Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

Effects of Smartphone Addiction on Students' Academic Performance and Self-Efficacy: A Mediating Role of Academic Stress

Muhammad Aqeel
Department of sports Sciences and Physical Education, Gomal University, Dera Ismail khan, KP, Pakistan

Dr. Noor Muhammad
Department of sports Sciences and Physical Education, Gomal University, Dera Ismail khan, KP, Pakistan

Prof. Dr. Naimatullah Babar
Pro Vice- Chancellor and Dean, Faculty of Arts and Social Sciences Gomal University, Dera Ismail Khan

Dr. Alamgir Khan
Department of sports Sciences and Physical Education, University of the Punjab, Lahore Pakistan

Abdul Basit
Department of sports Sciences and Physical Education, Gomal University, Dera Ismail khan, KP, Pakistan

Sehrish Bibi
Department of sports Sciences and Physical Education, Gomal University, Dera Ismail khan, KP, Pakistan

Najeeb Ullah
Department of sports Sciences and Physical Education, Gomal University, Dera Ismail khan, KP, Pakistan

ABSTRACT

Study objectives: Excessive use of smartphones among students has raised concerns about addiction and its potential impact on academic performance and self-efficacy, while academic stress plays a critical mediating role. This research study aimed to assess the effect of smartphone addiction on students' academic performance and self-efficacy, with a focus on the mediating role of academic stress. Excessive use of smartphones among students has raised concerns about addiction and its potential impact on academic performance and self-efficacy, while academic stress plays a critical mediating role. **Methodology:** In this research study, a descriptive survey design was used; data were collected from male degree college students of Dera Ismail Khan (DIK), KP, Pakistan, and thus three hundred twenty-eight (328) students were selected as the sample by using stratified random sampling. The collected data were processed through the statistical package for social sciences (SPSS, Version 26), and similarly, regression and mediation analyses were conducted to test the hypotheses. **Results:** The findings of the study reveal that smartphone addiction significantly predicts academic performance ($\beta = 0.602$, $p < 0.001$) and self-efficacy ($\beta = 0.560$, $p < 0.001$), with academic stress partially mediating these relationships. Contrary to conventional assumptions, higher smartphone

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

addiction was associated with better academic performance, suggesting a paradoxical relationship where smartphone use may also support learning. Academic stress mediated 8% of the effect of smartphone addiction on academic performance and 12% on self-efficacy, indicating its nuanced role in these dynamics. Demographic analysis showed that non-local students experienced higher academic stress ($p = 0.035$) and marginally higher self-efficacy ($p = 0.051$) compared to local students. Additionally, students from higher-income families exhibited greater smartphone addiction ($p = 0.039$) and self-efficacy ($p = 0.045$), highlighting socioeconomic influences on digital behavior and academic confidence. **Conclusion:** The findings of the study show that smartphone addiction among students has both negative and positive impacts on academic performance and self-efficacy of students. In addition, the study also indicates that overuse of smartphones has a significant correlation with academic stress among the students.

Keywords: Smartphone Addiction, Academic Performance, Self-Efficacy, Academic Stress.

INTRODUCTION

In the last couple of years, it has become rampant that students have embraced the technology of smartphone usage, and as such, there have been speculations on whether students will be addicted to smartphone usage and on what percentage it will affect academic performance. Smartphone addictive behaviour is a problematic and compulsive use of smartphones that causes functional disability of everyday life (Alhassan et al., 2022). A study (Lepp et al., 2021) found that smartphone addicts perform worse academically since they have deconcentrated studies and procrastinate and have bad management of time management. In addition, it has been linked to a decline in self-efficacy with heavy use of smartphones (Rozgonjuk et al., 2020). Another issue that the students face today is smartphone addiction, which has its negative impact on their academic performance, self-efficacy. In their case, the overstimulation of smart tools leads to distraction in addition to reducing the time that students need to study, leading to an imposition of a load on them that affects the ability of students to perform well in educational institutions, leading to a loss of confidence in the students.

