The extensive health benefits of physical activity are well documented within the literature (Blair & Morris, 2009; Church & Blair; 2009). An active lifestyle serves to protect and or enhance components of physical and mental health, while simultaneously improving quality...
of life (Pucci et al., 2012). Additionally, physical activity participation often offers opportunities for social interaction, helping to foster a sense of social connectedness (Heath et al., 2012).

Despite the large body of evidence pertaining to the benefits of physical activity, approximately half of the Australian adult population participates in less than 150 minutes of moderate intensity physical activity per week (ABS, 2012). Such behaviour poses a major risk for ill health and mortality from all causes (WHO, 2014). In fact, physical inactivity has been documented as the fourth leading cause of death (WHO, 2014).

Within the wider Australian population, particular sub-groups face heightened challenges in gaining access to physical activity, placing them at higher risk of inactivity (Caperchione et al., 2011; O’Driscoll et al., 2013). Women are less likely to be active than men. Women born overseas are less likely to be active than Australian born women (ABS, 2012). In particular, women born in the region of the Middle East and North Africa have been documented as having the lowest levels of physical activity participation (ABS, 2006). This documented behaviour is of concern considering the heightened prevalence of a number of chronic diseases among this section of the population. Rates of obesity, diabetes and cardiovascular disease are higher among women from the Middle East and North Africa when compared with women born in Australia (AIHW, 2005; Caperchione et al., 2011; Gholizadeh et al., 2011; Holdenson et al., 2003; NSW Health, 2002; Odea, 2008; Queensland Health, 2010). The prevalence of these diseases, coupled with the well documented capacity for physical activity to elicit health gains, illuminates the need for lifestyle strategies that serve to prevent ill health and to assist in the management and treatment of conditions among individuals living with chronic illness (Caperchione et al., 2011).
Previous research among culturally and linguistically diverse migrant women living in Australia identifies a number of common barriers to physical activity (Caperchione et al., 2011; O’Driscoll, 2013). Research into the physical activity behaviours of Middle Eastern and North African born women specifically, however, is scarce. While the nature of diversity among cultures and individual experiences present challenges within this kind of research (O’Driscoll et al., 2014), in order to promote physical activity participation, and to prevent further declines in activity from the current baseline, it is important to understand any common experiences and perceptions of physical activity among the target group (King et al., 2006).

This paper therefore explores the nature of physical activity participation among Middle Eastern and North African born women living in Australia. Social Cognitive Theory was used as a framework through which the findings of this study were interpreted. This approach enables a thorough exploration of the ways in which the individual, the environment and behaviour are constantly interacting (Bandura, 1989).

Method

Focus group interviews and individual surveys were used to collect data from 86 participants. Participants were required to meet the following selection criteria:

- Female
- Born in one of the following countries: Algeria, Bahrain, Egypt, Gaza Strip and West Bank (Palestine), Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Morocco, Oman, Qatar, Saudi Arabia, Sudan, Syria, Tunisia, Turkey, United Arab Emirates, the Western Sahara and Yemen
The focus group interviews were conducted within local community organisations. A focus schedule, developed based on findings within the relevant literature, was used to guide the discussion on the participants’ experiences and perceptions of physical activity. Individual surveys were delivered to community organisations and disseminated among participants by the organisation leaders. Data collected within the focus group interviews and individual surveys centred around four major concepts including definitions of physical activity, patterns of participation, factors which increase perceived access to physical activity and barriers to participation.

Collected data were transcribed verbatim and read thoroughly to allow the researcher to familiarise herself with the data and to immerse herself in the expressions of the participants (Strauss & Corbin, 2008). A microanalysis was conducted whereby the data were read carefully and coded systematically. An open-coding process was adopted for this process, that is, each sentence was examined closely by the researcher and designated a relevant concept label (Strauss & Corbin, 2008). Following the open-coding process, an axial-coding technique was applied. The data were fractured and reorganised by relating similar concepts in order to identify the major themes and categories present within the data (Strauss & Corbin, 2008).

Prior to the commencement of the study, ethical approval was obtained from the Human Research Ethics Committee at the University of Technology, Sydney. In order to ensure the research was conducted in a culturally sensitive manner, specific guidelines related to health settings were adopted (Seibert, Stridh-Igo & Zimmerman, 2002). The guidelines focused on the importance of an appropriate communication method, ensuring comprehension and a
sound level of awareness regarding common health related beliefs among specific cultural groups.

Results

Definitions of Physical Activity

When asked to define the term ‘physical activity’, the participants within the study provided a range of responses, from which a number of central themes emerged. The terms ‘movement’, ‘exercise’, ‘sport’, ‘activity’ and ‘effort’ were the most commonly used terms among the responses. In general, the majority of participant responses were well aligned with the World Health Organisation (1948) definition of physical activity. That is ‘any bodily movement produced by skeletal muscles that results in energy expenditure’.

