



The Effect of Cyberspace Dependence on Academic Attrition Among Female Students in Lar City

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Abstract

The present study aimed to sociologically analyze the effect of cyberspace dependence on academic attrition among female high school students in Lar city. The research is applied in terms of purpose and is a survey. The statistical population is female high school students in Lar city (public and private schools). The sample size was determined based on the Cochran formula to be 336 people, who were selected using a multi-stage cluster random sampling method. Data were collected using the Academic Attrition Questionnaire by Berso, Salanova, and Scheffley (2007) and the Cyberspace Dependence Questionnaire by Young (1996) and analyzed using Pearson correlation tests and multiple regression. The findings showed that cyberspace dependence is a significant predictor of academic attrition. There is a positive and significant relationship between cyberspace dependence and academic fatigue. This relationship was also positive and significant for the dimensions of academic apathy and academic inefficiency. Individual (age) and contextual (educational level, family economic status, and parental education) differences also had a significant relationship with academic attrition. The result is that the greater the degree of female students' dependence on cyberspace, the greater their academic attrition, including fatigue, apathy, and inefficiency. Contextual and individual variables also play an important role in the severity of this attrition. Therefore, it is suggested that educational planners and school counselors, focusing on media literacy education and paying attention to students' economic and family conditions, provide solutions to reduce dependence on cyberspace and promote academic health.

Keywords: Cyberspace, Academic Attrition, Academic Apathy, Academic Fatigue, Academic Inefficiency.

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Introduction

Cyberspace, offering a wide range of features such as social networks, messaging apps, online games, and digital educational resources, has become an integral part of daily life, particularly for the adolescent generation. Adolescents maintain a significant presence in the online world, driven by psychological characteristics, social needs, and a desire for novel experiences. While this presence offers numerous benefits, it can also entail significant negative consequences. In the educational realm, excessive and aimless use of this space may lead to academic burnout—a condition characterized by academic exhaustion, a lack of interest in studies, and a sense of inefficacy in performing academic tasks (Bakker et al., 2023). Adolescent girls, in particular, show a greater inclination toward using cyberspace due to factors such as the need for identity formation, cultural and social pressures, and gender-based limitations within traditional society. In the city of Lar, as in many other regions of the country, the rapid growth of internet access and the proliferation of smartphones have transformed cyberspace into the dominant environment for students' communication and entertainment (Kuhnnavard et al., 2021). These changes, combined with the region's specific cultural, social, and educational context, have made the study of the relationship between cyberspace dependency and academic burnout among female students a matter of particular importance; consequently, this study aims to examine the following hypotheses.

Main Hypothesis: There is a significant relationship between dependence on cyberspace and academic burnout among female upper secondary school students in Larestan City.

Sub-hypotheses:

- 1- There is a significant relationship between dependence on cyberspace and academic fatigue among female upper secondary school students.
- 2- There is a significant relationship between dependence on cyberspace and academic disinterest among female upper secondary school students.
- 3- There is a significant relationship between dependence on cyberspace and academic inefficacy among female upper secondary school students.
- 4- There is a significant relationship between individual differences (age) and contextual factors (grade level, family socioeconomic status, and parental education) and academic burnout among female upper secondary school students.

Theoretical Foundations and Background

Virtual space addiction refers to a state in which an individual's use of the internet and social networks shifts from a balanced state to an uncontrollable, excessive, and persistent behavior, thereby disrupting the individual's daily activities, academic pursuits, professional life, and social relationships (Andreassen et al., 2017).

Academic attrition refers to a state in which a student experiences a form of burnout resulting from persistent academic pressures, educational competition, family and societal expectations, and repeated academic setbacks (Andargari et al., 2025). The key dimensions of academic attrition are exhaustion, disinterest, and academic inefficacy (Suttichinimit & Toikompi, 2024).

To explain the hypotheses, the following theories were utilized: symbolic interactionism, Bandura's social learning theory, conflict theory, the uses and gratifications model, and social capital theory. Relevant studies have also been conducted on this topic, including those by Rahmani & Amani (2025), Amjadi (2024), Mirzaei Hacheh-Su & Norouzi (2024), Kateb et al. (2022), Shahbazi & Jivad (2022), Wei et al. (2025), Liu et al. (2025), Mannikko et al. (2024), and Wang et al (2023).