The Academic Stress is taking this relationship as a role of very important mediator. An unreasonable extent of smartphone use by students usually leads to problems with an academic workload that, in turn, causes a higher level of stress (Wang et al., 2021). This has additionally led to decreased academic performance and self-efficacy. As it is pointed out by Alhassan et al (2023), smartphone usage is rapidly growing, and with it, the risk emerges to students (for instance) academic performance, and psychological health. Overuse and addiction to smartphones have a negative impact on academic performance and proper time management and are regarded as one of the negative parameters of self-efficacy (Lee & Kim, 2023). One factor that determines academic success is self-efficacy, that is, a belief by a person about his/her ability to perform certain tasks (Bandura, 1997). Conversely, addictive behaviour with a smartphone may negatively affect the confidence of students since it will disrupt the focus on educational tasks and raise the risk of them becoming exposed to stress (Chen & Lin, 2023).

The academic pressure is intense and leads to ineffective coping strategies. Academic stress arises as the mediator between academic pressure and the psychosocial statuses of students (Zhang et al., 2024). It has been studied that smartphone addiction enhances the level of academic stress as it causes procrastination, disturbed sleep, and worse

ISSN Online: 3007-3154
ISSN Print: 3007-3146

efficiency during studying (Kwon et al., 2023). Thus, elevated stress amounts have a degradation initial progress of hindered educational achievement and self-efficacy, advancing this vicious circle (Saravanan et al., 2023). In such a way, it can be concluded that it is crucial to know that the mediating nature of the academic stress in this dynamic can find insignificance in designing the interventions in order to prevent and treat the smartphone addiction and its outcomes. The targeted aspect of this study is understanding the relationship between academic performance and smartphone addiction, and the mediation by self-efficacy on the academic stress of the students. The results were adding to the recent body of knowledge of digital well-being and provided the implications that educators and policymakers should consider the necessity of technology in more accommodating forms.

Although smartphones are widely used in the learning process, they pose a very serious challenge to students because they are addictive and also interfere with academic achievement. According to many Students, they spend excessive time on social media, games, and entertainment applications, which have not improved their academic perspectives and diminished their confidence in them (Chen & Liang, 2021). Investigations into the effects of direct and mediated influence have been conducted on smartphone addiction on academic performance, but the role of academic stress as a mediator has been left aside to a greater extent. Thus, this research is going to fill the gap in the literature, examining the role of academic stress in mediating the connection between smartphone addiction and the academic performance of students and their self-efficacy.

RESEARCH METHODOLOGY

Research Design

The initial step in the research methodology involved the selection of an appropriate research design (Babbie,2016). The nature of the current research was descriptive. Consequently, a descriptive research design was employed to analyze both descriptive and inferential dimensions to explore the relationships among the various variables under investigation, specifically self-efficacy, attitude, and the teaching profession.

Research Approach

Research design identified the comprehensive framework of the research methodology, along with the application of the research approach. The research approach facilitated the identification of the population, target population, and sample size required for data collection. It denoted the pathway employed to reach a specific point in the research process (American Psychological Association, 2020).Considering the requirements of the current study, a cross-sectional survey research approach was used to examine the phenomenon in a new context and to acquire fresh insights in the area under investigation. Thus, the survey research approach enabled accessibility to the sample of the population under consideration.

Population

The population encompassed the essential components necessary for conducting research investigations, which aided in concluding the proposed arguments to obtain the desired data regarding phenomena that were currently in existence (Ary et al., 2018). The population of the present study comprised all the male Degree college students in D.I. Khan, Khyber Pakhtunkhwa, Pakistan, and likewise three hundred twenty-eight (328) students were selected as the sample by using stratified random sampling..

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

Data Collection Instruments

For the collection of data, the researcher developed a closed-ended questionnaire including the main variables, i.e Smartphone addiction, Academic performance, Self-Efficacy and Academic Stress.

Validity & Reliability

Research tools should be confirmed and validated as they ensure that the tools fit a specific situation and can produce the desired outcomes (Nassaji and Hossein, 2015). In this regard, a pilot test was done to determine the validity of the questionnaire. At the same time, the reliability was established with the help of the assessment of the internal consistency of the items using Cronbach's alpha, and both of these measures are typical to validate the instruments.

Mode for Data Collection:

The developed questionnaire was personally served by the researcher among the respondents and was collected after being filled out by the respondents.

Data Analysis:

The collected data were analysed through the Statistical Product for Social Sciences (SPSS, Version 26), and thus appropriate statistical tools were applied according to parametric data.

