participants were informed that they could withdraw their participation at anytime throughout the session without consequence. The primary researcher (ESG) acted as the session facilitator, and was responsible for guiding the discussion and prompting when required; while another member of the research team (JMG)

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took notes and was responsible for the audio recording for each session. Each focus group session was held in a common room at one of the two campuses, and sessions ranged from 50 to 70 minutes in duration.

Questions asked during the focus group sessions were based on those from a similar focus group study (Caperchione et al., 2012), and were guided by the study objectives. Unlike the Caperchione et al. (2012) study, participants were not only asked questions related to physical activity, but also about sedentary time. The questions were open-ended to encourage open conversation amongst participants, and prompts were used to promote further discussion on key themes, if required. Participants were encouraged to share their perceptions on the benefits of leading a physically active lifestyle; motivators for physical activity; barriers related to participation in regular physical activity; barriers related to sedentary time; and strategies to increase physical activity and reduce sedentary time. The content validity and appropriateness of the focus group questions were assessed through a process of pilot testing involving volunteers representative of the target population. All focus group questions and prompts are listed in the focus group schedule (Appendix A).

During each focus group session, the facilitator (ESG) and another member of the research team (JMG) noted emerging themes and took brief written notes on pre-developed forms to refer back to during the data analysis process. For each topic, several key themes identified in published literature and during pilot-testing were listed to permit the researchers to take brief notes during open conversation. Following each session, the primary researcher (ESG), transcribed the audio data verbatim. Using an inductive approach, thematic analysis was used to examine the data. Two members of the research team (ESG & JMG) independently and systematically read the transcripts several times for familiarization purposes. The authors independently coded each transcript by highlighting interesting segments of text and



assigning a label to each segment. After independently coding, both authors compared and discussed codes from each transcript for the purpose of collating codes into one framework. Similar codes were grouped and categorized into themes to allow for identification of commonalities within the transcripts. The process used for our thematic analysis was similar to a guide provided by Braun and Clarke (2006). Ethics approval for this focus group study was granted by the University of Western Sydney Human Research Ethics Committee.

## **Results**

A total of five focus group sessions were conducted on two campuses at the University of Western Sydney, with a total of 15 participants. The number of participants in the focus groups ranged from 2 to 4 including a total of 9 academic staff (i.e., faculty) and 6 professional staff. The mean ( $\pm$ SD) age of participants was 46.1 ( $\pm$ 8.0) years, and the demographic characteristics of the sample are reported in Table 1. Although theoretical saturation was not used to determine the sample size for this study, there were marked consistencies observed amongst the responses in the focus group sessions. Findings are presented separately for physical activity, sedentary time, and strategies to improve physical activity and reduce sedentary time.

### **Physical activity**

*Benefits of a physically active lifestyle.* The majority of participants were aware of the benefits of leading an active lifestyle. Health-related benefits, including improved general health, reduced susceptibility to illness, improved mental health, and lower risk of developing chronic diseases were commonly identified benefits of regular physical activity.

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*“You feel better...you’re less likely to be struck down early with some lifestyle-related chronic disorder that’s going to stop you from doing any exercise ever again.”*

Weight maintenance was identified as a major benefit and many participants were also aware of the potential risks associated with being overweight. Appearance, in relation to weight was also discussed, although not as often.

*“That waistline is an important factor, especially for males because...an extra inch around your waist has a significant effect on your heart. So for me, the biggest motivation would be weight loss and you know...inches off the waist...Mainly just ‘cause of the health benefits really.”*

*“In my 30s, I wasn’t really big, like hugely overweight, but I was putting on weight and I was having to go up sizes in clothes and I just thought, I don’t want to keep going on like this. And so that’s when I started exercising.”*

*Motivators for physical activity.* Maintaining and improving health was mentioned by several participants as an important motivating factor for being physically active, particularly as they got older. Some participants explained that they were motivated to be active and healthy to increase their longevity and to be able to participate in physical activity with their children. Others aspired to be a good role model for their children in terms of leading a healthy, active lifestyle and discussed the need to “lead by example”.