Methodology

This study is applied in nature and employs a survey method. The statistical population consisted of 2,700 female students attending public and non-public upper secondary schools in Lar City during the 2024–2025 academic year. A sample size of 336 students was determined using Cochran's formula, and participants were selected via multi-stage cluster random sampling. Data were collected using the Academic Burnout Questionnaire (Breso, Salanova, & Schaufeli, 2007) and the Internet Addiction Questionnaire (Young, 1996), and were analyzed using Pearson correlation and multiple regression tests.

Findings

Results regarding the individual and background variables of the sample were obtained: the students' ages ranged from 15 to 18 years, with the youngest being 15 and the oldest 17. The distribution across grade levels was 28.3% in the 10th grade, 32.1% in the 11th grade, and 39.6% in the 12th grade. More than half of the sample (58.9%) belonged to households with a moderate socioeconomic status. Approximately 58% of the fathers and 42% of the mothers held university degrees. The mean score for virtual space dependency was 3.45, and the mean score for academic burnout was 3.28. Academic exhaustion recorded the highest mean score (3.52), while disinterest (3.15) and inefficacy (3.10) fell within the moderate range.

Hypotheses: There is a significant relationship between virtual space dependency and students' academic exhaustion, disinterest, and inefficacy.

Table 1. Pearson correlation coefficient between research variables.

Conclusion	Significance Level (Sig)	dependence on the virtual space	variables
Significant	0/000	520/0	Academic fatigue
Significant	0/000	460/0	Academic disinterest
Significant	0/000	410/0	Academic underachievement

As can be seen, there is a significant positive relationship between virtual space dependency and academic exhaustion, disinterest, and academic inefficacy.

Hypotheses: There is a significant relationship between background variables and students' academic burnout.

Table 2. Multiple regression for predicting virtual space dependency based on background variables

Sig.	t	Standardized coefficient (Beta)	Standard error	Non-standard coefficient (B)	Predictor variables
0/000	7/130	-	1/150	8/200	Constant
0/000	6/460	0/450	0/065	0/420	Dependence on the virtual space
0/000	4/400	0/290	0/420	1/850	Academic grade level
0/016	-2/420	-0/120	0/310	-0/750	Economic status
0/039	-2/070	-0/100	0/280	-0/580	Parents' education
0/135	1/500	0/075	0/080	0/120	Age

The findings indicate that dependence on the virtual space—with a standardized coefficient of 0.450 ($p < 0.001$) is the strongest predictor of academic attrition. This implies that even when controlling for factors such as grade level, economic status, and parental education, increased use of the virtual space continues to lead to higher levels of academic attrition. In fact, academic attrition among female students in Lar City stems from a complex interplay between the pressures associated with the virtual space and the students' socioeconomic family circumstances.

Conclusion

The research findings demonstrated that dependence on the virtual space has a significant impact on academic burnout and its components, namely academic fatigue, academic disinterest, and academic inefficacy among female upper secondary school students in Larestan City. In explaining these findings, it can be stated that excessive use of and dependence on the virtual space can consume a significant portion of students' time and attention, thereby reducing the opportunities and focus available for educational activities and studying. Continuous use of social networks, online entertainment, and other virtual activities may lead to reduced concentration and the formation of a habit of seeking rapid, varied stimuli. Under such conditions, educational activities which typically require sustained focus, patience, and mental effort may become less appealing to students, thereby fostering academic burnout.

Furthermore, dependence on the virtual space can be associated with reduced sleep quality, mobile phone usage during rest periods, and the displacement of time otherwise allocated to studying and resting. The persistence of such conditions can increase students' physical and mental fatigue, ultimately leading to academic fatigue. Additionally, intense dependence on the virtual space may diminish students' interest in and engagement with educational activities. When the virtual space becomes the primary source of entertainment, social interaction, and instant gratification, educational activities may appear less appealing by comparison. Consequently, the likelihood of reduced motivation for active class participation, studying, and completing assignments increases, thereby reinforcing academic disinterest.

Regarding academic inefficacy, it can also be noted that persistent, excessive use of the virtual space may deplete the time and energy required for academic tasks, thereby impacting the individual's academic performance. Declining performance and the repeated experience of difficulty in completing assignments and achieving educational goals can lead to a diminished sense of academic competence and efficacy. Consequently, the student may gradually come to feel that they lack the necessary ability to succeed in their academic endeavors.

The findings of the present study align with the results of research conducted by Liu et al. (2022), Song et al. (2022), Wang et al. (2023), Li et al. (2023), Mannikko et al. (2024), Yao et al. (2025), Wei et al. (2025), Shahbazi and Jivad (2022), Kateb et al. (2022), Amjadi (2024), and Rahmani and Amani (2025).

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