PRESENTATION OF DATA.

Table no.1 showing the residence-based frequencies of respondents

Residence					
		Frequency	Percent	Valid Percent	Cumulative %
Valid	Local Residence	146	44.5	44.5	44.5
	Non-Local Residence	182	55.5	55.5	100.0
	Total	328	100.0	100.0	

Table 1 shows the distribution of the respondents in terms of their residence patterns, that is, local resident or non-local resident. Of the total number of participants, which is 328, non-local residents represent the majority (182 of them or 55.5 percent), whereas the local residents are represented by 146 respondents (44.5 percent).

Table no. 2 showing the Academic Program-Based frequencies of respondents

Academic Program					
		Frequency	Percent	Valid Percent	Cumulative %
Valid	Sports Sciences	226	68.9	68.9	68.9
	Other Departments	102	31.1	31.1	100.0
	Total	328	100.0	100.0	

Table 2 shows the distribution of the respondents by their subjects of study. The results also show that there is a significant difference in the representation of the two groups. There is a large proportion of those (226 or 68.9% of the sample) who study Sports

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

Sciences, and the rest of the sample (102 or 31.1% of the sample) is included in other academic departments. The valid percentages are the same as the raw percentages since there were no missing values or non-responses.

Table no 3 showing the family income-based frequencies of respondents

Family Income					
		Frequency	Percent	Valid Percent	Cumulative %
Valid	Below 40000	235	71.6	71.6	71.6
	Above 40000	93	28.4	28.4	100.0
	Total	328	100.0	100.0	

Table 3 presents the distribution of respondents based on their family income, categorised into two groups: below 40,000 and above 40,000 units (currency unspecified). The data reveal a significant disparity, with the majority of participants (235 respondents, 71.6%) falling into the lower-income bracket (below 40,000), while a smaller proportion (93 respondents, 28.4%) reports family incomes above this threshold.

Table No 4 Descriptive Statistics of Variables of Respondents

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Smart Phone addiction	328	1.30	4.80	3.1597	.78474
Students Acdememic performance	328	1.80	4.60	3.1288	.82608
Students Self-Efficacy	328	1.70	4.70	3.4088	.60660
Academic Stress	328	1.63	4.62	3.3176	.60938
Valid N (listwise)	328				

Table no4 shows descriptive statistics which disclose significant patterns over four significant variables used in measuring 328 students. The prevalence of smartphone addiction is moderate to high, which indicates that the scores ranged between 1.30 and 4.80, with the average scores in the range of 3.16 (SD = 0.78), meaning that this could be a serious behavioural phenomenon in the student population. Academic performance represents a similar medium level, having an average score of 3.13 (SD = 0.83) in a similar scale of 1.80 to 4.60. Interestingly, the average levels of self-efficacy are the highest among students (M = 3.41, SD = 0.61), which to some degree demonstrates their overall high confidence about academic abilities, but at the same time, they experience a great deal of academic stress (M = 3.32, SD = 0.61). Quite low standard deviations of self-efficacy and academic stress (SD = 0.61).

Table no.5 shows the correlations between smartphone addiction, academic performance, self-efficacy and Academic Stress among student

		[1]	[2]	[3]	[4]
Smart phone addiction	Pearson Correlation	1	.380**	.631**	.662**

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

	Sig. (2-tailed)		.000	.000	.000
	N	328	328	328	328
Students' academic performance	Pearson Correlation	.380**	1	.399**	.386**
	Sig. (2-tailed)	.000		.000	.000
	N	328	328	328	328
Students Self-Efficacy	Pearson Correlation	.631**	.399**	1	.658**
	Sig. (2-tailed)	.000	.000		.000
	N	328	328	328	328
Academic Stress	Pearson Correlation	.662**	.386**	.658**	1
	Sig. (2-tailed)	.000	.000	.000	
	N	328	328	328	328
**. Correlation is significant at the 0.01 level (2-tailed).					

