

Motives for taking part in exercise

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Aim: To undertake a comparison of the behavioural regulation to exercise between two groups of male and female students (at least 20 participants within each group) from the School of Sport, Health and Outdoor Education.

Introduction

Despite the well documented physical and psychological benefits of planned activity and exercise (Pribis, 2010), nearly all age groups in the United Kingdom have activity levels below government recommendations (Haskell *et al.*, 2007). Activity patterns laid down by students during time at college have been shown to predict patterns in adulthood - inactivity in adolescents often leads to a more sedentary lifestyle in later years. Worryingly, student fitness has been on the decline for the past decade (Buckworth and Nigg, 2004). Understanding individuals' motivation, or lack of it, to exercise may be useful in explaining why there is low adherence to exercise and physical activity (Keating, 2005).

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Motivation is defined as a combination of internal and external factors that drive behaviour towards achieving a goal. Exercise motivation may be influenced by several factors, and not just the desire or willingness to complete a task (Vansteenkiste *et al.* 2006). Self-Determination Theory (SDT) (Deci and Ryan, 1985; Ryan and Deci, 2000) identifies key factors of intrinsic and extrinsic motivation. According to SDT, intrinsic motivation to participate in exercise is driven from within the individual (Deci and Ryan, 1985). For example, individuals may be motivated to exercise by the enjoyment gained from the activity, the desire to participate in group activities and to socialise, or by a sense of personal accomplishment. Extrinsic motivation is influenced by external factors such as praise and acceptance, rewards, or recognition by others of an individual's success or physical appearance (Deci and Ryan, 1985; Ryan and Deci, 2000). A fundamental principle of SDT is an assumed continuum of regulation from amotivation, through extrinsic motivation and into intrinsic motivation (Deci and Ryan, 2002). The widely used Behavioural Regulation in Exercise Questionnaire (BREQ-3), measures SDT's continuum of motivation and behavioural regulation in exercise psychology research (Mullan, Markland and Ingledew, 1997). The BREQ-3 measures the following factors: Amotivation is non-regulation – an

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individual has no intention to take action; extrinsic motivation is measured by external regulation – an individual finds a task uninteresting, but performs it for external reward or to avoid criticism by others; introjected regulation – an individual finds a task uninteresting, but performs it for internal reward such as a sense of pride or to avoid self-criticism; identified regulation – an individual finds a task uninteresting, but understands its importance and benefits; integrated regulation – an individual finds a task uninteresting, but performs it and values its purpose and is personally committed to take action to achieve a desired outcome; finally, intrinsic motivation – an individual finds the task interesting and performs for the inherent enjoyment and satisfaction gained from it (Markland and Tobin, 2004).

Teixeira *et al.* (2012) demonstrate that self-determination motivation, especially intrinsic and identified regulation, are associated with participation and prolonged adherence of exercise programmes. However, there is conflicting evidence in relation to male and female motivational differences. Duncan *et al.* (2010) found similar patterns of motivation regulation in men and women, while a study by (Daily and Duda, 2006) indicated that women demonstrate higher introjected regulation for exercise than men. Given the inconsistent evidence that gender may play a role in determining whether individuals are driven by intrinsic or extrinsic motivation to participate in exercise, this study aims to compare motivation in male and female students. Based on existing literature demonstrating few gender differences, it is hypothesised that both men and women will score similarly on the BREQ-3 measures of motivation.

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Method

Design

Motivation to exercise was assessed using the BREQ-3 questionnaire to compare the mean scores for male and female participants.

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Participants

The study group were undergraduate students from the university's School of Sport, Health and Outdoor Education, $N=23$, 11 men, with a mean age of 26.5 years ($M=26.45$, $SD=9.95$) and 12 women with a mean age of 33.3 years ($M=33.33$, $SD=13.71$). The age range was 20 to 65 years.

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Commented [A9]: How many people were in the study.

Commented [A10]: If you have access to the ages, provide the mean and standard deviation.

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Materials

- Behavioural Regulation in Exercise Questionnaire (BREQ-3)
- Behavioural Regulation in Exercise multidimensional scoring scale

Procedure

All individuals were told of the purpose of the questionnaire, that all data collected would be shared among the module group, and that all questionnaires would be anonymous and destroyed after use. It was confirmed that all participating students understood the protocol and consented to take part. The BREQ-3 questionnaire for exercise motivation was distributed to participants, and the questionnaires were completed in the presence of the researcher. The collecting of data was restricted to one week, and the data was centrally collated. The BREQ-3 scoring scale was used to determine the mean scores for each motivation category and the standard deviation was calculated for each sub-section.

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Results

Mean and standard deviation calculations were recorded for the six motivation categories in the BREQ-3 questionnaire. Female students scored higher for introjected regulation ($M=1.83$, $SD=1.18$) than male students ($M=3.09$, $SD=1.03$), and females ($M=3.19$, $SD=0.97$) scored higher for intrinsic regulation than male students ($M=2.70$, $SD=0.99$). Scores for all factors are shown in Table 1.

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Table 1. Mean and standard deviation for BREQ-3 Motivation scores for male and female students.