In addition to the commonly used terms listed above, several participants included the terms ‘nutrition’, ‘healthy eating’ and ‘healthy food’ when defining the term ‘physical activity’. While these terms are associated with the overall concept of ‘health’, they do not fit within the realm of physical activity. Similarly, several participants referred to sedentary activities including, ‘reading’ and ‘sleeping’ when defining physical activity.

Participants were also asked to provide examples of physical activity as a means of cross-referencing their level of understanding related to the concept. The most commonly listed activities were walking, dancing, housework, gardening, swimming and gym activities.

Patterns of Participation

A mean weekly participation rate of $3.51 \pm 2.0$ times per week was reported among participants who took part in the survey. During the seven days leading up to the survey, a mean participation rate of $3.90 \pm 2.0$ times week was reported. The latter measurement was
included as a means of avoiding overestimation of average physical activity participation. Among survey respondents 48% reported taking part in physical activity both socially and alone. Independent physical activity was reported by 41% of survey participants while 10% reported only participating in physical activity with friends or family.

**Types of Activities**

Data was also collected relating to the types of activities completed by members of the participant group. The most commonly reported activity was walking. Walking was reported by 79% of participants. Other common forms of physical activity included dancing, housework, gym based activities and gardening. Running and soccer were reported by less than 2% of participants.

**Factors perceived to increase access to physical Activity**

Improvements in physical health were perceived as a beneficial outcome of physical activity among 88% of study participants. Common themes which emerged regarding perceived improvements in physical health were increased energy levels, increased flexibility, weight loss, increased fitness and relief of pain associated with injury or illness e.g. arthritis. Improved physical health and fitness was also the leading motivating factor for physical activity participation among 82% of survey respondents.

Improved mental and emotional wellbeing was identified as a benefit of physical activity among 67% of total participants. Specific improvements included decreased stress levels, increased general motivation and general improvement in mood. Sixty-two percent of survey
respondents indicated improvements in mental and emotional wellbeing as a motivating factor for physical activity.

Increased social interaction was reported as a benefit of physical activity participation among 44% of survey participants but was not mentioned in the focus group interviews. Forty-four percent of survey respondents also reported social interaction as a motivating factor for participation and 37% reported social interaction and support as an enabling or facilitating factor associated with their involvement.

Additional motivating factors among survey respondents included enjoyment (65%) and physical activity as a cost effective form of transport (41%). Factors reported to enable or facilitate participation included general access to safe and convenient spaces (42%), social support (37%), motivation and confidence (37%), low cost activities (14%) and access to culturally sensitive/appropriate activities (12%).

**Perceived Barriers to Physical Activity**

A lack of time was reported as a barrier to physical activity among 63% of participants. Cost, another common barrier, was identified by 47% of participants. Cultural factors were reported as a barrier by 22% of participants. These included the need for gender segregation, spousal disapproval of certain activities and venues, expectations related to family life and a lack of programs offered in the preferred language. Additional barriers identified included a lack of motivation or interest (17%), a lack of access to childcare (17%), a lack of access to and from physical activity venues or programs (17%) and a lack of awareness regarding existing physical activity programs (12%).
Common responses related to the perceptions of physical activity among the participant group are presented in table 1.1.
### Perceived Benefits of Physical Activity Participation

**Improved Physical Health**

“I feel more energetic, um healthier actually, I definitely feel healthier. If I could do like every day, like a routine, like you know at least one hour a day, I can see definitely the benefit of it, you feel fit basically”

**Improved Mental and Emotional Wellbeing**

“I do exercise every morning, because I believe it’s good for my health, not just physical, but for my mind as well, the day when I’m having exercise that day I’m more motivated to be more active, to do good things. Otherwise I get a little bit bored, or angry or depressed or something but exercise means healthy body”

### Perceived Enablers for Physical Activity Participation

**General Access to Safe and Convenient Recreation Spaces**

“The factors are access to nearby leisure or recreation spaces, nearby swimming pools”

**Social Support**

“When I am encouraged by group of people to go, then I am able to go, they push me”

**Access to Culturally Sensitive and Appropriate Activities and or Recreation Spaces**

“Having access to female only swimming pools”

### Perceived Barriers to Physical Activity Participation

**Lack of Time Attributed to Tasks of Higher Priority and Cultural Expectations**

“The priorities are wrong, it’s more I have to wake up in the morning and make sure there’s a meal ready for my husband and the cooking and cleaning, make sure everything’s ready”

**Cultural Factors – Gender Segregation**

“I’d love to go to gym but um it’s really problem actually, you can actually join a women’s gym, but my husband is a bit concerned about that and doesn’t really like me going to the gym and seeing other male’s muscles basically, and them looking at me or whatever”

**Cultural Factors – Linguistic Barriers**

“A lot of Arab women that came like years ago and even the ones coming now, they don’t have confidence in their language so they’re very embarrassed to go to these activity places especially if they’re not run by someone of their culture or that speaks their language.

**Lack of Motivation**

“Exercise for me, is very important, but I am too lazy to do it.”

