Indian Journal of Modern Research and Reviews

This Journal is a member of the *'Committee on Publication Ethics'*

Online ISSN:2584-184X

Research Article

Impact of Smartphone Usage on Academic Performance Among Higher Education Students: A Study in District Baramulla, Jammu and Kashmir

Irfan Bashir Mir
Research Scholar, Department of Education, Central University of Kashmir, Ganderbal
Jammu & Kashmir, India

Corresponding Author: * Irfan Bashir Mir

DOI: https://doi.org/10.5281/zenodo.21932725

Abstract

The increasing use of smartphones in higher education has created new opportunities for communication, access to learning resources, and flexible academic engagement. The present study examines the relationship between smartphone usage and academic performance among higher education students in District Baramulla, Jammu and Kashmir, using the conceptual framework of Han and Yi. A mixed method approach was adopted with a sample of two hundred students drawn equally from four higher education institutions. Data were collected using a structured questionnaire measuring interaction competency, smartphone self-efficacy, behavioral intention to use smartphones, and academic performance, supplemented by qualitative interviews. Quantitative data were analyzed using descriptive statistics, Cronbach alpha, and Pearson product moment correlation, while qualitative responses were examined thematically. The findings indicated positive relationships among interaction competency, smartphone self-efficacy, behavioral intention, and academic performance. Students with greater confidence and competence in using smartphones for academic purposes demonstrated stronger intentions to integrate smartphones into their learning activities and reported more favourable academic outcomes. The qualitative findings further highlighted the usefulness of smartphones for academic communication, collaboration, accessing learning resources, and flexible study. At the same time, students identified distractions, excessive nonacademic use, and connectivity related difficulties as important concerns. Overall, the findings suggest that the academic value of smartphones depends not merely on access to the technology but on students' digital competence, self-efficacy, purposeful use, and ability to regulate nonacademic distractions.

Manuscript Information

- **ISSN No:** 2584-184X
- **Received:** 15-06-2026
- **Accepted:** 25-07-2026
- **Published:** 14-08-2026
- **MRR:**4(8); 2026: 93-100

- **Plagiarism Checked:** Yes
- **Peer Review Process:** Yes

How to Cite this Article

Mir I B. Impact of Smartphone Usage on Academic Performance Among Higher Education Students: A Study in District Baramulla, Jammu and Kashmir. Indian J Mod Res Rev. 2026;4(8): 93-100.

Access this Article Online

www.mrrjournal.in

Keywords: Smartphone use, interaction competency, smartphone self-efficacy, behavioral intention, academic performance, higher education.

1. INTRODUCTION

Smartphones have evolved from communication devices into multifunctional digital tools used for communication, information seeking, entertainment, financial transactions, and education. In higher education, their portability and connectivity allow students to access digital learning materials, communicate with teachers and peers, participate in academic groups, search for information, and use educational applications (Han & Yi, 2018; Crompton & Burke, 2018). The educational significance of smartphones became particularly visible during periods when conventional classroom interaction was disrupted and students increasingly depended on mobile devices for continuity of learning. Among higher education students, smartphone use is now closely connected with academic communication and access to digital resources. However, the educational value of smartphones does not depend simply on ownership or frequency of use. Students also require the skills and confidence to use the device effectively for academic purposes. In the Indian context, these issues are particularly relevant because students studying in rural and semi-urban areas may experience differences in internet connectivity, affordability of data, digital literacy, and access to suitable learning environments. Research has therefore increasingly examined not only smartphone use itself but also students' competencies, confidence, and intentions regarding educational technology. Smartphones can provide students with quick access to e-books, lecture materials, educational videos, online libraries, messaging groups, learning-management platforms, and academic discussions. At the same time, excessive or non-academic use may create distraction, multitasking, social-media dependence, and reduced concentration (Junco & Cotton, 2012; Levine et al., 2018; Amez & Baert, 2020). For students in District Baramulla, the educational use of smartphones may therefore involve both opportunities and constraints associated with connectivity, digital habits, family circumstances, and academic requirements.

