

A Preliminary Analysis of Predictors of Moderate Physical Activity Levels in Women
Who are Overweight

Abstract

Physical activity is important for the health of all individuals, however, the determinants of physical activity behaviour for women who are overweight remain largely unexplored. The purpose of this investigation was to explore a range of factors that influence participation in physical activity for a group of women who are overweight. Participants were 30 women, aged 25-71 years, with a mean age of 46.8 years (+12.95) and an average BMI of 31.2 kg/m² (+5.6). Self-reported level of physical activity, perceived barriers and facilitators of physical activity, attitudes, intentions and perceived behavioural control to physical activity were measured. Seventeen participants were generally active, with self-reported moderate physical activity of 218.53 minutes (\pm 113.82) in the last seven days; whereas 13 participants were reportedly less active (43.46 minutes \pm 42.98). Active participants were more likely to identify social reasons for participating in physical activity, while inactive participants perceived that their laziness prevented them from being physically active. There were no significant differences between active and inactive overweight women for attitude, intention or subjective norm for moderate-intensity physical activity. There was a significant difference between these women in perceived behavioural control ($p=.014$) for moderate-intensity physical activity, as women who felt more in control of their physical activity behaviour were more likely to engage in physical activity than inactive women. Future research should investigate interventions to increase behavioural control of moderate-intensity physical activity in women who are overweight.

Keywords: Barriers, Attitudes, Intentions, Women, Overweight

Introduction

Although physical activity has important health benefits, many people are not physically active enough to gain a health benefit and this is especially the case for women and for people who are overweight [1, 2]. One of the benefits of physical activity is in the regulation of body composition; consequently, physical activity is especially important for individuals who are overweight. Although physical activity interventions have been targeted at women who are overweight [3] and several general determinants of physical activity behaviour have been identified, including perceived barriers, attitudes, and poor body image [1, 2], the determinants of physical activity behaviour for women, and in particular overweight women, have not been specifically identified.

Perceived barriers that have been reported for normal weight women include lack of time, being too tired, parenthood, role overload, being too lazy or unmotivated, not being the sporty type, being too fat to exercise, and being too shy or embarrassed to exercise [4, 5]. The Theory of Planned Behaviour [6] has been widely used to understand attitudes and intentions in physical activity [1] but has not been applied with overweight women. It links attitude (belief about a behaviour), subjective norm (perceived social pressure) and perceived behavioural control (the perceived ease of difficulty of performing a behaviour) to form an intention to perform a behaviour.

The purpose of this study was to explore factors that influence physical activity participation for a group of women who are overweight. It was hypothesised that participants would have low levels of physical activity, with weak intentions and negative attitudes towards physical activity. It was further hypothesised that intention, attitude, perceived behavioural control, and subjective norm for moderate-intensity

physical activity would be significantly different for active and inactive women who are overweight.

Method

Participants were 30 women, aged 25-71 years, with a mean age of 46.8 years (+12.95) and an average BMI of 31.2 kg/m² (+5.6), from Geelong in Victoria, Australia. These women were recruited from a community centre weight loss program.

Participants were measured for height and weight to determine Body Mass Index (BMI). A BMI of >25kg/m² was classified as overweight and >30kg/m² as obese. Levels of physical activity were assessed using a self-report measure that contained eight generic questions, based on a seven-day recall, taken from the Active Australia Survey (AAS) [7]. The AAS provides information on intensity, frequency, duration and type of physical activity. The AAS has good reliability and validity with the Australian population [7], although this measure has not been tested specifically with overweight women.

Perceived barriers and facilitators of physical activity were identified using two open-ended questions: “What are the reasons you would/do participate in physical activity?” and “What are the reasons that prevent you from participating in physical activity or make participating in physical activity difficult for you?”.

Attitudes and intentions towards physical activity were measured by a questionnaire, developed from the Theory of Planned Behaviour survey construction guidelines [6] and measured intention, attitude, subjective norm, and perceived behavioural control. It consisted of 11 items that participants responded to on a 7-point Likert Scale (e.g., from 1= *likely* to 7 = *unlikely*).

Ethics approval was granted by the University of Ballarat Human Research Ethics Committee. After participants had provided informed consent they were measured for height and weight and then completed the questionnaire.

A series of independent sample t-tests were used to determine whether the intentions, attitudes, perceived behavioural control, or subjective norm of overweight women influenced their physical activity levels.

Results

Seventeen participants were classified as “active” (>150 minutes of physical activity per week) with a self-reported mean of 218.53 minutes (± 113.82) of moderate-intensity physical activity per week. The remaining 13 participants were classed as “inactive” (<150 minutes of physical activity per week) with a much lower self-reported mean of 43.46 minutes (± 42.98) of moderate-intensity physical activity per week.