*“I’ve got two kids, 14 and 16...so I want to...be around for a long time and be in good shape for them as they grow older and yeah, so it is, it’s important to me.”*

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Physical activity was commonly referred to as being a stress reliever, with participants feeling a sense of escapism when they got away from work and were involved in an activity they enjoyed. Moreover, participants enjoyed the “change of scenery” when they left the work or home environment and participated in physical activities in a different setting.

*“I would never, for example get an exercise bicycle, or some sort of garage gym because even though I’d be exercising, I’d still be within the same confines as what I’m either working or doing household work or things like that.”*

On the other hand, several participants identified guilt as somewhat of a reverse motivator, in the sense that they were physically active in order to avoid feeling guilty for being inactive.

*“Not exercising is actually a stressor to me, to be honest. If I know that I haven’t exercised, that actually creates anxiety that I haven’t done enough. Especially when I know I’ve got this family history of things that could have been affected by exercise.”*

*“If I get really into the exercise pattern, if I don’t go, I feel guilt...so I want to get rid of that, so, the motivator’s not to feel guilt...for not doing it.”*

Although some saw physical activity as a chore and as something that had to be done, others enjoyed being physically active and said they participated in activities for fun. Belonging to a team or a social group, and being able to interact with others who were interested in similar activities was another motivating factor. Among participants citing this as a motivator, one theme that resonated with them was the fact that they tended to feel more of a commitment toward participation in activity, and were less likely to displace activity if they felt they owed it to others in the group.

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*“It was good when I was involved in team sports because you had other people there to interact with and you had, they were there to motivate you and that as well.”*

Also of interest was that many participants felt that their key motivators for being physically active changed over time. Appearance and fitness were major factors for some, while others discussed competitiveness and goals to succeed in their given sport or activity as a major motivator in their youth. Physical activity was said to ‘come naturally’ to some in their youth, and few considered the health benefits in their choice to be active.

*“As a kid you didn’t really think about it, you were just active anyway. It was just part of life – you came home, threw your school bag in the door and you were outside. So, you didn’t really think about you need to get out and do some exercise.”*

When asked about how their motivators had changed over time, many explained that their family and their growing awareness of the health-related benefits of physical activity was now a big motivator, and the fact that they “weren’t getting any younger” pushed some to be active. Some participants also explained that they were more motivated to lead a physically active lifestyle at their current age than they were in their youth.

*“For quite a bit of time I didn’t really do any sort of set exercises as such, and...then the weight piled on, and then the motivation came in – alright, you really need to do something about this.”*

*“I sort of stopped doing really much at all. Put on a bit of weight, and probably got back into it about six or seven years ago and haven’t looked*

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*back. So there was no sort of, driving force I think, back when I first started in my 20's."*

A particularly interesting notion that was mentioned in several of the groups was that even though some participants felt that they were motivated enough to be active, they found it hard to overcome the impediments to being physically active. For example,

*"Knowing the fact that it's good for you doesn't necessarily make me change the fact that I don't do enough – simple as that. So, I know all that stuff, but, well there's motivators there, but then there's other barriers that, I find difficult to overcome."*

*"You can be well-intentioned and highly motivated, but unless there are a few more hours in the day, then it's very hard to do."*

*Barriers related to participation in regular physical activity.* The two most commonly discussed barriers to being physically active were, not surprisingly, time and work commitments. Most participants felt they did not have the opportunity to be active during work hours and could not find the time to be active during the workday because of their workloads. For example,

*"For ever so many staff...the lunch hour is not a lunch hour, it's a lunch 5 minutes – sitting in front of their computer, trying to catch up on the stuff that is about to avalanche over the top of them. So then the challenge becomes that if you do explicitly put more time aside during the day, then where does that time come from?"*

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Work pressures and time constraints were discussed as barriers in all focus group session, and participants tended to agree that physical activity was often an activity that was very easily displaced, particularly due to the nature of their jobs.

