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Sports and exercise science

Introduction to Health and Exercise Psychology

The University of Wales Trinity Saint David

Physical activity is widely recognised for its role in promoting physical and mental well-being. Engagement in regular exercise varies significantly between individuals and population groups. Understanding the motivational factors that drive or encourage exercise behaviours has become essential in both research and practice. One framework that has been instrumental in this area is Self-Determination Theory, which suggests that motivation exists on a continuum ranging from amotivation to intrinsic motivation (Deci and Ryan, 1985; Ryan and Deci, 2000).

The Behavioural Regulation in Exercise questionnaire 3 is a validated tool based on Self-Determination Theory. It is designed to measure different types of motivational regulation toward exercise (Markland and Tobin, 2004). These include amotivation, external, introjected, identified, integrated, and intrinsic regulation. Research has shown that individuals with more self-determined forms of motivation are more likely to engage in sustained physical activity (Wilson, Rodgers and Fraser, 2002). Controlled forms of motivation, like external and introjected, are often linked to short-term or inconsistent exercise behaviours. Physical activity levels have been assessed using the International Physical Activity Questionnaire, which provides a reliable measure of activity across different intensities (Craig et al., 2003). Studies using both the Behavioural Regulation in Exercise Questionnaire and the International Physical Activity Questionnaire have shown clear associations between motivational types and activity levels. For example, students who are more self-motivated or value exercise are more likely to be physically active (Ingledew & Markland, 2008).

In university students, motivation to exercise is influenced by a combination of academic pressure, social pressure and becoming more independent (Maltby and Day, 2001). Compared to older adults, university students might be motivated to exercise by wanting to improve their appearance, reduce stress, or connect with others. These reasons can vary between different groups of people. For example, females often reveal that they exercise for appearance-related reasons, which comes under introjected regulation, whereas males are more likely to say that they exercise because they enjoy it or are trying to improve their skills in sport (Frederick and Ryan, 1993). Differences between population groups highlight how behavioural regulation varies. Things like culture, gender, and age all play a role. For example, in collectivist cultures, people may exercise more because of social pressure, while in individualistic cultures, they're more likely to be self-motivated (Chirkov et al., 2003).

This study looks to examine the relationship between behavioural regulation and physical activity levels among students at the University of Wales Trinity Saint David. Understanding how different forms of motivation relate to activity levels within students could offer valuable insights into how to create better ways to encourage long-term exercise.

A total of 53 students from the University of Wales Trinity Saint David participated in the study. Based on self-reported physical activity levels from the International Physical Activity Questionnaire, students were categorised into three groups. There were 16 participants in low, 20 in moderate and 17 in high activity levels. Participants completed the International Physical Activity Questionnaire to assess their weekly physical activity and the Behavioural Regulation in Exercise Questionnaire to measure types of motivation related to exercise. The Behavioural Regulation in Exercise Questionnaire evaluates six types of behavioural regulation: amotivation, external regulation, introjected regulation, identified regulation, integrated regulation, and intrinsic motivation. The data was collected anonymously and followed the university's ethical guidelines. This study used a cross-sectional design, meaning data were collected at one point in time to look at patterns in motivation and physical activity levels. The main goal was to find out if students who were more self-motivated to exercise, like those who enjoyed it or saw it as important, were more physically active than others. To do this, the researchers compared different groups using both basic statistics and more detailed analyses. This helped them see whether more independent or internal forms of motivation were linked to higher levels of exercise.

Table 1

Descriptive Statistics of Motivation Regulation Types by Activity Level

Regulation Type	Low (Mean)	Low (SD)	Moderate (Mean)	Moderate (SD)	High (Mean)	High (SD)
Amotivation	1.67	1.39	0.02	0.06	0.36	0.68
External Regulation	2.52	1.12	0.30	0.39	0.94	0.97
Introjected Regulation	2.48	0.86	2.19	1.00	2.53	0.97
Identified Regulation	2.19	0.82	3.22	0.80	3.24	0.85
Integrated Regulation	1.25	1.14	2.58	1.25	2.89	0.92

Intrinsic Regulation	1.06	1.28	3.02	0.78	3.13	0.91
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Figure 1

- Amotivation
- External Regulation
- Introjected Regulation
- Identified regulation
- Integrated Regulation
- Intrinsic Regulation

Table 1 shows the average scores and standard deviations for each type of motivation based on activity level, and Figure 1 shows the average motivation scores for each group. The basic analysis showed clear patterns between motivation and activity levels. Students in the Low activity group had the highest scores for amotivation and external regulation, and the lowest scores for more self-driven motivations like identified, integrated, and intrinsic regulation. On the other hand, the high activity group had a self-motivated profile. They scored much higher on identified, integrated and intrinsic motivation; they also had the lowest level of amotivation. The moderate activity group were in the middle as their scores were similar to the high activity group for self-motivated reasons like identified and intrinsic motivation, but they also had slightly lower integrated motivation. Figure 1 shows that those who were less active tended to be motivated by more external reasons or showed little motivation. Students who were moderately or highly active were more motivated by themselves. These results support the Self-Determination Theory (Deci & Ryan, 1985; Ryan & Deci, 2000) that being more physically active is linked to more self-chosen types of motivation.

This study supports earlier research showing the relationship between behavioural regulation and physical activity in university students. Students are more likely to be physically active when they are motivated by personal reasons, like enjoyment or their values, rather than outside pressure. This comes from the Self-determination Theory (Deci and Ryan, 1985; Ryan and Deci, 2000). In this study, participants in the high activity group showed higher levels of intrinsic, integrated, and identified regulation compared to those in the moderate and low activity groups. In contrast, the low activity group reported higher levels of amotivation and external regulation, showing more controlled and less self-directed reasons for exercising. These findings match those of Ingledew and Markland (2008), who found that intrinsic and identified forms of regulation were associated with physical activity levels among students.

Frederick and Ryan (1993) found that males often exercised because they enjoyed it or wanted to reach certain goals. Although this study didn't focus on gender differences,

the high activity group showed strong intrinsic motivation, which supports the idea that self-driven motivation helps people stay active. The motivation seen in this study matches what cross-cultural research has found. Chirkov et al. (2003) showed that people from individualistic cultures like the UK are more likely to be motivated by personal enjoyment, while those from collectivist cultures may be more influenced by social expectations. The high levels of self-driven motivation in this group may be partly due to cultural influences. The moderate activity group showed an interesting profile. Like the high activity group, they valued and enjoyed exercise, but they didn't fully see it as part of who they are. The moderate groups strong internal motivation seems enough to keep them fairly active. This supports the idea that you don't have to be completely driven from within just having some personal motivation can still help you stay consistent (Ryan and Deci, 2000). These findings are useful for creating exercise programmes and encouraging students to be more active. Instead of using rewards or pressure, programs should focus on making exercise fun, giving students choices, and helping them see how being active connects to their own values and goals. This kind of approach is much more likely to lead to lasting changes (Teixeira et al., 2012). It can be really helpful to identify students who aren't motivated or who only exercise because they feel they have to. These students might be at a risk of dropping out of physical activity. Supportive approaches like motivational chats or peer mentoring could help them find more personal reasons to stay active.

In summary, this study supports previous research showing that people who are more active usually have more self motivation. Going forward, it would be interesting to explore how motivation varies by things like gender, age or cultural background, and to see how well different strategies work to boost motivation in university students.

Word count - 1420

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