Table 1 shows the perceived facilitators and barriers for active and inactive participants. The common facilitator for both groups was weight loss; whereas time was the common barrier. Active participants appeared to view social aspects as a reason for participation more often than inactive participants and inactive participants seemed to perceive that their laziness was a key reason for their lack of physical activity.

Table 2 shows that there were no significant differences between active and inactive overweight women for intention, attitude, or subjective norm in moderate-intensity physical activity. There was a significant difference between active and inactive overweight women for perceived behavioural control ($t(28)=2.63, p=.014$). Overweight women who were active, perceived that they had a much greater control

of their behaviour (5.00 ± 1.98) compared to overweight women who were inactive (3.12 ± 1.91).

Discussion

Physical activity levels amongst the overweight women in this sample varied and two types of groups emerged – active overweight women, and inactive overweight women. The application of the Theory of Planned Behaviour to this study showed that there were no differences between active and inactive overweight women for intentions, attitudes or subjective norm to participate in moderate-intensity physical activity. There was a significant difference for perceived behavioural control with active overweight women more likely to feel that they had control of their participation in moderate-intensity physical activity than those that were inactive. Considering that participants were recruited from a community centre which ran weight loss programs the findings may be biased with participants more likely to report higher intentions and attitudes to moderate-intensity physical activity. Inactive and overweight women, however, perceived that it was difficult to participate in moderate-intensity physical activity. Programs designed to increase physical activity levels should focus on strategies that develop the participant's knowledge and skills to control their behaviour; rather than focuses on changing attitudes and intentions through health messages.

Interestingly, women who were active and reported greater control of their behaviour were more likely to report social reasons as a motive for physical activity than inactive participants. Women who were overweight and inactive may not be aware of the social aspects of physical activity participation and see only the health benefits. These women may also lack a social support system to participate in

physical activity, thus do not view social reasons as a facilitator to physical activity. Social factors such as modelling, and social support from family and friends have consistently been linked to physical activity behaviour [1, 8, 9] and it may be especially important in this population.

The findings from this study support and extend the results of others on perceived barriers and facilitators in general and with women [3, 4]. The main perceived barriers to physical activity were time, weather, and family commitments. For example, having multiple roles, role overload, and parenthood have been reported as determinants of physical activity for women [5, 10]. This could make them feel like they have little control over their own physical activity choices and have no time for physical activity.

The main limitations of this study were the small sample size, subject recruitment bias, and the use of subjective self-report data. Subjective self-report physical activity data is prone to error and tends to be over inflated by the participant. [1] It is recommended that future research be conducted on the predictors of physical activity participation for overweight women utilising larger samples. It is also suggested that the instruments used in this study are tested for validated and reliability specifically with overweight women. Future research should also aim to examine the variables these women perceive that they can not control, and investigate interventions to increase behavioural control of moderate-intensity physical activity in women who are overweight.

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Table 1

Perceived Facilitators and Barriers to Physical Activity in Overweight Women

Active Participants (n=17)				Inactive Participants (n=13)			
Perceived	%	Perceived	%	Perceived	%	Perceived	%
Facilitator		Barrier		Facilitator		Barrier	
Weight loss	71	Weather	35	Fitness	92	Time	54
Social	65	Time	35	Weight loss	77	Too lazy	46
Fitness	59	Illness	24	Health	46	Health	39
Health	53	Injury	24	Feel good	31	Family	31
Enjoyment	35	No barriers	18	Handle work better	15	Illness	18
Feel good	24	Family	18	Fresh air	8	Injury	15
Look good	12	Travel time	12	More confidence	8	Weather	15
Fresh air	6	Tiredness	12	Social	8	Location	15
Satisfaction	6	Too lazy	12	Clothes fit better	8	Cost	15
		Overweight	6			No buddy	8
		TV	6			Unconfident	8
		Dislike activity	6			Tiredness	4

Table 2

Comparison of mean intention, attitude, perceived behavioural control and subjective norm scores of overweight women in relation to moderate-intensity physical activity.

	Active (n=17)		Inactive (n=13)		<i>t</i> ₂₈	<i>p</i>
	<i>Mean</i>	<i>Standard Deviation</i>	<i>Mean</i>	<i>Standard Deviation</i>		
Intention	4.85	1.63	4.05	1.88	1.26	.22
Attitude	4.91	1.95	3.81	2.21	1.45	.16
Perceived Behavioural Control	5.00	1.98	3.12	1.91	2.63	.01*
Subjective Norm	4.47	2.32	4.23	2.28	.283	.78