*“Because there’s the expectations from our careers. You know, you’ve got to be writing, you’ve got to be on the phone to people at silly hours when you’re in Australia and yeah, you just have to put so much time into teaching, setting up research collaborations, doing your writing.”*

*“The problem with exercise is that it’s so much more easily displaced than other things. Because even though you know it’s an imperative, it’s not an immediate imperative as such.”*

While workload was cited as a barrier during the workday, some participants felt that their workload and job demands also impacted upon the amount of physical activity they undertook at home. Long commutes to and from work and fitting in with the family’s schedule were identified as barriers to regular physical activity, as was a lack of available facilities. For some participants, facilities were available (e.g., cycling trails) but they did not feel safe using them, while other participants felt that facilities were too far away from their home or workplace, or were too expensive to use (e.g., gym memberships). Ageing and a decline in general physical condition were also identified by some participants as barriers to being physically active.

*“I’ve actually seen a big difference in me from when I was 45 to where I am now, that I’ve actually become more lazy...in terms of doing physical activity.”*

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Lack of motivation and laziness were cited by some as barriers to participation in physical activity, particularly with regards to physical activity during the working week. While some participants had good intentions of participating in physical activity before or after work, many found they were too exhausted to do so. In terms of bolstering motivation, some participants felt that they were more motivated to be regularly active when they had something to strive for. For example, several participants recalled how registering for an event like a 'fun run' gave them the motivation to get into a routine because they felt that they would not be able to complete the challenge if they did not prepare.

*“If it’s a bit aimless, then I just get stuck into a routine, and then I don’t think of it [physical activity], especially with the hours that many of us will work, and commuting and that. It becomes very easy not to find the time.”*

Setting measurable and quantifiable goals was another factor that helped some participants stay motivated, as they were able to track their progress, observe improvements, and work towards a goal. Not having a social network, which was identified as an important motivator, was also identified as a barrier, as some participants felt it was harder to get motivated on their own.

*“When you’ve only got yourself, it’s a lot harder to actually motivate yourself to actually do it, you know?”*

### **Sedentary time**

*Most common sedentary pursuits.* Most participants agreed that they spent a lot of time sitting down during the day, and most of their daily sedentary time was related to work – for example, at their desk or computer; or transportation. Time spent in front of the computer was not limited to work hours, with many participants discussing the need to complete work

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outside of normal working hours. Several participants employed in academic positions believed they were employed in a typically sedentary occupation, identifying sedentary time as “a given”.

*“If one’s mostly doing office work, it’s reasonably unavoidable to end up sitting at a desk. So if one is in academia, the only time one is not sitting at a desk is if one is teaching, otherwise, they’re sitting at a desk.”*

Some identified a shift in the delivery of lectures and tutorials as a cause of increasing sedentary time. This reflects a shift in the approach to teaching and student learning to incorporate technological advancements.

*“Now all of those lectures are podcast, so instead of standing up for an hour and doing what one does...I guess I sit down for an hour and record the podcast. And the tutorials, instead of being interactive – physically interactive – tutorials, those tutorials are done electronically.”*

Some focus group participants were conscious of their daily sedentary time, and made an effort to try and break up the long blocks of sitting; while others found it too difficult to find the time.

*“Just being conscious of sitting for too long, you just get into the habit...the lunch break, half an hour or something, is a good time to do some walking.”*

*Barriers related to sedentary time* When participants were asked if there were barriers to overcome in terms of reducing high volumes of daily sedentary time, work and time were, again, commonly identified. Participants discussed the need to sit at their desk or their computer to be able to do their work, and most of the participants in this study were



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employees who spent long stretches of time at a desk, for example, preparing class work, marking, recording podcasts, or working in administration.

*“Our job at a university is one, primarily to use our abilities of cognition.*

*That’s best used when you’re not moving around too much.”*

While the main barriers preventing participants from reducing sitting time were primarily work-related, there was also discussion around sedentary hobbies such as reading and writing.

### **Strategies and goals to increase physical activity and reduce sedentary time**

Perceived barriers were a major issue in relation to physical activity participation, although participants were able to identify opportunities for change. Many liked the idea of changing habits and encouraging small changes that could be incorporated into their daily routine.

