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RESEARCH PAPER

Conceptualizing and evaluating Levels of Smartphone Dependency for Uses and Gratifications among University Youth in Pakistan

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ABSTRACT

Internet access and social media are available on the new palm-top which is a smartphone and can be taken anywhere. This mobility has raised questions in context of the smartphone dependency for various uses and gratifications. The time spent on smartphones is the simplistic explanation for smartphone dependency. The diverse uses and gratifications demand more interpretations for smartphone dependency contextualizing uses and gratifications. The current study fills the gap by conceptualizing the low, moderate, and high levels of smartphone dependency based on uses and gratifications. For this, a survey is conducted of university students by using a purposive sampling technique. The data is analyzed by using SPSS version 25. The mean values are compared and it is found that the high dependency on the smartphone is for business, communication, educational, and social interaction-related gratifications. This implies that the smartphone is empowering youth and smartphones should be used for industry and academia linkages.

| **KEYWORDS** | Dependency, Gratifications, Smartphone, Uses |

Introduction

At the dawn of the twenty-first century, technology enlightened us by becoming an integral part of our routine lives and facilitating working, communicating, and interacting at local and global scales (Hussain, Saeed, & Ashraf, 2021; Nawaz, 2023). People are more informed because of smartphones which have provided convenience to communicate, they have connected us at local and global scales, thus, the numerous features of smartphones like computing, interacting, playing games, and using social media have made smartphones the need for everyone on the planet and this is what the scholars call a new kind of technological dependence with the help of smartphone (Durak, 2019).

There are various kinds of technological dependence which include computer dependence, Internet dependence, video game dependence, and social media dependence (Nawaz, 2023). It has been observed in recent years that there is a surge in the use of the Internet, playing video games, using social media, and those who have been using smartphones for diverse reasons (Nawaz, 2023). The smartphone has emerged as the primary means for accessing social media like Facebook (Hussain, Saeed, & Yasin, 2021) which means that youth particularly university students have been depending on smartphones for using social media.

The smartphone has both prospects and problematic consequences. People need smartphones to move in the connected social world in the mediated space, but the dependence on this smartphone technology can also result in problems for users and people around the users. The mere calculation of time for smartphone dependency is a simplistic approach to measuring smartphone dependency. It is essential to approach the study of smartphone dependency from the uses and gratifications perspective with the

multidisciplinary perspective, considering various forms of gratifications. Such an approach enables a thorough understanding of the motives for smartphone use which creates dependency. It is in this context the current study aims to conceptualize and analyze the low, medium, and high levels of smartphone dependency from the uses and gratifications perspective.

Literature Review

The literature about the uses of social media with the help of smartphones is well-established (Hussain, 2017, 2023; Hussain et al., 2022, 2023; Hussain, Saeed, & Ashraf, 2021; Hussain & Baig, 2023; Hussain & Sarwar, 2021; Muhammad et al., 2021). Social media applications are now being used with the help of smartphones (Hussain, Saeed, & Yasin, 2021).

Su and Chen (2020) researched the typology and impacts of gratifications in simultaneous TV-smartphone use and identified four kinds of gratifications in TV-smartphone multitasking which include emotional, social, habitual, and contextual interaction gratifications.

Kaur et al. (2020) explore the relationships between different uses and gratifications of mobile instant messaging applications, continuation, and purchase intention. Kaur et al. (2020) find that exposure to uses and gratifications has a positive association with mobile instant messaging sticker purchase intention.

Mwambakulu and Chikumba (2021) contribute to the uses and gratifications theory in the context of smartphones and find that students were motivated to use smartphones for Internet access, social media, and communication, and the pattern was motivated by social networking.

Moon and An (2022) developed a construct with four dimensions which include social interaction, information, entertainment, and convenience research is useful in the travel and tourism industry because it is explored among electronic tourists for measuring their satisfaction level.

Wickord and Quaiser-Pohl (2022) researched the uses and gratifications of smartphones and their effects on problematic smartphone use and found that the uses and gratifications of process, social, and habitual were the predictors of such problematic use.