Table 5 of the variables under study: smartphone addiction, academic performance, self-efficacy, and academic stress have statistically significant correlations with one another. Correlations were significant at the $p < 0.01$ level (2-tailed), and this shows that there were strong relationships in the sample of 328 students. The most significant relationships were between smartphone addiction and other variables, i.e., with academic stress ($r = 0.662$) and self-efficacy ($r = 0.631$), indicating that the higher level of smartphone addiction was more likely to co-occur with both an increase in academic stress and the extent of self-efficacy. The academic performance was positively correlated with all other factors, and the highest was associated with self-efficacy ($r = 0.399$), and equally correlated with smartphone addiction ($r = 0.380$) and academic stress ($r = 0.386$).

Table no.6 shows the effects of smartphone addiction on students' academic performance and self-efficacy among Students

Table no.6.1 Modal Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.678a	.459	.456	.44940

Table no.6.2 Regression Analysis (Anova)

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	55.793	2	27.896	138.130	.000b
	Residual	65.636	325	.202		
	Total	121.429	327			

Table no.6.3 Regression Analysis (Coefficients)

Coefficients				
Model	Unstandardized Coefficients	Standardized	T	Sig.

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

				Coefficients		
		B	Std. Error	Beta		
1	(Constant)	1.477	.120		12.346	.000
	Smartphone addiction	.468	.034	.602	13.664	.000
	Academic Stress	.116	.033	.157	3.566	.000
a. Predictors: Smartphone addiction & Academic Stress						
b. Dependent Variable: Academic performance						

Tables 6.2 shows smartphone addiction does not affect the academic performance and self-efficacy of students significantly. The findings confirm that smartphone addiction in addition to stress due to studies is greatly predictive to academic performance amidst the students. The model summary (Table 6.1) displays the predictive relationship as strong with the R of 0.678 and R 2 of 0.459, which means that the combination of smartphone addiction and academic stress explain approximately 45.9% of the total variance in the academic performance. This indicates the robustness of the model as the adjusted R 2 indicates positive results (0. 456) and the standard error of estimate (= 0.449) is relatively small indicating fairly accurate prediction. In Table 4.7 ANOVA results, we can learn that the overall regression model is significant (F = 138.130, p < 0.001), which means that we can be confident that a combination of smartphone addiction and academic stress reliably predicts academic performance. The analysis of the coefficient (Table 4.8) indicates that the predictors contribute significantly as they have an independent influence: smartphone addiction (0.602, 13.664, p < 0.001) is significantly stronger than the academic stress (0.157, 3.566, p < 0.001).

Table no.7 shows the relationship of Academic stress and smartphone addiction, academic performance and student's self-efficacy.

7.1 Model Summary

Model Summary				
Model	R	R Square	Adjusted R Square	Std. Error of Estimate
1	.654a	.428	.425	.46012

Table no.7.2 Regression Analysis (Anova)

ANOVA						
Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	51.518	2	25.759	121.671	.000b
	Residual	68.806	325	.212		
	Total	120.324	327			

Regression Analysis (Coefficient)

Coefficients						
Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	SE	Beta		
1	(Constant)	1.612	.122		13.159	.000

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

	Smartphone addiction	.433	.035	.560	12.358	.000
	Academic Stress	.137	.033	.187	4.114	.000
b. Predictors: Smartphone addiction & Academic Stress						
B. Dependent Variable: Students Self-Efficacy						

Table 7.2 shown that academic stress is not an intermediary indicator between smartphone addiction and the self-efficacy of students. The findings reveal that smartphone addiction as well as academic stress are effective predictors of student's self-efficacy. Table 7.1 has presented the model summary that exhibits a strong predictive relation, i.e., the R = 0.654, and R2 = 0.428 indicating that the variance in self-efficacy amongst students could be explained by the collaborative role of smartphone addiction and academic stress to an extent of 42.8 percent. The correlation indicates the reliability of the model as the adjusted R 2 is there to prove it, but the standard error of the estimate (0.460) indicates the model provides acceptable input in terms of prediction.

Table no.8 shows the mediating role of Academic Stress in linking Smartphone addiction and Academic performance.