**Lack of Access to Childcare**

“I’ve got to take care of her, being a mum’s very difficult actually, if I go back to workforce, but then there’s still going to be her around so until she goes to preschool or some sort of school, it’s going to be mainly I think walking. I like to do more actually.”

### Table 1.1 Common participant responses from focus group interviews
Discussion

Definitions of Physical Activity

The importance of correctly defining and understanding the concept of physical activity has been raised within the literature (Biddle, Mutrie and Gorley, 2015). Particularly, the way in which the term ‘physical activity’ is different from other commonly used terms such as ‘exercise’ and ‘sport’. Das and Horton (2012) highlight the importance of defining and promoting physical activity in the broadest sense, exercising caution with the images depicted as physical activity, specifically calling for movement away from definitions and messages that place a strong focus on the aforementioned terms, ‘sport’ and ‘exercise’.

While the majority of participants within the present study provided definitions within the current study that were well aligned with the definition set out by the World Health Organisation (1948), a small number of participants provided definitions that demonstrated a level of misunderstanding or misinterpretation. Caperchione et al (2011) also found that some participants among a culturally and linguistically diverse sample of women used the terms ‘physical activity’ and ‘exercise’ interchangeably and that they stated not knowing the difference between the two. Similarly, Eyler et al (1998) found that physical activity definitions among a group of ethnic minority women were centred around the concept of exercise, a subcategory of physical activity. However, when subsequently provided with a standard definition, self reported physical activity participation rates increased.

Confusion related to the terminology surrounding physical activity is not unique to the target group. The terms ‘exercise’ and ‘physical activity’ are often used interchangeably in society and even at times in the literature (Biddle, Mutrie & Gorley, 2015). It is important that the concept of physical activity is promoted accurately and inclusively among the wider population. However, it is specifically important among groups with higher rates of incidental activity as opposed to structured physical activity, such as the participant group within the
current study. This is to ensure individuals are equipped with the knowledge and skills to take advantage of opportunities for increased health and wellness, which may be as simple as preventing decline of physical activity by protecting incidental physically active daily tasks.

An accurate understanding of the term physical activity is also necessary to ensure that the collection of self reported physical activity data, such as that collected during census surveys, is as accurate as possible. Modern images of structured physical activity may overshadow more incidental, yet equally beneficial, forms of physical activity when an individual is asked to recall their activity level. Misrepresented data may over or underestimate the role of a certain health behaviour in the overall health of a population, potentially misdirecting efforts and subsequently failing to adequately address additional health promoting behaviours, e.g. strategies for stress reduction or increased social interaction. Given the extremely low participation rates presented in the most recent data related specifically to Middle Eastern and North African born women (ABS, 2006) i.e. 19.5% reported taking part in any form of physical activity in the previous 12 months, it is indeed highly plausible that actual participation rates were misrepresented due to misinterpretation of the question, or misunderstanding of what ‘physical activity’ actually is. To state that only 19.5% of women had taken part in any form of physical activity, is to infer that the remaining 81.5% of women never moved their bodies to produce energy expenditure above their basal metabolic rates. This is not only highly unlikely, but rather, impossible and further supports the need for clarification, accuracy and specificity concerning the use of terminology surrounding the concept of physical activity.

While knowledge regarding the benefits of physical activity will not necessarily translate to participation (Bandura, 1989; Sallis et al., 2000), it is still a vital component of the overall approach. Health promotion initiatives may be better enabled to influence
behaviour if measures are taken to ensure members of the target group are fully aware of the basic concepts central to the initiative (Sallis & Owen, 1990).

**Opportunities for Physical Activity Promotion**

Katzmarzyk and Mason (2009) present the concept of the ‘physical activity transition’, whereby we as a society, particularly within western contexts, have shifted from active occupations and transport to much more sedentary lifestyles that do not necessarily require much, if any, physical activity for survival (Sallis et al., 2012).

In such a context, we must look for opportunities to protect health, particularly among subgroups of the population that face heightened vulnerability. Data collected within the present study has given rise to the following two recommendations for the prevention of physical activity decline, and ideally, increased participation above current baseline levels. These two particular strategies address the constructs of Social Cognitive Theory demonstrating an appreciation for both environmental influences and individual characteristics likely to enhance health behaviour (Bandura, 1989).

1. Gentle exercise classes delivered in community group settings – Community centres were identified as a space of opportunity for the introduction of gentle exercise classes. Culturally appropriate forms of exercise could be accessed in a safe, familiar environment that fosters greater social connectedness while negating a range of common barriers.

2. Educational material – Educational material, presented in the various languages of the community, could be delivered in a number of settings, e.g. community centres and primary care facilities. Such material should focus not only on increased physical activity participation, but also on the prevention of further decline in activity. A recommended
strategy is to identify current daily activities that promote wellbeing, to explain the benefits of these activities and to assist in the development of self efficacy.

Conclusion

Exploring the individual and environmental influences on health behaviour enables the identification of opportunities for increased physical activity participation among Middle Eastern and North African women. Particular attention should also be paid to the ways in which self efficacy may be further developed through the provision of educational materials related to the benefits of incidental physical activity.