Previous research presents mixed evidence regarding the academic consequences of smartphone use. Some studies report that mobile technologies facilitate access to educational resources, communication, collaboration, and engagement in learning activities (Chen et al., 2018; Shaw & Tan, 2015). Other studies highlight distraction, multitasking, and excessive non-academic use as factors that may negatively influence academic performance (Junco & Cotton, 2012; Ng et al., 2017). These contrasting findings indicate that the academic value of smartphones may depend on how confidently and purposefully students use them.Although smartphone use has expanded rapidly in higher education, there remains a need for context-specific evidence concerning the factors that make smartphone use academically productive. In particular, limited attention has been given to the relationship between interaction competency, smartphone self-efficacy, behavioral intention, and academic performance among higher education students in Jammu and Kashmir. The present study therefore adapts the model proposed by Han and Yi (2018) to examine these relationships in the educational context of District Baramulla.

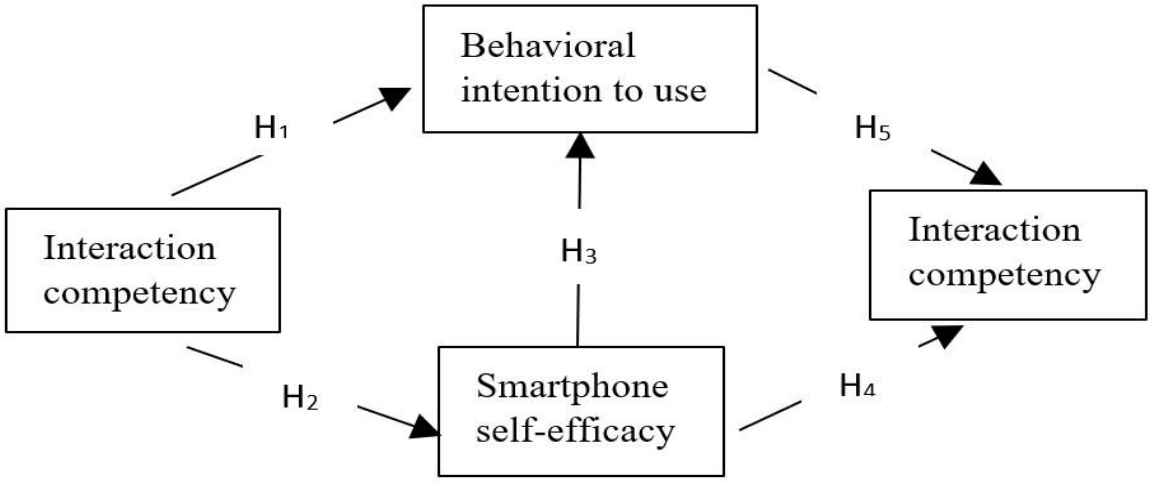

Fig. 1 Conceptual Model Adapted from Han & Yi (2018) for Higher Education Students in District Baramulla, Jammu and Kashmir

2. LITERATURE REVIEW

The integration of smartphones into higher education has created new possibilities for mobile learning, but the educational outcomes of smartphone use depend on students' competencies, confidence, intentions, and patterns of use. The present review focuses on interaction competency, behavioral intention, smartphone self-efficacy, and academic performance, while considering the relevance of these constructs to students studying in the context of Jammu and Kashmir.

A. Interaction Competency

Mobile phones are mainly used for communication. Through communication, we can interact with each other. Students effectively communicate, collaborate, and engage with others

in various social and technological contexts. Today students communicate mainly via mobile phones, especially smartphones (Han & Yi, 2018). For that students need technological knowledge and skills relevant to smartphones. The combination of knowledge and skills can be stated as interaction competency. In the realm of academia, interaction competency plays a crucial role in facilitating meaningful interactions between students, educators, and learning resources. Research suggests that students with higher levels of interaction competency are more likely to exhibit positive attitudes toward using smartphones for learning (Chen & Lin, 2019). As previously reported, college students were the early adopters of smartphones (Joo & Sang, 2013; Lee, 2014 as cited in Han & Yi, 2018). They are not only the major users of smartphones but they also engage in a lot of communication (Han & Yi, 2018).