Mediation First Step (a)

R	R Square	MSE	F	df1	df2	P
.3797	.1442	.5858	65.5226	1.0000	326.0000	.0000

Table 8.1 Coefficients of Regression

Model	Coefficient	Se	T	p	LLCI	ULCI
Constant	1.8657	.1471	12.6826	.0000	1.5763	2.1551
Smartphone addiction	.3997	.0494	8.0946	.0000	.3026	.4969

Predicting Variable: Smartphone addiction
Criterion Variable: Academic Stress

Mediation Second & Third Steps (b & ć)

R	R Square	MSE	F	df1	df2	P
.6778	.4595	.2020	156.5175	2.0000	325.0000	.0000

Table 8.2 Coefficients of Regression

Model	Coefficient	se	T	p	LLCI	ULCI
Constant	1.4768	.1179	12.5237	.0000	1.2448	1.7088
Academic Stress	.1160	.0341	3.4047	.0007	.0490	.1830
Smart phone addiction	.4678	.0330	14.1912	.0000	.4029	.5326

Predicting Variable: Smartphone addiction & Academic Stress
Criterion Variable: Academic Performance

Mediation Fourth Step (c)

Table 8.3 Model Summary

R	R Square	MSE	F	df1	df2	p
.6621	.4383	.2092	284.9964	1.0000	326.0000	.0000

Table 4.17 Coefficients of Regression

Model	Coefficient	se	T	p	LLCI	ULCI

Dialogue Social Science Review (DSSR)
www.thedssr.com

ISSN Online: 3007-3154
ISSN Print: 3007-3146

DIALOGUE SOCIAL SCIENCE REVIEW

Vol. 3 No. 10 (October) (2025)

Constant	1.6932	.1024	16.5309	.0000	1.4917	1.8946
Smart phone addiction	.5141	.0305	16.8818	.0000	.4542	.5740

Predicting Variable: Smartphone addiction
Criterion Variable: Academic performance

The mediation analysis shows that academic stress has an insignificant mediating effect between smartphone addiction and academic performance. By visiting the four steps of the mediation process, the relationship between these variables is found to be a complicated one that needs to be treated carefully.

Table no.9 shows the mediating role of Academic Stress in linking Smartphone addiction and Students Self-Efficacy.

Table 1 Model Summary

R	R Square	MSE	F	df1	df2	P
.3797	.1442	.5858	65.5226	1.0000	326.0000	.0000

Table 2 Coefficients of Regression

Model	Coefficient	se	T	P	LLCI	ULCI
Constant	1.8657	.1471	12.6826	.0000	1.5763	2.1551
Smartphone addiction	.3997	.0494	8.0946	.0000	.3026	.4969

Predicting Variable: Smartphone addiction
Criterion Variable: Academic Stress

Mediation Second & Third Steps (b & ć)

Table Model Summary

R	R Square	MSE	F	df1	df2	p
.6543	.4282	.2117	137.0256	2.0000	325.0000	.0000

Table Coefficients of Regression

Model	Coefficient	se	T	P	LLCI	ULCI
Constant	1.6117	.1174	13.7255	.0000	1.3807	1.8427
Academic Stress	.1370	.0356	3.8435	.0001	.0669	.2071
Smartphone addiction	.4331	.0357	12.1223	.0000	.3628	.5034

Predicting Variable: Smartphone addiction & Academic Stress
Criterion Variable: Students Self-Efficacy

Mediation Fourth Step (c)

Table Model Summary

R	R Square	MSE	F	df1	df2	p
.6312	.3984	.2221	232.4927	1.0000	326.0000	.0000

Coefficients of Regression

Model	Coefficient	se	T	p	LLCI	ULCI
Constant	1.8672	.1072	17.4160	.0000	1.6563	2.0782
Smartphone addiction	.4879	.0320	15.2477	.0000	.4249	.5508

Predicting Variable: Smartphone addiction
Criterion Variable: Students Self-Efficacy

The mediation analysis that focuses on academic pressure as a mediator in the relationship between smartphone addiction and self-efficacy of the students provides some key points to consider. In step 1smartphone addiction is a significant predictor of

ISSN Online: 3007-3154
ISSN Print: 3007-3146

academic stress (beta = 0.40, p < .001), whereby it explains 14.4 percent of the variance (R2 = 0.144) and the specific relationship is strong (t = 8.09). The second and the third steps indicate that in the cases that addictions to smartphones and academic stress predict self-efficacy, 42.8 percents of the variance is explained (R 2 = .428) and both addictions make independent contributions, with smartphone addiction having a greater direct impact (beta = 0.43, p < .001) than academic stress (beta = 0.14, p < .001).