*“It’s creating that routine and being comfortable in a routine that you’re, you know you can maintain and sustain, over a period of time.”*

For example, parking the car further away from the building at work, taking the stairs instead of the lift, and making a point of going for walks throughout the day and trying to limit sitting time after work or on weekends were commonly discussed.

*“I know lots of staff members who never do the stairs, so...there are small things that you can incorporate into the daily routine of the worker at the university, that can lead to enough change to improve health.”*

On the other hand, some participants were able to identify strategies to increase their physical activity and reduce their sedentary time during work hours, but they felt that they would lose productivity.

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*“Even though we sit, it’s a by-product of the fact that we have to use our brains. It’s not as if it’s because we want to sit, if that makes sense...So, unless you can find another way that we can run around making lecture slides and reading articles where we’ve got our heart rate up and improving our vascular flow to the muscles, I would happily swap that. But at the moment...I will be sitting to use my brain.”*

*“When I work, I have to concentrate, I have to focus, I have to have that lead in my mind and if I interrupt it, even for 5 minutes, it takes another 10 minutes to come back...My productivity would really fall.”*

One of the more distinctive themes that came up in discussion across groups was that of changing the culture at the university and really encouraging staff and students to be more physically active. Some participants discussed the culture at previous workplaces as ones that supported social activities and active lifestyles, and they felt that the social culture among staff could be much stronger. It was also suggested that physical activity needed to be seen as a legitimate activity that should be supported and perhaps even endorsed using a top-down approach.

*“If it’s going to be done in work time, then it has to be viewed as a legitimate activity in its own right. I mean – would it ever get to the stage where they would allow an exercise component to be built into someone’s workload agreement? Because if not, then whilst you’re out there exercising, then you’re not doing the stuff that is in your workload agreement.”*

## Discussion

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For each topic of discussion in this focus group study, several key themes emerged and resonated with men across the groups. When asked about the perceived benefits of being physically active on a regular basis, the men discussed a range of benefits, from improving general health and well-being, through to reduced risk of chronic diseases and improved mental health. Given the presence of high-profile health promotion campaigns and the popularity of television programs promoting weight loss and encouraging people to lead healthier lifestyles, it is not surprising that men in this study were aware of the benefits associated with regular physical activity and the risks associated with inactivity. It seems, however, that the issue is not so much about generating knowledge about these benefits, but educating people to enable them to identify and overcome the impediments related to participation in physical activity.

Two prominent themes emerged from the discussion on barriers related to participation in physical activity – the impact of time constraints and work commitments. These barriers were also identified in several other studies. For example, men in the Caperchione et al. (2012) study indicated that they lacked the time to participate in regular physical activity due to family and child care commitments. While the participants in the current study also mentioned family commitments, and fitting in with the family's schedule outside of working hours, long working hours and excessive workloads were more commonly identified in relation to time constraints.

Incorporating a degree of competition into physical activity was suggested as a potential motivation strategy, with some, but not all, participants noting that they enjoyed a bit of friendly competition, and were more likely to push themselves if they knew they were competing against others. The desire for competition was not common among all participants, however, with some preferring to set personal goals and work individually. One participant

shared his experiences relating to a social team he was once involved in, and explained that it was important for the competition to remain friendly and unthreatening, so as not to intimidate people. Older males in the study by Verdonk et al. (2010) held different opinions about workplace physical activity and competition in comparison to the younger males – their perceptions included feeling old around the younger men and feeling like they had to prove themselves if challenged.

Health was another major motivator for a lot of the men in our study, particularly as they were getting older. For many, the main motivators for being physically active shifted over time, compared to the motivating factors that influenced them in their youth. Some participants recalled seeing changes in their health or image when they reached their middle age, which prompted them to start being physically active. Some, but not all participants saw age as a barrier to being physically active, but most agreed that they noticed quite a substantial difference in their fitness levels as they got older. Similar to the findings of Verdonk et al. (2010), in their youth, men felt that physical activity had more of a connotation with image and fitness, as health issues were not a major concern.