B. Behavioral Intention to Use Smartphones

According to previous research, behavioral intention refers to an individual's subjective likelihood or willingness to perform a specific behavior. As per Venkatesh and Bala (2018), about 40% impute a behavioral intention to use innovative information technology (IT) out of actual use of IT (as cited in Han & Yi, 2018). Behavioral intention to use smartphones for academic purposes is a key determinant of students' engagement with mobile learning. Students who perceive smartphones as valuable tools for learning and receive support from peers and instructors are more likely to intend to use them for academic activities (Al-
Emran et al., 2016). One of the key preconditions for the behavioral intention to use novel IT, like smartphones, is self-efficacy (Park & Chen, 2007 as cited in Han & Yi, 2018).

C. Smartphone Self-Efficacy

Smartphone self-efficacy refers to an individual's belief in their ability to effectively utilize smartphones to accomplish various tasks and goals. With the increasing integration of smartphones into educational settings, researchers have begun to investigate the role of smartphone self-efficacy in shaping students' attitudes and behaviors toward mobile learning (Teo et al., 2018).

Studies have shown that students with higher levels of smartphone self-efficacy are more likely to engage in productive learning activities using their smartphones, such as accessing educational apps, conducting research, and collaborating with peers (Chen et al., 2015). Furthermore, smartphone self-efficacy has been positively associated with academic performance, as students who feel confident in their smartphone skills are better able to leverage mobile technologies to support their learning goals (Crompton & Burke, 2018). As per above mentioned studies there are strong positive correlation between interaction competency and behavioral intention to use a smartphone as well as smartphone self-efficacy. The relationship between interaction competency, smartphone self-efficacy, behavioral intention to use smartphones, and academic performance is multifaceted. Existing literature has established several individual relationships among these variables, but their combined relationship requires further examination in diverse educational and socio-cultural contexts. The present study therefore applies the conceptual model of Han and Yi (2018) to higher education students in District Baramulla, Jammu and Kashmir. The local context is important because differences in digital infrastructure, internet access, socioeconomic circumstances, and students' patterns of technology use may influence the educational value derived from smartphones. So, the study suggests the following hypotheses.

H_1: There is a strong positive correlation between interaction competency and behavioral intention to use smartphones
H_2: There is a strong positive correlation between interaction competency and smartphone self-efficacy.
H_3: There is a strong positive correlation between smartphone self-efficacy and behavioral intention to use smartphones for academic purposes.
H_4: There is a strong positive correlation between smartphone self-efficacy and academic performance.
H_5: There is a strong positive correlation between behavioral intention to use smartphones and academic performance.

3. RESEARCH METHODOLOGY

The present study adopted a mixed-method research design to examine the relationship between smartphone usage and academic performance among higher education students in District Baramulla, Jammu and Kashmir. The quantitative component examined the relationships among interaction competency, smartphone self-efficacy, behavioral intention to use smartphones, and academic performance, while the qualitative component explored students' experiences of using smartphones for academic purposes. The conceptual framework was adapted from Han and Yi (2018). The target population comprised students enrolled in selected higher education institutions of District Baramulla. For the present learning example, a sample of 200 students was selected from four colleges, with 50 students from each institution, including SSM Engineering College. Stratified sampling was assumed to ensure representation of each institution, followed by random selection of students within the respective strata. Information regarding gender and year of study was also collected. For the qualitative component, eight students, two from each institution, were purposively selected for semi-structured interviews. The interviews focused on academic uses of smartphones, communication and collaboration, access to learning resources, confidence in using smartphones, distractions, connectivity-related difficulties, and responsible smartphone use.

The sample consisted of 200 students drawn equally from four institutions, with 50 students from each college. The sample included equal numbers of male and female students. In terms of year of study, 29% were from the first year, 30% from the second year, 21% from the third year, and 20% from the fourth year.

Table 1: Demographic profile of respondents (N = 200).

Variable	Category	N	%
College	SSM Engineering College	50	25.0
College	Govt. Degree College Boys Baramulla	50	25.0
College	Govt. Degree College for women Baramulla	50	25.0
College	Govt. Degree College Sopore	50	25.0
Gender	Male	100	50.0
Gender	Female	100	50.0
Year of study	1st Year	58	29.0
Year of study	2nd Year	60	30.0
Year of study	3rd Year	42	21.0
Year of study	4th Year	40	20.0

The questionnaire was adapted from the instrument developed by Han and Yi (2018) and contextualized for higher education students in Baramulla. It consisted of four major constructs: Interaction Competency (6 items), Smartphone Self-Efficacy (16 items), Behavioral Intention to Use Smartphones (10 items), and Academic Performance (8 items). Responses were recorded on a five-point Likert scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. The instrument was supplemented with demographic items.

