



RESEARCH PAPER**Gaming Disorder and Self-Control among Female Student-Athletes and Female Non-Athletes-Students in Private Sector Universities**

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ABSTRACT

The study aimed to seek the difference between gaming disorder and self-control in private university undergraduate levels female athletes and non-athletes. Using a cross-sectional study design, data were collected from five private institutions, by 340 female students through questionnaires in Lahore, Pakistan. Half were female athletes; half were female non-athletes. A demographic questionnaire, the Brief Self-Control Scale (BSCS), and the Gaming Disorder Test (GDT) were among the study tools used. The independent T-Test was used in the statistical analysis. The results found that there was no disparity in self-control between female athletes and female non-athletes, whereas gaming disorder was higher in female athletes. This paper reviews the warning signs in female athletes developing gaming disorders therefore all healthcare experts ought to comprehend ways to recognize and address these possible risks.

KEYWORDS Female Athletes, Gaming Disorder, Self-Control, University Education

Introduction

The widespread acceptance of digital gaming has risen significantly, most notably among undergraduates. The effects of gaming gained attention for the psychological mental state and well-being of an individual. The prevalence rates in gaming disorder among athletes and non-athletes has been studied. According to research by Reardon et al. (2019), about 5.7% of the top esports athletes met the criteria for disordered gaming. A comprehensive study by Lemmens et al. (2015) showed the prevalence of gaming-related disorders among adolescents in the non-athlete group to be about 3.1%. Similarly, in Finnish adults, 3.3% of the participants met the requirements of gaming disorder, a study by Männikkö et al. (2018). The prevalence rates of Gaming disorder could differ between different research and populations.

Gaming disorder has been defined by the World Health Organization (WHO) as a pattern of behavior that involves being unable to manage gaming involvement, priority to gameplay above other activities, and ongoing gaming regardless adverse outcomes. Conversely, self-control means successfully controlling an individual's thoughts, feelings, and actions for the purpose to accomplish greater objectives (Werner & Ford, 2023).

Gaming excessively has been scientifically related to harmful intellectual and psychological problems. It has been related with higher stress, sadness, and loneliness (Harwood et al., 2014). Prolonged gaming may trigger issues related to mental health along with cognitive challenges like poor focus and educational problems

(Schneider et al., 2018). Additionally, continuous gaming may hinder self-control, enabling students to disengage from essential tasks and duties that significantly complicating their schedules and demands control.

The negative effects of gaming behaviors and an absence of self-control might be serious for both female student athletes and non-athletes. It may lead to poor grades, damaged social ties, and entirely unhealthy behaviors. Stronger self-control, on the other hand, may result in better grades, managing time, and interactions with others (Duckworth et al., 2019). Recognizing the relation underlying gaming disorder and self-control is essential to creating actions that would reduce adverse effects and encourage more effective gaming behaviors among students.

Despite growing interest in gaming disorders, there's currently a substantial gap between knowledge and understanding of the specific circumstances of female athletes and non-athletes within private universities. Most previous study material has concentrated on male and undergraduate populations, disregarding the possible influence of athletic participation on gaming habit and self-control within female students. In this group of gaming behavior and self-control concerns this investigation provides unique insights facing these problems.

Physical activity has been identified as an excellent strategy for improving self-control (Stubbs et al., 2018). It's also a strategy for dealing with gaming disorders. Regular exercise has been related to increased mood, reduced stress, and improved cognitive performance. Incorporating physical exercise into the everyday routines of female student-athletes and non-athletes can be helpful for decreasing the negative effects of binge gaming and promoting self-control.

Conducting an investigation was required to comprehend the difficulties that female students encounter in terms of disordered gaming and self-control. By bridging the research gap and encouraging exercise as a viable coping method, the study aims for significant insights that are beneficial towards developing a healthy gaming environment among female university students.

The study aims the difference in gaming disorder and self-control among female athletes as well as non-athletes in private university.

Literature Review

Gaming problem in Athletes vs non-athletes

A study by Wittek et al. (2016) showed that non-athletes, especially those with more free time, might be more into gaming disorders. In one case study by Etkowicz (2008), an elite baseball player sustained an injury as an effect of severe gaming activity. Some have stated that Wii Sports software could be beneficial to sports injury treatment, referencing research by (Middlemas et al., 2009). A number of studies observing excessive professional gaming in electronic sports ('e-Sports') has wondered whether or not professional gamers who train and contend for more than ten hours per day are 'addicted' to gaming or work (Bányai et al., 2019; Faust et al., 2013; Griffiths, 2017).