Vezzoli et al. (2023) explain what gratifications are related to smartphone usage time and problematic use and find that using a smartphone for signaling status and passing time predicted both problematic smartphone use and self-reported usage time.

Nawaz (2023) researched smartphone dependence through narrative review and found that increased reliance on smartphones has brought both prospects and consequences, smartphones facilitate better management but these are also responsible for ineffective use.

Sullivan and George (2023) did a systematic review and found that motives that reflected smartphone use for mood regulation, enhancement, self-identity, passing time, socializing, and safety were positively associated with problematic smartphone use.

The effects of different motives on online socialization are measured with the help of the survey method and it is found that the social interaction motives for smartphone use make the strongest contribution to the virtual or online socialization patterns (Saeed, Hussain, & Tariq, 2024).

In similar research, the effects of the motives or use and gratifications of smartphones on the dependent variable of absent-presence situations it is found that the

companionship and the passing time motives make unique contributions to the dependent variable which implies that those who use smartphones to find a companion online or are using a smartphone for just passing time are more likely to avoid their surroundings (Saeed, Hussain, & Batool, 2024).

The recent literature reviewed has not defined the low, medium, and high levels of smartphone dependency contextualizing Pakistan, therefore the current study fills the gap by conceptualizing and measuring the levels of smartphone dependency contextualizing diverse uses and gratifications.

Theoretical Framework

The uses and gratifications have always provided a cutting-edge theoretical approach in the initial stages of each new mass communication medium (Baran & Davis, 2012). The smartphone is also a mass-personal medium that can be used for individual gratifications and can also be used to communicate with the masses like with the help of the YouTube application. The main assumptions of the uses and gratifications theory are that the audience is active its media use is goal-oriented, and the media competes with other sources of need satisfaction (Baran & Davis, 2012, 2015; Katz et al., 1974; Rosenberry & Vicker, 2021).

The uses and gratifications theory is criticized because it can not easily address the presence or absence of effects (Baran & Davis, 2012). The media system dependency theory responded to the uses and gratifications perspective which went beyond the mere functional analysis (gratifications sought and obtained), and argued that the more a person depends on having his or her needs met by media use, the more important will be the role that media plays in person's life, and therefore the more influence the media will have on the person (Baran & Davis, 2012). The current study extends this perspective and explores the research question, (**RQ**) Which gratifications do youth engage for low, moderate, and high levels of smartphone dependency?
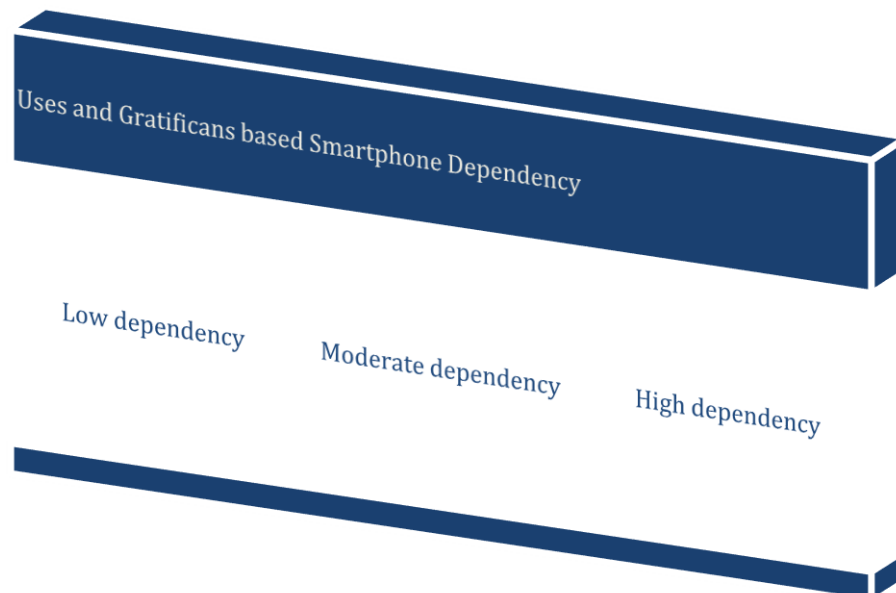