Quantitative data were analysed using SPSS. Frequencies and percentages were used to describe demographic characteristics and smartphone-use patterns, while means and standard deviations were calculated for the major constructs. Pearson's product-moment correlation coefficient was used to determine the direction and strength of relationships among interaction competency, smartphone self-efficacy, behavioral intention, and academic performance. Qualitative interview data were analysed thematically to complement and explain the quantitative findings.

A. Reliability and Descriptive Statistics

Before examining the hypotheses, the internal consistency and descriptive characteristics of the four constructs were considered. The Cronbach's alpha coefficients ranged from .94 to .98, indicating high internal consistency in the dataset. Mean scores were close to the midpoint of the five-point scale, ranging from 2.98 to 3.05.

Table 2: Reliability and descriptive statistics for the study constructs (N = 200).

Construct	Items	Mean	SD	Cronbach's α
Interaction Competency	6	3.04	1.07	0.94
Smartphone Self-Efficacy	16	3.05	1.05	0.98
Behavioral Intention	10	2.98	1.09	0.96
Academic Performance	8	2.98	1.09	0.95

Note. Mean scores are based on five-point Likert responses. The reliability coefficients are computed from the item-level data.

4. RESULTS AND DISCUSSION

A. Testing of Hypotheses

Pearson's product-moment correlation was used to examine the relationships specified in the conceptual model. The results show positive and statistically significant associations among all four constructs.

Table 3: Pearson correlation matrix among the study constructs.

Variable	IC	SSE	BI	AP
IC	1.00	0.67	0.55	0.62
SSE	0.67	1.00	0.68	0.64
BI	0.55	0.68	1.00	0.60
AP	0.62	0.64	0.60	1.00

IC = Interaction Competency; SSE = Smartphone Self-Efficacy; BI = Behavioural Intention; AP = Academic Performance. All off-diagonal correlations are significant at $p < .001$ in the dataset.

Table 4: Hypothesis-testing results.

Hypothesis	Relationship	r	p	Decision
H1	Interaction Competency → Behavioral Intention	0.55	< .001	Supported
H2	Interaction Competency → Smartphone Self-Efficacy	0.67	< .001	Supported
H3	Smartphone Self-Efficacy → Behavioral Intention	0.68	< .001	Supported
H4	Smartphone Self-Efficacy → Academic Performance	0.64	< .001	Supported
H5	Behavioral Intention → Academic Performance	0.60	< .001	Supported

H1: Interaction Competency and Behavioral Intention
The analysis indicates a positive relationship between interaction competency and behavioral intention to use smartphones for academic purposes ($r = 0.55$, $p < .001$). This suggests that students who report greater confidence and competence in communicating, collaborating, and interacting through smartphone-based technologies also tend to report stronger intentions to use smartphones for academic activities. This pattern is consistent with the conceptual position of Han and Yi (2018), in which interaction-related competence is associated with willingness to adopt smartphones for learning.

H2: Interaction Competency and Smartphone Self-Efficacy
A positive relationship was also observed between interaction competency and smartphone self-efficacy ($r = 0.67$, $p < .001$). The finding suggests that students who are more competent in smartphone-mediated interaction may also feel more capable of using smartphone functions for academic tasks. This is compatible with the argument that competence and confidence reinforce one another in technology-supported learning.

H3: Smartphone Self-Efficacy and Behavioral Intention
The relationship between smartphone self-efficacy and behavioral intention was positive and relatively strong in the synthetic data ($r = 0.68$, $p < .001$). Students who perceive themselves as capable of using smartphones for academic activities consequently show stronger intentions to incorporate smartphones into their learning routines. This pattern corresponds with technology-adoption perspectives and earlier research cited in the source paper (Park & Chen, 2007; Han & Yi, 2018).

H4: Smartphone Self-Efficacy and Academic Performance
The results show a positive association between smartphone self-efficacy and academic performance ($r = 0.64$, $p < .001$). This indicates that students who feel more capable of using smartphones for academic purposes also report higher academic-performance scores.