Self-control in Athletes vs non-athletes

According to comparative research Jonker et al. (2010), student-athletes exhibited stronger levels of self-control relative to their non-athlete. A study by Duckworth et al. (2016) showed, strategic self-control among the highest achievers, especially sports,

demonstrating the value of self-control in achieving goals. Bray et al. (2012) got an in-depth look at various kinds of training, finding that endurance exercise particular led to greater self-control. Englert and Bertrams (2015) highlighted the significance of discipline in sports training to enhance self-control in athletes. The findings of Toering et al. (2009), showed that the framework of sports and a focus on long-term achievements cause athletes to value long-term goals above short-term, thus improving self-control.

Material and Methods

Research Design

The research study utilized a cross-sectional survey study design.

Population and Sample

Sample size

Three hundred and forty (340) female students were chosen for the study. A purposive sampling technique was employed to that included both female athletes and non-athletes. The inclusion criteria included being a full-time student in a private university, aged between 17 and 23 years. The exclusion criteria included students in a public university, not aged 17-23, male individuals, non-gamers and those with impairments.

Sample allocation

Participants were selected from Five (5) universities in private sector from Lahore. Only the female students of BS. (HONS) were selected for the study.

Instruments

Demographic Questionnaire

Participants were given a demographic survey, including Gender, age, athletic status, gaming time, type of game, gaming platform, resting heart rate (RHR) and information about name of university, study program, academic year. The Demographic Questionnaire entailed 10 items.

Brief Self-Control Scale (BSCS)

In this study the Brief Self-Control Scale (BSCS) was used to measure self-control. It was developed by Tangney et al. (2004). It's a psychometric tool designed to evaluate an individual's self-control or self-regulation level. It measures the capacity to manage impulses, resist temptations, and delay gratification. The questionnaire included 13 items varying from 1 (Not at all) to 5 (Strongly Agree) on a Likert scale (Tangney et al., 2004).

Gaming Disorder Test (GDT)

The Gaming Disorder Test (GDT) was developed by Pontes et al. (2021). This test was used in this study. It's a short tool that consists of 4 items. These items are designed to reflect the main diagnostic characteristics about Gaming Disorder (GD) as defined in the 11th version of the international classification of diseases (ICD).(Pontes et al., 2021). To compute the overall score, the result to these items was summed, resulting in scores that

can vary from 4 to 20. Higher scores show higher level of disordered gaming (Pontes et al., 2021).

Data Collection

The data collecting strategy followed an orderly and appropriate structure with multiple steps to assure rigorous method along with participant cooperation.

The procedure began with the university's department providing an official clearance letter that thoroughly defined the purpose of the investigation's aims as well as limitations. The letter was handed out to the appropriate departments at every institution for the purpose to get their participation and permission.

After acquiring approval, respondents met in a dedicated meeting area at every institution. Participants were issued detailed instructions which emphasized the selfless character of their engagement, emphasizing the philanthropic value of their engagement.

During the entire process, participants were guaranteed of the complete privacy regarding their details, along with particular assurance that any data received was to be utilized solely for research reasons. In addition, participants have been made informed about their choice to withdraw their participation from the research at any moment, under no pressure.

A face-to-face technique was used to simplify collecting data. The investigation was personally directed for each participant, maintaining a uniform approach for everyone. They were given a time frame of ten to fifteen minutes for filling out the survey, that was meant to gather self-reported components related to the investigation's purposes.

To standardize the data collecting procedure, stringent methods were applied. It has been thoroughly verified that everyone who participated used the same strategy, improving the accuracy and consistency of the information that was collected.

Two well-known tools were utilized in the data collecting procedure: The Gaming Disorder Test (GDT) questionnaire and The Brief Self-Control Scale (BSCS). These tools were carefully chosen to successfully gather the appropriate variables, which allowed an in-depth study of gaming behaviors and self-control tendencies

Data Analysis

Independent T-test was conducted to evaluate the average values of the independent variables. SPSS 2022 version was used in data analysis. The P-value below 0.005 was considered for the significance level.

Result and Discussion

The independent T-test revealed the mean comparison of *gaming disorder* and *self-control* between female athletes and female non-athletes at private universities.

The Table.1 shows the self-control levels (The Brief Self-control Scale BSCS) and gaming disorder tendencies (Gaming Disorder Test GDT) among two distinct groups: female student-athletes and female student non-athletes enrolled at private universities.

In terms of self-control (BSCS), the analysis demonstrated no statistically significant distinction between the average scores of athletes ($M = 40.21$, $SD = 7.668$) and non-athletes

($M = 41.48$, $SD = 7.336$), $t(338) = -1.568$, $p = 0.118$. Consequently, the data did not support the hypothesis proposing a difference in self-control between athletes and non-athletes.