BREQ-3 Motivation Scores	Women ($n=12$)		Men ($n=11$)	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Amotivation	0.17	0.4	0.32	0.43
External Regulation	0.63	0.79	0.52	0.69
Introjected Regulation	1.83	1.18	1.48	1.03
Identified Regulation	3.17	0.75	3.09	0.88
Integrated Regulation	2.94	1.16	2.23	1.01
Intrinsic Regulation	3.19	0.97	2.70	0.99

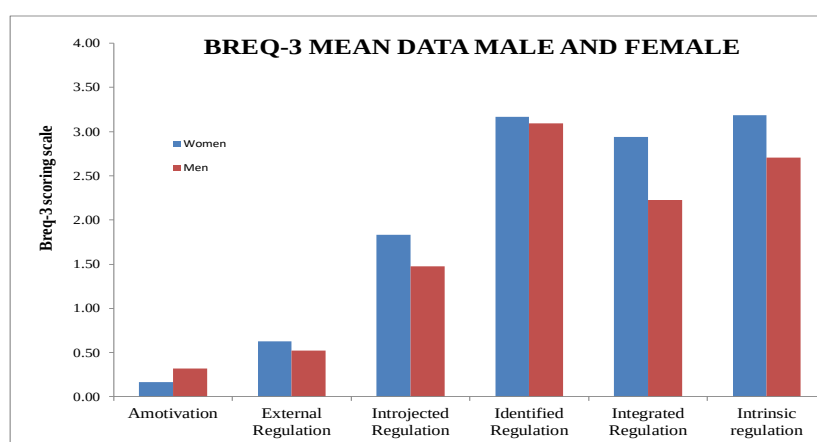
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The results presented in Figure 2 below indicate that scores were very similar for males and female students for external regulation and identified regulation. Female students displayed higher motivation in external, introjection, identified, integrated and intrinsic regulation, while male students scored higher for amotivation.

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Figure 2. *BREQ-3 motivation: Mean scores for male and female students.*



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Discussion

The aim of this study was to determine if male and female students differ in their motivation to participate in planned exercise. Female students had higher scores for introjected regulation, integrated regulation, and both intrinsic and external regulation. Scores for identified regulation were very similar, while men had higher scores than women for amotivation. These results indicate that men and women differ in their motivation to exercise, and so the hypothesis that gender differences would not be present was not supported.

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Female students recorded higher levels of intrinsic motivation, which is associated with participation in and longer adherence to exercise programmes (Ryan *et al.* 1997), is contrary to current research, which suggests that men demonstrate higher intrinsic motivation for exercise (Egli *et al.* 2011). One explanation for higher intrinsic scores among men may be their participation in team sports and team-based activities (Kilpatrick *et al.* 2005), while opportunities for female participation in competitive team sports does not appear to be as well

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promoted, or available, as is the case for men (Pate *et al.* 2000). Among this sport and exercise-oriented student population, these differences may not exist to the same extent as in the general population, resulting in unusually high intrinsic regulation scores for women. The results from extrinsic motivation factors confirm current literature, indicating that women are more motivated by external and introjected regulation than men (Teixeira *et al.* (2012). Amotivation was very low, as might be expected, from sport and health students and represents an insignificant response (Yli-Piipari *et al.* 2009).

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Factors which may have influenced these findings include the sample population. Consideration should be given to the fact that this relatively small cohort comprised of university students from within the Sport Health and Outdoor Education School, and as such may be predisposed to taking part in and understanding the benefits of exercise. Therefore, in the absence of wider literature that identifies clear gender differences in SDT motivational regulation in the general population, generalisations towards less active and general population groups should be made with caution (Friederichs *et al.* 2015). A further limitation is that this study offered no definition to the term *exercise*, and participants may therefore have differed in their understandings of levels and types of exercise when completing the questionnaire.

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The implications of these findings indicate that when designing interventions and programmes, targeting different regulation factors could be beneficial in promoting exercise adherence (Silva *et al.* 2008). However, as the extrinsic regulation sub-groups were the primary motivation observed in this study, examination of these factors would be valuable in understanding potential barriers to exercise participation. Current literature indicates that activity programmes are started and driven by identified and integrated regulation (Patrick and Geoffrey, 2012), and as adherence to exercise continues, individuals may develop intrinsic motivation as the health benefits and improved performances manifest themselves (Scully *et al.* 2018). Affording individuals, the opportunity to experience different forms of planned activity or exercise, be proactive in their selection of preferred activity and to develop a desire to participate, may stimulate intrinsic motivation. Individuals who demonstrate external and introjected regulation may have low "self-confidence", "self-efficacy" and low "perceived ability" (Fox and Corbin, 1989). To engage this group a personal approach may be required, including educational, physical and psychological support. Women show higher scores in this sub-section, and to increase their participation in

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physical activity, these perceived barriers should therefore be addressed (Brunet and Sabiston; 2009).

It is clear from the available literature that although gender differences may play a role in motivation to exercise, individual perceptions also appear to drive the motivation regulations (Deci and Ryan, 1987). It may be necessary to redefine planned activity and exercise and encourage activities that form part of an individual's daily life, to promote and develop intrinsic motivation arising from the enjoyment, satisfaction and feeling of well-being gained from living a more active life, for both men and women.

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