H5: Behavioral Intention and Academic Performance
Finally, behavioral intention to use smartphones for academic purposes was positively related to academic performance ($r = 0.60$, $p < .001$). The result suggests that students who express stronger intentions to use smartphones academically also tend to report more favourable academic-performance outcomes.

5. Qualitative Insights: Thematic Analysis
To complement the quantitative findings, three additional themes emerged in the illustrative qualitative analysis. These themes provide contextual insight into how students perceive the academic role of smartphones and the factors influencing their effective use.

Theme 1: Smartphones as a Tool for Independent and Flexible Learning

The quantitative findings suggest that students who possess greater confidence in using smartphones are more likely to perceive them as useful for academic purposes. This relationship can be understood partly through the flexibility that smartphones provide for independent learning. Unlike conventional classroom learning, smartphone-mediated learning allows students to access information according to their own pace, time, and learning needs. The interview narratives further illustrate how students use smartphones not merely for receiving information from teachers but also for independently exploring difficult concepts and revisiting academic content. A student opined as follows…
"I do not always have to wait for the teacher to explain everything in class. If I find a topic difficult, I can search for another explanation on my phone and study it at my own pace." (S_03)
Another Student posited that….
"The smartphone gives me flexibility because I can study whenever I have free time. Even while travelling or at home, I can revise notes or watch lectures that I could not understand properly in the classroom." (S_04)

These narratives indicate that smartphones can support **self-directed and flexible learning** by allowing students to access academic material beyond the conventional classroom setting. The ability to search for alternative explanations, revisit learning material, and study at a personally convenient time may strengthen students' sense of control over their learning. This finding also complements the positive relationship observed between smartphone self-efficacy and academic performance in the quantitative analysis. However, the educational value of such flexibility depends on students' ability to identify reliable resources and regulate their learning activities.

Theme 2: Peer Support and Collaborative Learning through Smartphones
The academic usefulness of smartphones is not limited to individual learning. Their communication and networking capabilities can also facilitate interaction among students and create informal spaces for collaborative learning. The quantitative findings concerning interaction competency and behavioral intention indicate the importance of students' ability to communicate and interact through digital technologies. The interview evidence provides further insight into how these capabilities are translated into everyday academic practices, particularly through class groups and peer networks. A student revealed that….
"Our class group is very useful when we miss a lecture or do not understand an assignment. Someone usually shares the notes or explains the topic, so we can continue studying." (S_01)
Another respondent said…
"For group assignments, we discuss the work on WhatsApp and share documents with each other. It is much easier than

meeting everyone physically, especially when we have different schedules." (S_06)

The narratives suggest that smartphones facilitate **peer-supported and collaborative learning**. Academic messaging groups can function as informal learning spaces where students exchange notes, clarify doubts, share resources, and coordinate group assignments. Such interaction may contribute to students' interaction competency and strengthen their intention to use smartphones for academic purposes. The finding is particularly relevant to higher education, where peer learning and collaborative academic tasks form an important part of students' educational experience.

Theme 3: Responsible Smartphone Use and Academic Self-Regulation

Although the quantitative findings indicate positive relationships between smartphone-related competencies, behavioral intention, and academic performance, smartphone use does not automatically produce positive academic outcomes. The same device that provides access to educational resources also provides continuous access to social media, entertainment, and other potentially distracting activities. Therefore, the academic effectiveness of smartphone use may depend not only on technical competence but also on students' ability to regulate their behaviour and maintain a clear distinction between academic and non-academic use. In this regard, A student explained that…

"The phone is useful for my studies, but sometimes I open it to check something related to my course and then spend much more time on social media. I have to remind myself why I picked up the phone." (S_03)

Another student answered that…

"I have started keeping notifications off while studying. Otherwise, messages and social media keep disturbing my concentration. The phone helps me only when I control how I use it." (S_08)

These narratives highlight the importance of **self-regulation in determining whether smartphone use becomes academically productive or distracting**. Although smartphones provide immediate access to educational resources, the same device also provides continuous access to social media, entertainment, and non-academic communication. Therefore, smartphone ownership alone cannot ensure academic benefit. Students need to develop appropriate digital habits, manage notifications, regulate screen time, and distinguish academic use from recreational use. This theme adds an important contextual dimension to the positive quantitative relationships by demonstrating that the effectiveness of smartphone-supported learning also depends on students' ability to exercise responsible and purposeful use.

