



Original Research

SLEEPING PATTERNS AND ONLINE GAMING HABITS: UNRAVELLING THEIR INFLUENCE ON ANGER TOLERANCE AMONG UNIVERSITY STUDENTS

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ABSTRACT

Introduction: The relationship between students' tolerance for anger and their daily gaming habits significantly affects their emotional and academic well-being. Excessive gaming can contribute to increased anger issues and negative psychological outcomes, which individual sleep patterns may also influence. This study aims to develop effective strategies for emotional regulation and mental well-being by examining the impact of sleep duration and online gaming on students' ability to manage anger.

Method: This cross-sectional research design involved 149 students from various departments at Rajshahi University, selected based on gender and place of residence. The study utilized the Anger Tolerance Scale (ATS). Participants were chosen through convenience sampling, and data were collected using questionnaires. Correlation analysis was performed, and data analysis was conducted using SPSS Statistics. The study achieved a Cronbach's alpha of 0.82, indicating acceptable internal consistency.

Results: The findings indicated a positive correlation between daily sleep hours and anger tolerance, while daily gaming habits negatively impacted this tolerance. Additionally, less sleep was linked to more time spent playing online games.

Conclusions: The study found that students' anger tolerance is closely tied to sleep patterns and gaming habits. Insufficient sleep and excessive gaming hinder effective anger management. These findings highlight the need to evaluate sleep and gaming behaviors to help students manage emotions, offering insights for mental health professionals and educational institutions.

Keyword: anger tolerance; sleeping patterns; online gaming, students; education

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1. INTRODUCTION

Anger is a complex and multifaceted emotion that can manifest in various forms, from mild irritation to intense rage. It serves as a survival mechanism, prompting individuals to confront perceived threats. Understanding the nature of anger involves examining its physiological, cognitive, and behavioral components, as well as its expression and regulation in social contexts. Anger manifests in various

intensities, from mild irritation to intense rage, often triggered by perceived threats or injustices, impacting emotional and physical well-being (Rössler et al., 2017). Anger may express itself in a number of ways, such as through self-harm, violence, or verbal and physical hostility (AKBAŞ & YİĞİTOĞLU, 2022). According to the researchers, when an aggressive cue happens in the environment, anger typically follows

an unpleasant experience (Baumeister et al., 2017). Researchers suggest that there are similarities between online and offline aggression that can have a dramatic negative impact on individual's body and mind, such as health, academic achievement, interpersonal relationships, and happiness (Runions & Bak, 2015).

Investigation indicates a strong correlation between sleep deprivation and aggressive incidents in humans and animals (Nollet et al., 2020). Problems with sleeping consistent with being exposed to a stressful incident can make it harder to control one's emotions and have adverse consequences (Kalmbach et al., 2018). People who report having everyday experiences with negative feelings like anxiety or irritability frequently have poor sleep quality and other related concerns (Simor et al., 2021). It's widely accepted that getting too little sleep may have a detrimental effect on one's ability to think. For instance, sleep deprivation impairs persistent focus, mental agility, and memorization (Krause et al., 2017). Additionally, studies have demonstrated that sleep loss may have an impact on emotional function (Ben Simon et al., 2020) and that a persistent lack of sleep may potentially make people more vulnerable to mood disorders (Sahai, 2023). According to Arbinaga et al., 2019, university student's sleep quality is negatively impacted by anger rumination and negative affect.

Rumination on anger could be a good predictor of violence, according to recent research (Li et al., 2021). Newer research indicates that internet use and gaming may also result in problems in a similar manner (Feng et al., 2017; Kuss & Lopez-Fernandez, 2016). Playing video games on a computer has been shown to have an impact on sleep patterns and verbal memory retention (Shams et al., 2015). A study by Wolfe et al., 2014 in a sleep laboratory suggested that video game playing was associated with sustained attention, which was mediated by sleep duration. The more the individual's experiences of failure in online video games, the easier they indulge in anger, hence producing high levels of anger rumination (Moreau et al., 2023). A meta-analysis reports a small to medium effect size on the relationship between online video games and anger rumination (Pine et al., 2020).

A considerable amount of literature has been published on online video games, particularly among adolescents (Przybylski & Weinstein, 2019). However, more than 85% of online games are full of violence, attacks, and bloody elements (Ye, 2020). Numerous meta-analyses clearly show that violent video game play does increase aggression (Prescott et al., 2018). Researchers have suggested that video games with aggressive content increase aggressive cognition, emotions, and behaviors in those who play them (Kühn et al., 2019). Much of the empirical research also indicates that violent video games are linked to aggression and some researchers even suggest that childhood exposure to violent media predicts aggressive and violent behavior into

adulthood (Breuer et al., 2015). Some researchers even believe that online aggressive behavior is more dangerous than aggressive behaviors in real life (Makarova & Makarova, 2019).