Figure 1. Levels of Smartphone Dependency Contextualizing Uses and Gratifications

Material and Methods

The quantitative approach is used for the analysis of data collected through an online survey of 763 university students in Pakistan through the quota sampling technique, who were between the ages of 18 and 35 years which constitute the educated youth. The

university youth have access to the Internet and can use smartphones in numerous places. The uses and gratifications questionnaire is taken from the previous research (Saeed, Hussain, & Batool, 2024; Saeed, Hussain, & Tariq, 2024). The items for the questionnaire are mentioned in Table 1.

The 9-point ordinal scale ranging from, "1 = Strongly disagree," "2 = Disagree," "3 = moderately disagree," "4 = mildly disagree," "5 = Undecided," "6 = Mildly agree," "7 = Moderately agree," "8 = Agree," and "9 = Strongly agree", is used to analyze the questions asked by respondents.

The mean and standard deviation values are reported by analyzing through SPSS version 25. The criteria for low, moderate, and high dependency is devised by classifying responses from 1 to 3 as low smartphone dependency, responses 4 to 6 as moderate level of dependency, and responses 7 to 9 as high level of dependency. The graph is made to display the levels of dependency and clarity.

Results and Discussion

Table 1
Descriptive Analysis for Ordinal Responses

Items	STD%	D%	MOD%	MID%	UND%	MIA%	MOA%	A%	SA%	M	SD
I happen to use the smartphone for watching political news	5.2	13.7	2.3	2.3	5.3	8.5	5.1	17.6	3.1	5.24	2.673
Smartphone is the source to know about political development in Pakistan	3.1	8.8	1.3	2.1	3.3	10.0	4.5	25.3	4.8	6.11	2.484
I happen to use a smartphone for sharing political news	5.8	14.4	1.7	1.3	3.8	11.5	3.9	17.9	2.8	5.20	2.705
Smartphone helps me to search about happenings of international politics in the world around	1.8	4.2	0.8	1.2	2.3	9.3	5.4	27.2	11.1	6.96	2.107
Smartphone makes political discussions useful	4.3	11.3	0.8	1.7	5.3	6.7	5.3	23.4	4.4	5.80	2.653
Smartphone helps in promoting business	1.6	5.2	0.3	0.9	1.8	4.8	4.3	28.9	15.5	7.20	2.177
Smartphone is the source for sharing business ideas	1.6	1.6	0.8	1.1	1.4	3.9	4.1	33.4	15.3	7.53	1.802
A smartphone is the future for business outlets	1.8	2.6	1.0	3.4	8.1	5.9	4.2	28.6	11.8	7.17	1.919
Smartphones have made purchasing easy	1.8	4.0	0.4	1.3	2.0	3.9	4.2	32.0	13.4	7.23	2.105
Business-to-business communication is easy nowadays with the help of smartphones	1.3	1.7	0.2	1.3	1.0	3.5	3.2	32.9	18.3	7.69	1.708
Smartphones have made reading easier	2.2	4.9	0.8	0.9	1.3	7.0	4.0	28.6	13.5	7.04	2.238
Smartphones help make class assignments	2.3	5.1	0.9	0.6	2.4	5.3	5.0	28.0	13.6	7.01	2.272
Smartphones assist in accessing web portals of the educational institute	1.6	1.8	0.8	1.3	2.1	5.4	3.8	33.2	13.2	7.39	1.846
Smartphones assist in sharing academic material	1.2	1.3	0.5	0.4	1.3	3.4	4.2	35.7	15.2	7.68	1.605
The discussion class project has become easy with the help of a smartphone	1.3	2.8	0.6	1.0	1.9	3.1	2.8	32.1	17.6	7.54	1.899