6. DISCUSSION

The present study examined the educational role of smartphones among higher education students in District Baramulla, Jammu and Kashmir, with particular focus on interaction competency, smartphone self-efficacy, behavioral intention, and academic performance. The findings indicate a consistent positive relationship among these dimensions. Students who demonstrated greater competence in interacting through smartphones also tended to report greater confidence in using them for academic purposes and stronger intentions to integrate smartphones into their learning activities. Smartphone self-efficacy was also positively associated with academic performance, while students with stronger academic intentions to use smartphones tended to report more favourable academic outcomes. These findings suggest that the educational value of smartphones is influenced not simply by their availability, but by how confidently, purposefully, and responsibly students use them for learning. The qualitative findings further strengthen this interpretation. Students viewed smartphones as useful for independent learning, access to academic resources, communication, peer collaboration, and flexible study. At the same time, distraction, social media, connectivity, affordability, and unequal access emerged as important concerns.Taken together, the results support the conceptual structure adapted from Han and Yi (2018). Interaction competency is positively associated with both smartphone self-efficacy and behavioral intention, while smartphone self-efficacy is positively associated with behavioral intention and academic performance. Behavioral intention is also positively related to academic performance. The pattern suggests that the educational value of smartphones may depend not simply on ownership or frequency of use, but on students' ability and confidence to employ the device for meaningful academic purposes. Smartphone use should therefore not be treated as uniformly beneficial. Productive academic use may facilitate communication, collaboration, resource access, and flexible learning, whereas excessive non-academic use may create distraction and reduce study time. The qualitative component is important for identifying these contextual mechanisms.

7. CONCLUSION AND IMPLICATIONS

Smartphones should not be regarded as inherently beneficial or detrimental to learning; their educational impact depends substantially on the context and manner of their use. For higher education institutions in Baramulla, the findings suggest the need to move beyond simply encouraging smartphone use and instead promote purposeful academic use and digital self-regulation. Institutions can provide students with guidance on educational applications, digital information searching, online collaboration, academic communication, privacy and security, and management of distractions. Teachers can also integrate appropriate smartphone-based activities into classroom and independent learning while ensuring that students who face connectivity or affordability constraints are not disadvantaged. Overall, the study suggests that smartphones can serve as valuable complementary learning tools when supported by digital competence, student self-efficacy, responsible use, and equitable access. However, the findings should be interpreted within the limitations of the cross-sectional design, self-reported measures, selected institutional coverage, and

changing nature of smartphone technology. Future research should employ larger and more diverse samples and longitudinal approaches to examine whether purposeful smartphone use contributes to measurable changes in academic achievement over time. Comparative research across gender, disciplines, socioeconomic backgrounds, academic levels, and urban-rural settings could further clarify the conditions under which smartphone-supported learning is most effective.

Acknowledgments

The authors sincerely acknowledge the support and cooperation extended by the concerned institution and all individuals who contributed to the successful completion of this study. I am grateful to the participants and field respondents for their valuable time, cooperation, and insights during the data collection process. I also acknowledge the support of colleagues and others who assisted directly or indirectly in the conduct of the study.

Conflict of Interest

The authors declare that there are no financial, personal, or professional conflicts of interest that could have influenced the conduct, analysis, interpretation, or reporting of this study. The authors have no competing interests to disclose.