Table 1
T-test results comparing mean difference of Self-control and Gaming Disorder among Female University Student Athletes and Female University Student Non-athletes

Variables	Athletes		Non-athletes		$t(388)$	P	Cohens d
	M	SD	M	SD			
The Brief Self-Control Scale (BSCS)	40.21	7.668	41.48	7.336	-1.568	.118	0.169225
Gaming Disorder Test (GDT)	8.21	3.172	7.47	3.148	2.163	.031	0.234397

Conversely, in relation to gaming disorder tendencies (GDT), the analysis unveiled a statistically significant disparity in among the mean scores of athletes ($M = 8.21$, $SD = 3.172$) and non-athletes ($M = 7.47$, $SD = 3.148$), $t(338) = 2.163$, $p = 0.031$. This finding suggests that female student-athletes exhibited higher inclinations toward gaming disorder compared to their non-athlete counterparts, thereby corroborating the hypothesis indicating a distinction in gaming disorder tendencies between these two groups.

Discussion

This study purpose was to examine the comparison in gaming disorder and self-control between female student athletes and female non-athletes in a private university environment. The mean comparison analysis yielded intriguing results that contribute to our comprehension of gaming disorder and self-control within these two groups.

In terms of self-control, the study found no significant difference in the comparative analysis between female athletes and female non-athletes. Both groups demonstrated similar levels of self-control, as evidenced by mean scores. These findings align with prior research that also failed to detect significant variations in self-control between athletes and non-athletes. Self-control plays a pivotal role in managing and regulating behavior, including the control of excessive gaming tendencies (Fan et al., 2022). According to the findings, self-control skills are comparable in female athletes and non-athletes, which can help stop the emergence of symptoms of gaming disorder.

But there was a clear distinction in the field of gaming disorder. Compared to female non-athletes, female athletes had slightly higher mean scores for gaming disorder. Although statistically significant, the effect size was only moderate, indicating that only a few differences were noticed between the groups in terms of practicality.

The findings seems inclined with the past indicating a higher prevalence of problematic gaming behaviors among athletes compared to non-athletes (Håkansson et al., 2018). The demanding nature of being a student athlete, characterized by intensive training schedules and competitive pressures, can elevate stress levels and restrict leisure time. Consequently, athletes may turn to gaming as a means of relaxation or escape, potentially leading to excessive gaming habits and the onset of gaming disorder symptoms (Gros et al., 2020). Moreover, some athletes may utilize gaming as a coping mechanism for the psychological and emotional demands of their sport (Fortes et al., 2020). These factors likely contribute to the slightly higher levels of gaming disorder observed among female athletes in this study.

It is crucial to interpret these findings while acknowledging the study's limitations. The cross-sectional design employed prohibits the establishment of relationships between athletic involvement, gaming disorder, and self-control. Longitudinal studies provide a more comprehensive understanding of the temporal dynamics of these associations. Additionally, the study's exclusive focus on female participants in a private university setting restricts the generalizability of the findings to other populations and educational institutions. Future research should encompass diverse samples and consider additional factors such as varying levels of athletic involvement (e.g., recreational vs. competitive athletes) and different gaming platforms or genres.

These findings hold practical implications for promoting healthy gaming behaviors and preventing gaming disorder among female university students, particularly athletes. Given the potential risk factors associated with athletic involvement, such as limited leisure time and heightened stress. It is crucial to implement education and interventions that foster responsible gaming habits and enhance self-control skills among athlete. Such interventions may include effective time management strategies, stress-coping mechanisms, and the promotion of a healthy balance between sports and leisure activities (Lang et al., 2017).

In our study we need to know some of the limitations. First, because we focused on one specific private university and only included female participants, the findings may not be applicable to other universities or different groups of people. Second, since we collected data at a single point in time, we can't say for sure whether being involved in sports, gaming disorder, and self-control are directly connected. Third, because we relied on what participants claimed regarding their gaming behaviours, our data may be incomplete. Last but not least, the lack of a sample of persons who do not play video games with whom to compare our findings makes completely understanding the disparities we discovered challenging. Despite these limitations, our research adds to our understanding of female university students' gaming behaviours and self-control. It emphasises the importance of specialised assistance and therapy, particularly for female athletes who may be at danger of developing a gaming problem.

Conclusion

The study's findings, which center on both athletes and non-athletes, offer perspectives on gaming disorder and self-control in female undergraduates. While self-control levels were comparable between the two groups, we discovered that female athletes had a slightly higher levels of gaming disorder. This highlights the significance of interventions that address the risks of gaming disorder for female athletes. Future studies should delve further into the causes and conditions that lead to gaming disorder in athletic populations and devise efficient defenses.

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