Dealing with concern about university student's emotional wellbeing required knowledge of how online gaming affects anger tolerance. This study advances the establishment of broad approaches for emotional control and mental health by assessing the function of sleep duration in anger management. Building on these findings, this study aims to explore the relationship between anger tolerance, sleep patterns, and online gaming habits among students in Bangladesh. Since numerous global studies have investigated the correlation between these factors in various contexts, no prior research has specifically addressed this issue within the Bangladeshi context. That's why this study lacks a literature review that specifically addresses the context of Bangladesh. This gap highlights the need to understand how these variables provide valuable insights into the behavioral patterns of Bangladeshi students and offer a foundation for future research and interventions. This will also benefit educational institutions as well as professionals in the field of mental health. It makes a significant academic and practical contribution. That's why the objective of this research is to clarify the complex relationship between university students' daily online gaming hours, sleep duration, and anger tolerance.

2. MATERIALS AND METHODS

2.1 Design

Quantitative descriptive research using a cross-sectional approach.

2.2 Population and sampling

The sample used in the research consisted of 149 Rajshahi University students who had been selected depending on their gender and area of residence from a variety of departments, and the characteristics form used for collecting data did not include respondent departmental information. The sample was collected using the convenience sampling method and the study employed a cross-sectional research design. Since there were no exclusion criteria, the study included participants who were living at home or in the residence hall, which is representative of the typical living arrangements of Bangladeshi students. We initially obtained 160 samples because there were no criteria for data exclusion in existence. However, throughout the data curation process, 11 samples were removed because their responses were considered inappropriate.

2.3 Instrument

Personal Information Form (PIF) A demographic and personal information form was used to collect personal and demographic information of the respondents. Information included: age, gender, residential status, daily time spend in playing online games, daily average sleeping hours, and so on.

Anger Tolerance Scale (Sultana et al., 2017) was administered on participants in order to estimate the psychometric properties of the scale. Anger Tolerance Scale (ATS) is a five-point rating scale consisting of 18 items. For affirmative items, those who "strongly disagree" to "very much agree" received scores from 1, 2, 3, 4, and 5. Negative items were scored in reverse order. In the final scale, item no. 2, 3, 4, 5, 6, 8, 10, 11 and 13 are positively stated and item no. 1, 7, 9, 12, 14, 15, 16, 17 and 18 are negatively stated items. Higher scores on 'Anger Tolerance Scale' indicated high tolerance to anger and lower scores indicated low tolerance to anger. The greatest score on this scale is 90, and the lowest is 18. The test-retest reliability was highly significant, with a correlation coefficient of $r = 0.708$ at the 0.01 level of significance, while the construct validity was supported by a Pearson correlation of $r = 0.732$, also at an alpha level of 0.01.

2.4 Procedure

The present study adhered to standardized data collection procedures in order to obtain data from its participants. Rajshahi University students made up the participants in the survey ($n = 149$). The individual's data were gathered from residential halls and different departments of university. At first, the respondents were provided a consent form that made clarification about the purpose of the research assuring the respondents that highest confidentiality and research ethics would be maintained in collecting information. Then, after getting consent, a personal information form was given to students in their own circumstances. Students were then provided a personal data form according to their individual circumstances. After that, participants were provided with the Anger Tolerance Scale to know whether the variations in time to play online games and average daily sleeping hours would create variations in their tolerance to anger. Prior to responding to the items or statements on the questionnaire, it was requested that the participants carefully read the questionnaire's basic guidelines. They were also given spoken directions. The survey responses were to be answered by respondents at their own convenience. They received assurances that the information they provided would be kept private and that there isn't any such thing as a good or incorrect answer to any inquiry. Lastly, participants were advised to ask any inquiries that came to mind while doing the assignment and were made aware of their freedom to withdraw their participation in the investigation at any point. The task took, on average, thirty minutes to finish.

2.5 Statistical Analyses

Since the study used a correlational method, the data was imported into SPSS (Version 25.0), where multiple regression analysis was carried out to examine the collected data. Several important

presumptions were checked before the regression analysis was conducted: co-linearity using suitable tolerance values, normality using histograms and normal p-p plots, and linearity using regression plots.

2.6 Ethical Clearance

For our final year project, ethical approval was not provided by the Department of Psychology at the University of Rajshahi. For this study, participants provided their written consent. The researchers completely declare that all methods carried out in studies involving human participants were in accordance with institutional and national ethical guidelines as well as the Helsinki Declaration (1979). The researchers have an intense commitment to research ethics.

3 RESULTS

The gathered data has been analyzed using standard statistical procedures. Table 1 presents the sample distribution for the current study, defining the demographic information and characteristics of the participants. The results of the study showed a statistically significant positive correlation ($r = 0.810$, $p < 0.01$) among the average number of hours students sleep each day and their ability to deal with anger. In simple terms, student's tolerance for anger will increase with the quantity of sleep they get. On the other hand, this study reveals a statistically significant negative correlation between anger tolerance and the duration of time spent playing online games on a daily basis ($r = -0.885$, $p < 0.01$). That is, university student's tolerance for unpleasant emotional events and anger will decrease in accordance with their level of online gaming activity. Furthermore, a statistically significant negative correlation was found between the amount of time university students spend playing online games each day and their average number of hours of sleep ($r = -0.852$, $p < 0.01$). That is, university student's sleeping hours diminish with increasing levels of online gaming activity. See details information in table 2.