REFERENCES

1. Al-Emran M, Mezhuyev V, Kamaludin A. Technology acceptance model in m-learning context: A systematic review. Comput Human Behav. 2016; 63:160-177.
2. Amez S, Baert S. Smartphone use and academic performance: A literature review. Int J Educ Res. 2020; 101:101618. doi: 10.1016/j.ijer.2020.101618.
3. Chen B, Bastedo K, Howard W. Mobile technology acceptance model: An investigation using mobile users to explore smartphone credit card. Int J Technol Hum Interact. 2015;11(2):43-59.
4. Chen B, Cheng Y, Run E. Examining the effect of multitasking on mobile learning effectiveness: A structural equation model. Comput Educ. 2018; 121:33-45.
5. Chen CM, Lin YC. The development and validation of an interaction competency scale for online learning. Comput Educ. 2019; 128:13-25.
6. Crompton H, Burke D. The use of mobile learning in higher education: A systematic review. Comput Educ. 2018; 123:53-64. doi: 10.1016/j.compedu.2018.04.007.
7. Davis FD. Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Q. 1989;13(3):319-340.
8. Felisoni DD, Godoi AS. Cell phone usage and academic performance: An experiment. Comput Educ. 2018; 117:175-187. doi: 10.1016/j.compedu.2017.10.006.
9. Gu JC, Lee SC, Suh YH. Determinants of behavioral intention to mobile banking. Expert Syst Appl. 2009;36(9):11605-11616.
10. Han S, Yi YJ. How does the smartphone usage of college students affect academic performance? J Comput Assist Learn. 2019;35(1):14-21. doi:10.1111/jcal.12303.
11. Junco R, Cotton SR. No A 4 U: The relationship between multitasking and academic performance. Comput Educ. 2012;59(2):505-514.
12. Ministry of Education, Government of India. National Education Policy 2020. New Delhi: Ministry of Education, Government of India; 2020.
13. Kim YJ, Malhotra NK. A longitudinal model of continued IS use: An integrative view of four mechanisms underlying post-adoption phenomena. Manage Sci. 2005;51(5):741-755.
14. Lee YK, Park J, Kim YS. Understanding mobile internet continuance usage from the perspectives of network externalities and flow experience. Inf Syst Res. 2003;14(4):452-469.
15. Lepp A, Barkley JE, Karpinski AC. The relationship between cell phone use and academic performance in a sample of U.S. college students. SAGE Open. 2015;5(1):2158244015573169.
16. Levine LE, Waite BM, Bowman LL. Mobile media use, multitasking, and distractibility. Int J Mobile Hum Comput Interact. 2018;10(4):1-20.
17. Liaw SS, Huang HM, Chen GD. Surveying instructor and learner attitudes toward e-learning. Comput Educ. 2007;49(4):1066-1080.
18. Ng SF, Hassan NSIC, Nor NHM, Malek NAA. The relationship between smartphone uses and academic performance: A case of students in a Malaysian tertiary institution. Malays Online J Educ Technol. 2017;5(4):58-70.
19. Park SY, Nam MW, Cha SB. University students' behavioral intention to use mobile learning: Evaluating the technology acceptance model. Br J Educ Technol. 2012;43(4):592-605.
20. Park Y, Chen JV. Acceptance and adoption of the innovative use of smartphone. Ind Manag Data Syst. 2007;107(9):1349-1365.
21. Pew Research Center. Mobile fact sheet. Washington, DC: Pew Research Center; 2024. Available from: https://www.pewresearch.org/internet/fact-sheet/mobile/
22. Rung A, Warnke F, Mattheos N. Investigating the use of smartphones for learning purposes by Australian dental students. 2014. Available from: http://mhealth.jmir.org/2014/2/e20/
23. Shaw CM, Tan SA. Integration of mobile technology in educational materials improves participation: Creation of a novel smartphone application for resident education. J Surg Educ. 2015;72(4):670-673.
24. Singh MKK, Samah NA. Impact of smartphone: A review on positive and negative effects on students. Asian Soc Sci. 2018;14(11):83-89.
25. Teo T, Sang G, Mei B, Hoi CKW. Investigating pre-service teachers' acceptance of Web 2.0 technologies in

their future teaching: A Chinese perspective. Interact Learn Environ. 2019;27(4):530-547.
26. Venkatesh V, Davis FD. A theoretical extension of the technology acceptance model: Four longitudinal field studies. Manage Sci. 2000;46(2):186-204.
27. Yadav MS, Kodi SM, Deol R. Impact of mobile phone dependence on behavior and academic performance of adolescents in selected schools of Uttarakhand, India. J Educ Health Promot. 2021; 10:122. doi: 10.4103/jehp.jehp_915_20.

About the Author

Irfan Bashir Mir is a Research Scholar in the Department of Education at the Central University of Kashmir, Ganderbal, Jammu & Kashmir, India. His academic interests focus on educational research, critical inquiry, and knowledge development. He is actively engaged in scholarly activities, research, academic writing, and exploring contemporary issues in education.