Wandel and Roos (2006) reported that males in their study were also more aware of their health and the risk of disease as they aged, which was identified as a motivator for maintaining or undertaking physical activity for several participants in our study. Although employed in a range of different occupations, participants in both our study, and the study by Wandel and Roos (2006), shared similar views on their levels of physical activity. Some participants discussed becoming less physically active as they got older, while others found the motivation to become active with age.

For most participants, high volumes of sedentary time were related to work and work-related tasks. Apart from small changes such as visiting a colleague rather than emailing them, or

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making several trips to the photocopier, participants – particularly those in academic or administrative roles – seemed to feel that opportunities to break up their sedentary time were limited. High volumes of sedentary time were accepted as somewhat of a by-product of their occupation and work environment, and a common idea held by participants was that sitting was essential for productivity. This was identified as a major barrier in relation to reducing daily sedentary time in the workplace; however, incorporating breaks in sedentary time can, in fact, enhance workplace productivity (Taylor et al., 2013). Stronger, more innovative efforts to overcome this misconception need to be considered. Encouraging regular breaks in sedentary time by incorporating small changes, such as those identified in these focus groups, may be efficacious for individuals employed in a university-based, or similar setting.

Changing the culture of the workplace to encourage physical activity emerges as a unique and interesting theme. In general, males who participated in our study were eager to see changes in workplace culture permitting more opportunities to participate in physical activity during the day. Participants felt that there was a lack of staff culture and social interaction within the workplace, although they were eager to see that change. It was also suggested that staff would need to have support and encouragement from supervisors and senior staff in order for physical activity during working hours to be acceptable and recognized as a legitimate activity, and the findings of Prosser et al. (2007) lend further support to this. Academic staff members in the study by Prosser and colleagues (2007) suggested that having support from supervisors, and having a group or partner to be active with would help enhance and maintain motivation and overcome barriers for physical activity. The desire for greater staff engagement and promotion of social activities was discussed by participants in our study, who were in favor of seeing a change in culture using a top-down approach.

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Males in this sample were employed in a range of different positions, representing the varying roles often found within a university setting. For example, participants were employed in academic roles, management roles, and professional support positions. The majority of participants perceived their job to involve high volumes of sedentary time, so although the findings of this study are highly relevant to males employed in a university setting, they may not necessarily be applicable to other male populations, such as those employed in more labor-focused occupations.

A particular strength of this study was the insights that participants gave in relation to sedentary time. One particular notion that resonated with participants across groups was that sitting was necessary for their productivity, and taking regular breaks would significantly impact on their focus and productivity. It was suggested that it may not always be possible for employees to engage in physical activity during working hours. In addition to promoting regular physical activity both during and outside of working hours, encouraging breaks in daily sedentary time during working hours has been shown to be associated with positive health outcomes (Healy et al., 2008), and may be a more novel and achievable approach in this type of setting.

The results of this study should also be viewed in light of some potential limitations.

Although this study has provided important insight into male perceptions of physical activity and sedentary time, the small number of participants in the focus group sessions was not ideal. Recruiting men to participate in the study was challenging, although recruiting men to health promotion initiatives and research studies is notoriously difficult (Department of Health and Ageing, 2010; Morgan et al., 2011). Ideally, each focus group session would have included more participants, resulting in a larger sample size and possibly eliciting further discussion amongst participants. Although theoretical saturation was not used to determine

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sample size, the responses elicited across focus group sessions were similar. As such, it was deemed that robust data were obtained. The focus group facilitator was female, and although the nature of the topics discussed during the focus group sessions were not particularly gender sensitive, female facilitation might have potentially influenced the responses of some participants (Pini, 2005).

The findings of this study demonstrate that promoting physical activity in males working in particularly sedentary occupations can be challenging. Although a variety of motivating factors were identified in this study, difficulties associated with overcoming impediments for physical activity participation and reducing sedentary time were a major concern for participants. Changing the workplace culture, gaining support from employers and senior staff, and recognizing physical activity as a legitimate activity were identified as potential strategies to increase activity and reduce sedentary time in a university-based setting. Future intervention research targeting males in sedentary occupations should consider these strategies in efforts to increase physical activity and reduce sedentary time.

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