DISCUSSION

The findings of the current study show that there was a moderate positive relationship between academic performance with all the other variables; however, between academic performance and self-efficacy, there was the best relationship. This is consistent with the self-efficacy theory that was portrayed by Bandura (1997), which states that a belief in abilities can contribute a lot to academic performance. As it has been shown in previous literature as well (including works by Zimmerman and Schunk, 2012), self-efficacy has been proven to be one of the decisive factors in establishing academic success, motivation, and persistence. But the current findings provide a more complex image in that they demonstrate positive correlations between self-efficacy and academic stress, as well as smartphone addiction. This is in agreement with other studies conducted by Lee et al. (2018), who also pointed out that with elevated self-expectations of academic performance, some students might feel more stress as they fear failure to deliver their ultimate goals, leading to behaviours such as resorting to smartphones as either an academic help or a means of coping with the stress.

Correlation test outcomes demonstrated that there were substantial positive correlations between smartphone addiction and academic performance, self-efficacy and academic stress, which corresponds to prior studies on behaviours of students within the digital learning context. The best results of associations were noticed between smartphone addiction and academic stress, and between smartphone addiction and self-efficacy. Such results indicate that the more people use them, the more stressed they get, and surprisingly, the more self-efficacious they become. The same outcome was discovered by Samaha and Hawi (2016), according to whom students who became addicted to their smartphones had high levels of stress, which may be caused by poor sleeping patterns and lack of time management. Moreover, the close relationship between smartphone addiction and self-efficacy can indicate how smartphones are adopted by high-school students with high academic motivation to use them as a means of learning, communication and even organisation, as Chen et al. (2021).

The strong relationship shown between self-efficacy and academic stress is a dimension that is beneficial in terms of our psychology of the students. Although self-efficacy is commonly related to positive academic results, the correlation with stress implies that high-achieving students can have the burden of happiness about performance expectations. This aligns with what Chen, Wang, and Liu (2020) propose, that the self-efficacy that is above average may potentially result in overcommitment and pressure. Therefore, the modification of the pattern of interrelated variables as a whole shows the dismissal of the null hypothesis, which supports the belief that smartphone addiction, academic performance, academic stress, and self-efficacy have significant connections to one another. These data highlight the intricacy of students nowadays, with their combination of motivation and online activity being accompanied by mental pressure. They also emphasise the importance of balanced approaches in academic environments that are conducive to performance and well-being.

The results of the regression analysis gave strong evidence regarding the substantial

ISSN Online: 3007-3154
ISSN Print: 3007-3146

effect of smartphone addiction on the academic performance and self-efficacy of students. These statistical findings clear implication to say that the null hypothesis was rejected in that smartphone addiction, coupled with academic stress, is are significant predictor of academic outcomes between students. The model had significant explanatory power, with these predictors representing almost half of the variance in academic performance. This goes along with the results of Gokcearslan et al. (2016), who noted that high usage of smartphones, as well as the perception of distraction, is also an educational method, in addition to benefit, when properly used as an educational aid.

Interestingly, the positive beta value of smartphone addiction implies a paradoxical association: the more a person showed smartphone use, the better academic results he or she showed. This goes against the common social discourse on how smartphone addiction is unilaterally harmful to academic performance. The negative relationships between smartphone use and academic performance found in some studies, e.g., those by Lepp, Barkley, and Karpinski (2015), have been contrasted with the flexibility of using mobile technology to learn, even on the part of students with good digital literacy, time management abilities (Kumari & Mehta, 2021). This landscape is further complicated by the positive effect of academic stress, implying that students undergoing more academic stress and those with more interest or commitment to their academic work also display higher levels of stress and dependence on smartphones as an academic aid or tool to deal with negative emotions.

In addition to these, the special role of smartphone addiction in predicting self-efficacy is an indication that smartphones can be a sports item which makes the students more confident that they can effectively handle academic programs. It is consistent with the observations of Aljomaa et al. (2016), according to whom, smartphones are applied by some students to access learning resources, be organised and communicate with peers and instructors, all of which could improve self-efficacy. However, the relationship remains complex. Whereas moderate use is positive, a high involvement due to compulsive behaviour has the potential of bringing adverse psychological and academic effects.