Statement											
Smartphones help make groups for religious discussion	2.2	3.4	0.3	1.3	6.1	6.5	5.9	28.2	9.3	6.89	2.090
I happen to share verses from the Holy Quran with the help of a smartphone	3.0	3.7	1.0	0.7	4.0	4.8	4.3	29.4	12.3	6.98	2.258
I happen to share Hadith with the help of a smartphone	2.8	2.9	1.6	0.3	3.4	5.9	4.9	31.3	10.0	7.00	2.150
The smartphone is a useful device for sharing religious content	1.6	2.1	0.7	2.1	5.0	5.0	4.8	30.6	11.3	7.15	1.944
I happen to use a smartphone to communicate with my dear ones	0.8	1.7	0.5	1.2	1.3	2.8	1.8	28.4	24.8	7.85	1.688
Communication has become easy with the help of a smartphone	0.6	1.8	0.4	0.4	1.0	2.0	2.4	27.1	27.4	7.99	1.586
Smartphone is an option to communicate efficiently	0.7	1.3	0.3	0.3	1.6	1.2	2.1	29.3	26.4	8.03	1.484
Smartphones have made communication far-reaching	0.7	1.7	0.1	0.8	1.8	2.3	2.6	30.5	22.6	7.86	1.583
Smartphones have reduced distances because of their communicative features	1.2	2.3	0.3	0.4	1.0	1.8	2.1	30.9	23.2	7.83	1.762
Smartphone helps me in finding a companion to know one another	2.3	5.1	0.8	0.9	4.8	4.6	5.7	30.7	8.3	6.81	2.242
I use a smartphone to look for a relationship	9.6	14.4	0.6	2.2	5.2	4.8	3.1	17.4	5.8	5.03	2.968
Smartphone is a source to remove loneliness by talking to a partner	3.7	7.2	0.4	1.4	4.0	6.4	5.0	27.0	8.0	6.44	2.496
Smartphone helps in finding new people	2.2	4.8	0.7	1.5	3.6	8.2	4.3	30.4	7.5	6.77	2.192
Smartphone helps in talking to a companion with privacy	2.5	5.7	0.8	1.3	4.1	5.4	4.8	29.3	9.3	6.75	2.321
Smartphones help to interact with friends	0.7	2.4	0.3	0.3	2.0	2.6	3.3	35.9	15.8	7.68	1.647
Smartphones help to interact with family	0.8	2.8	0.6	0.6	0.8	3.3	3.1	34.4	16.7	7.63	1.763
Smartphone is a source to keep in touch with the class fellows	0.7	0.7	0.3	0.8	0.9	1.8	3.7	31.4	22.9	7.99	1.370
Smartphones engage us with teachers	1.6	1.3	0.4	0.3	1.3	3.3	3.6	33.4	17.8	7.70	1.700
Smartphone is a source to keep in touch with brothers or sisters	0.8	2.1	0.2	0.4	1.3	2.5	2.4	30.3	23.3	7.87	1.635
I happen to use a smartphone for entertainment purposes	0.8	3.0	0.4	1.3	1.6	4.9	4.9	30.7	15.5	7.45	1.833
Smartphones entertain me because I can listen to songs	1.7	8.3	1.2	0.9	2.0	4.9	5.1	24.4	14.7	6.77	2.481
Smartphone entertainment because I can watch videos	1.4	3.0	0.5	1.5	0.7	4.2	5.2	31.0	15.7	7.43	1.938
I happen to watch movies on my smartphone to entertain myself	2.8	6.8	0.3	1.6	1.7	6.1	4.1	27.9	12.0	6.78	2.438
I happen to use a smartphone to pass the time	1.8	7.3	0.8	1.7	2.9	4.6	5.4	26.4	12.2	6.75	2.407