The adjusted R² value [Adjusted R² - 0.729, (df 1, 147-399.947, $p < .001$)] demonstrates that 72.9% of the variation in the variable that serves as the criterion 'Anger Tolerance' can be explained through the predictor variable, which is the daily duration of online gaming. The unique contribution of the "daily average sleeping hours," as indicated by the R² change, was 2.4%. This was revealed when we computed the additional predictor, "daily average sleeping hours". Collectively, the two predictor's combined contribution to clarifying anger tolerance in university students rose to 75.2%. This indicates both variables had an important effect on the disparities in university student's level of anger tolerance. See more information in Table 3.

Table 1: Sample distribution of the participants according to their gender and residential status

Gender	Frequency	Percentage
Male	123	82.6
Female	26	17.4
Total	149	100
Hall	116	77.9
Home	33	22.1
Total	149	100

Table 2: Correlation between anger tolerance, daily time spend in playing online games and average sleeping hours.

Variables	Anger tolerance	Time spends in online games
Anger tolerance		
Time spends in online games	$r = -0.855(**)$	
Variables	Anger tolerance	Average sleeping hours
Anger tolerance		
Average sleeping hours	$r = 0.810(**)$	
Variables	Time spends in online games	Average sleeping hours
Time spends in online games		
Average sleeping hours	$r = -0.852(**)$	

Note. **Correlation is significant at the 0.01 level (2-tailed)

Table 3: Multiple regression of anger tolerance on daily time spend in playing online games and daily average sleeping hours in university students.

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R square change	F change	df1	df2	Sig. F change
1	0.855 ^a	0.731	0.729	6.366	0.731	399.947	1	147	0.000
2	0.869 ^b	0.756	0.752	6.090	0.024	14.494	1	146	0.000

Note.

a. Predictors: (Constant), Time spend daily in online games

b. Predictors: (Constant), Time spend daily in online games, Every day average sleeping time

c. Dependent variable: ATS total score

4 DISCUSSION

Investigating the effects of sleep duration and online playing of games on university student's ability to deal with anger was the key objective of this study. It is not unexpected that sleep patterns and online gaming habits have a significant effect on undergraduate student's ability to deal with their anger. The Anger Tolerance Scale is the instrument used for the purpose of this research. In order to achieve this, 149 students from the University of Rajshahi, Bangladesh, gave their information voluntarily.

The study's findings revealed a statistically significant positive correlation between student's daily average sleep duration and their ability to deal with anger. Clarify it simply: students who receive more sleep will be more able to deal with anger. Research conducted by Arbinaga et al., 2019 has found that students with insufficient sleep usually get higher scores on displaying anger. Another study revealed that it was discovered that participants' actual sleep quality was predicted by their anger tendencies, indicating that those who are sensitive to

anger not only report having less sleep but also actually experience it (Hisler & Krizan, 2017).

On the other hand, this study reveals a statistically significant negative correlation between anger tolerance and the duration of time spent playing online video games on a daily basis. That means university student's tolerance for unpleasant emotional events and anger decreases as their level of online gaming activity increases. This finding is supported by (Prescott et al., 2018); (Kühn et al., 2019); (Breuer et al., 2015).

Furthermore, a statistically significant negative connection has been found between the quantity of time university students spend on online games every day and their average number of hours of sleep. This finding is supported by Wang et al., 2021; Kristensen et al., 2021. On the other hand, the findings of D Mudabasappagol et al., 2019 revealed no correlation between online video games and sleep duration.

This study is revolutionary in Bangladesh since it is the sole attempt that delves into the goals that have been set out in the context of the country. Our goal is to have an in-depth understanding of the possible effects that sleep manners and online gaming

activities may have on university students' capacity to deal with anger. By focusing on these elements, we intend to add useful insights to the collection of current research and highlight the particular difficulties and dynamics that define Bangladesh's educational system. We think that by employing this novel concept, we will not only improve our understanding of the topic but also open up fresh possibilities for further investigation.

5 CONCLUSION

To sum up, this research represents an initial effort in Bangladesh by revealing the complex interplay of online video gaming, sleep duration, and university student's capacity for anger tolerance. The average amount of sleep that students get each day has been shown to correlate positively with their ability to deal with their anger, suggesting that getting more sleep increases one's capacity to tolerate anger. On the other hand, the amount of time spent playing online games was negatively correlated with anger tolerance, suggesting that more gaming decreases emotional resilience. Additionally, the study found that university students' average sleep duration reduces as their gaming time increases. This research boosts our understanding of the subject matter and paves the way for future inquiries in this crucial field by taking a novel and creative approach. This research could help educational organizations and the psychological field in developing more effective interventions and assessments.

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