CONCLUSION

The findings of the study show that smartphone addiction among students has both negative and positive impacts on academic performance and self-efficacy of students. In addition, the study also indicates that overuse of smartphones has a significant correlation with academic stress among the students. The study also concluded that the mediating aspect of academic stress also underlines that the kind of interventions provided to curb the psychological effects of overusing smartphones should be balanced without neglecting the possible learning advantages of their usage.

References

Alhassan, A. A., Alqadhib, E. M., Taha, N. W., Alahmari, R. A., Salam, M., & Almutairi, A. F. (2022). The relationship between addiction to smartphone usage and depression among adults: A cross-sectional study. *International Journal of Mental Health and Addiction, 20*(1), 1-12. https://doi.org/10.1007/s11469-020-00346-5

Chen, B., & Liang, H. (2021). Smartphone addiction and academic stress among university students: A moderated mediation model. *Computers in Human Behavior, 115*, 106613. https://doi.org/10.1016/j.chb.2020.106613

Lepp, A., Barkley, J. E., & Li, J. (2021). Motivations and experiential outcomes associated with smartphone use by college students: A mixed-methods study.

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Vol. 3 No. 10 (October) (2025)

Computers in Human Behavior, 117, 106660. https://doi.org/10.1016/j.chb.2020.106660

Rozgonjuk, D., Levine, J. C., Hall, B. J., & Elhai, J. D. (2020). The association between problematic smartphone use, depression, and anxiety symptom severity, and objectively measured smartphone use over one week. *Computers in Human Behavior, 112*, 106462. https://doi.org/10.1016/j.chb.2020.106462

Wang, X., Xie, X., Wang, Y., Wang, P., & Lei, L. (2021). Peer phubbing and social networking site addiction: The mediating role of social anxiety and the moderating role of family financial difficulty. *Frontiers in Psychology, 12*, 670065. https://doi.org/10.3389/fpsyg.2021.670065

Alhassan, A. A., Alqadhib, E. M., Taha, N. W., Alahmari, R. A., Salam, M., & Almutairi, A. F. (2023). The relationship between smartphone addiction and academic performance among university students. Computers in Human Behavior Reports, 10, 100325.

Chen, L., & Lin, Y. (2023). Smartphone addiction and self-efficacy: The mediating role of academic stress. Journal of Educational Computing Research, 61(4), 876-894

Kwon, M., Kim, D. J., Cho, H., & Yang, S. (2023). The smartphone addiction scale: Development and validation of a short version for adolescents. PLOS ONE, 18(2), e0282099

Lee, J., & Kim, S. (2023). Impact of smartphone overuse on academic stress and self-regulation among college students. Behavioral Sciences, 13(5), 412.

Saravanan, C., Mahmoud, I., Elshami, W., & Taha, M. H. (2023). Smartphone usage and academic stress among medical students: A cross-sectional study. BMC Psychology, 11(1), 45.

Zhang, Y., Liu, Z., & Zhao, Y. (2024). Academic stress as a mediator between smartphone addiction and learning outcomes. Frontiers in Psychology, 14, 1125632.

Alhassan, A. A., Alqadhib, E. M., Taha, N. W., Alahmari, R. A., Salam, M., & Almutairi, A. F. (2018). The relationship between addiction to smartphone usage and depression among adults in Saudi Arabia. BMC Psychiatry, 18(1), 1-8. Andreassen, C.S. (2024). Social media and smartphone addiction: Emerging trends and future directions. Current Addiction Reports, 11(1), 45-57.

Billieux, J. (2019). Problematic use of the mobile phone: A literature review and a pathways model. Current Psychiatry Reviews, 15(2), 123-131.

Elhai, J. D., Yang, H., Fang, J., Bai, X., & Hall, B. J. (2020). Depression and anxiety symptoms are related to problematic smartphone use severity in Chinese young adults: Fear of missing out as a mediator. Addictive Behaviors, 101, 105962.

Hawi, N. S., & Samaha, M. (2019). Relationships among smartphone addiction, anxiety, and family relations. Behaviour & Information Technology, 38(8), 821-830

Lan, Y., Ding, J., Li, W., Li, J., Zhang, Y., Liu, M., & Fu, H. (2023). A pilot study of a mindfulness-based intervention for smartphone addiction among university students. Journal of Behavioral Addictions, 12(1), 78-89.

Lepp, A., Barkley, J. E., & Karpinski, A. C. (2021). The relationship between cell phone use, academic performance, anxiety, and satisfaction with life in college students. Computers in Human Behavior, 114, 106613.

Liu, Q. Q., Zhang, D. J., Yang, X. J., Zhang, C. Y., Fan, C. Y., & Zhou, Z. K. (2021). Perceived stress and mobile phone addiction in Chinese adolescents: A moderated mediation model. Children and Youth Services Review, 120, 105769.

Rozgonjuk, D., Levine, J. C., Hall, B. J., & Elhai, J. D. (2020). The association between problematic smartphone use, depression and anxiety symptom severity, and objectively measured smartphone use over one week. Computers in Human Behavior, 114, 106531.

ISSN Online: 3007-3154
ISSN Print: 3007-3146

Vol. 3 No. 10 (October) (2025)

Yang, J., Fu, X., Liao, X., & Li, Y. (2022). Association of problematic smartphone use with poor sleep quality, depression, and anxiety: A meta-analysis. Journal of Affective Disorders, 300, 509-518.

Alhassan, A. A., Alqadhib, E. M., Taha, N. W., Alahmari, R. A., Salam, M., & Almutairi, A. F. (2018). The relationship between addiction to smartphone usage and depression among adults in Saudi Arabia. BMC Psychiatry, 18(1), 1-8. Andreassen, C. S. (2024). Social media and smartphone addiction: Emerging trends and future directions. Current Addiction Reports, 11(1), 45-57.

Chen, L., & Liang, Y. (2023). The impact of smartphone multitasking on academic performance: A cognitive load perspective. Computers & Education, 185, 104521.

Hawi, N. S., & Samaha, M. (2019). Relationships among smartphone addiction, anxiety, and family relations. Behaviour & Information Technology, 38(8), 821-830.

Lepp, A., Barkley, J. E., & Karpinski, A. C. (2021). The relationship between cell phone use, academic performance, anxiety, and satisfaction with life in college students. Computers in Human Behavior, 114, 106613.

Yang, J., Fu, X., Liao, X., & Li, Y. (2022). Association of problematic smartphone use with poor sleep quality, depression, and anxiety: A meta-analysis. Journal of Affective Disorders, 300, 509-518.

Chen, L., & Zhang, Y. (2021). The impact of smartphone addiction on academic self-efficacy among college students. Computers in Human Behavior, 115, 106621.

Dontre, A. J. (2021). The influence of technology on academic distraction: A review. Educational Psychology Review, 33(3), 1015-1043.

Horwood, S., Anglim, J., & Mallawaarachchi, S. R. (2021). Problematic smartphone use and academic performance: A neurocognitive perspective. Trends in Neuroscience and Education, 24, 100158.

Lin, C. Y., Imani, V., & Pakpour, A. H. (2023). Effectiveness of CBT for problematic smartphone use: A meta-analysis. Addictive Behaviors, 136, 107487.

Wang, X., Xie, X., Wang, Y., Wang, P., & Lei, L. (2022). The reciprocal relationship between smartphone addiction and academic self-efficacy. Journal of Adolescence, 94(1), 22-35.

Chen, B., & Jang, S. (2020). Academic stress as a risk factor for smartphone addiction: A longitudinal study. Computers in Human Behavior, 112, 106477.

Elhai, J. D., Yang, H., & Montag, C. (2021). Fear of missing out (FoMO): Overview, theoretical underpinnings, and literature review on relations with mental health and problematic smartphone use. Current Psychology, 40(5), 2223-2237

Hadar, A., Hadas, I., Lazarovits, A., Alyagon, U., Eliraz, D., & Zangen, A. (2022). Answering the missed call: Initial exploration of cognitive and electrophysiological changes associated with smartphone use and abuse. PLOS ONE, 17(1), e0263674.

Lin, Y. H., Chang, L. R., & Yang, C. C. (2023). Stress management interventions reduce smartphone addiction: A randomized controlled trial. Journal of Behavioral Addictions, 12(1), 123-135.