	STD	D	MOD	MID	UND	MIA	MOA	A	SA	M	SD
I use a smartphone when there is nothing to do	1.3	3.5	0.6	1.1	2.2	6.0	3.9	29.3	15.3	7.29	2.009
Smartphone is a pass time activity	2.0	7.7	1.3	1.3	2.3	6.9	5.1	24.9	11.7	6.64	2.440
Smartphones are for killing time	1.1	5.0	0.9	0.9	3.3	8.0	6.8	23.4	13.6	6.97	2.130
Time is being passed with the help of a smartphone	1.3	3.8	0.3	1.3	3.2	8.4	5.3	26.4	13.1	7.10	2.022
I happen to use a smartphone for relaxation	3.1	7.8	1.1	2.2	2.4	11.3	6.3	21.0	8.0	6.25	2.457
Smartphone helps me spending time to relax	3.1	7.2	2.2	2.3	3.2	10.3	7.0	21.4	6.7	6.18	2.435
Smartphone provides me peace of mind	3.9	11.5	1.4	3.6	4.3	10.7	6.8	16.3	4.7	5.55	2.565
Smartphone helps me manage stress	3.2	10.3	1.8	3.5	5.1	10.5	5.7	18.8	4.3	5.72	2.497
Smartphone keeps me away from worries	5.0	12.7	2.8	3.3	5.3	9.3	5.8	15.0	4.1	5.24	2.634
I happen to use a smartphone for escapist motives	2.3	7.2	1.1	2.7	12.1	10.3	5.8	17.7	4.2	5.89	2.242
Smartphone helps me escape from the dullness	2.9	9.3	1.6	2.9	5.0	11.5	7.7	17.8	4.4	5.82	2.422
Smartphone is a source of escape from the worries of life for me	3.9	11.5	1.1	3.1	5.4	12.8	5.6	15.7	4.1	5.50	2.516
The smartphone is a source of escape from tensions	4.2	11.3	2.0	3.3	4.8	10.0	6.2	17.5	3.9	5.52	2.573
Smartphones for escapist purposes make me feel good	2.7	8.5	1.6	3.3	7.7	12.9	6.0	16.6	3.8	5.75	2.326

STD = Strongly disagree
D = Disagree
MOD = Moderately disagree
MID = Mildly agree
UND = Undecided
MIA = Mildly agree
MOA = Moderately agree
A = Agree
SA = Strongly agree
M = Mean
SD = Standard deviation

Table 1 shows that the high level of smartphone dependency among university youth is for the gratification of business motives, educational motives, communication, and social interaction. Moderate to high levels of smartphone dependency are also found for entertainment, passing time, and religious gratifications. University students also show moderate levels of smartphone dependency for the political, relaxation, escapist, and companionship gratifications.

The business-related uses and gratifications for smartphone dependency include business promotion, sharing business ideas, future business outlets, easy purchasing, and ease of business-to-business communication. The educational gratifications of smartphone dependency are ease of reading, making class assignments, access to educational web-portal, sharing of academic material, and ease of discussing class projects. Communicative smartphone dependency means communicating with dear ones, having easy and efficient communication, and far-reaching and distant communication. The social interactive gratifications for smartphone dependency include interacting with friends and family and keeping in touch with brothers, sisters, class fellows, and teachers.

High Level
- Business (business promotion, sharing business ideas, future busniess outlets, easy purchasing, ease for business to business communication)
- Educational (ease for reading, making class assignments, acces to educational web-portal, sharing of academic material, ease for discussion for class project)
- Communication (communicating dear ones, easy and efficient communication, far reaching and distant communication)
- Social interaction (interacting with frends and family, keeping in touch with brothers, sisters, class fellows and teachers)

Moderate to High Level
- Entertainment (listening songs, watching videos and movies)
- Passing time (killing time , and passing time when there is nothing to do)
- Religious (sharing religious content, sharing Hadith, sharing Quran, and doing religious discussion)

Moderate Level
- Political (watching and sharing political news, national political development, international politics, political discussions)
- Relaxation (spending time to relax for peace of mind, managing stress by keeping themselves away from worries)
- Escapist (escape from the worries of life, tensions and for feeling good)
- Companionship (finding companion, looking for relationship, remove loneliness by talking to partner, finding new people, talking to a companion with privacy)
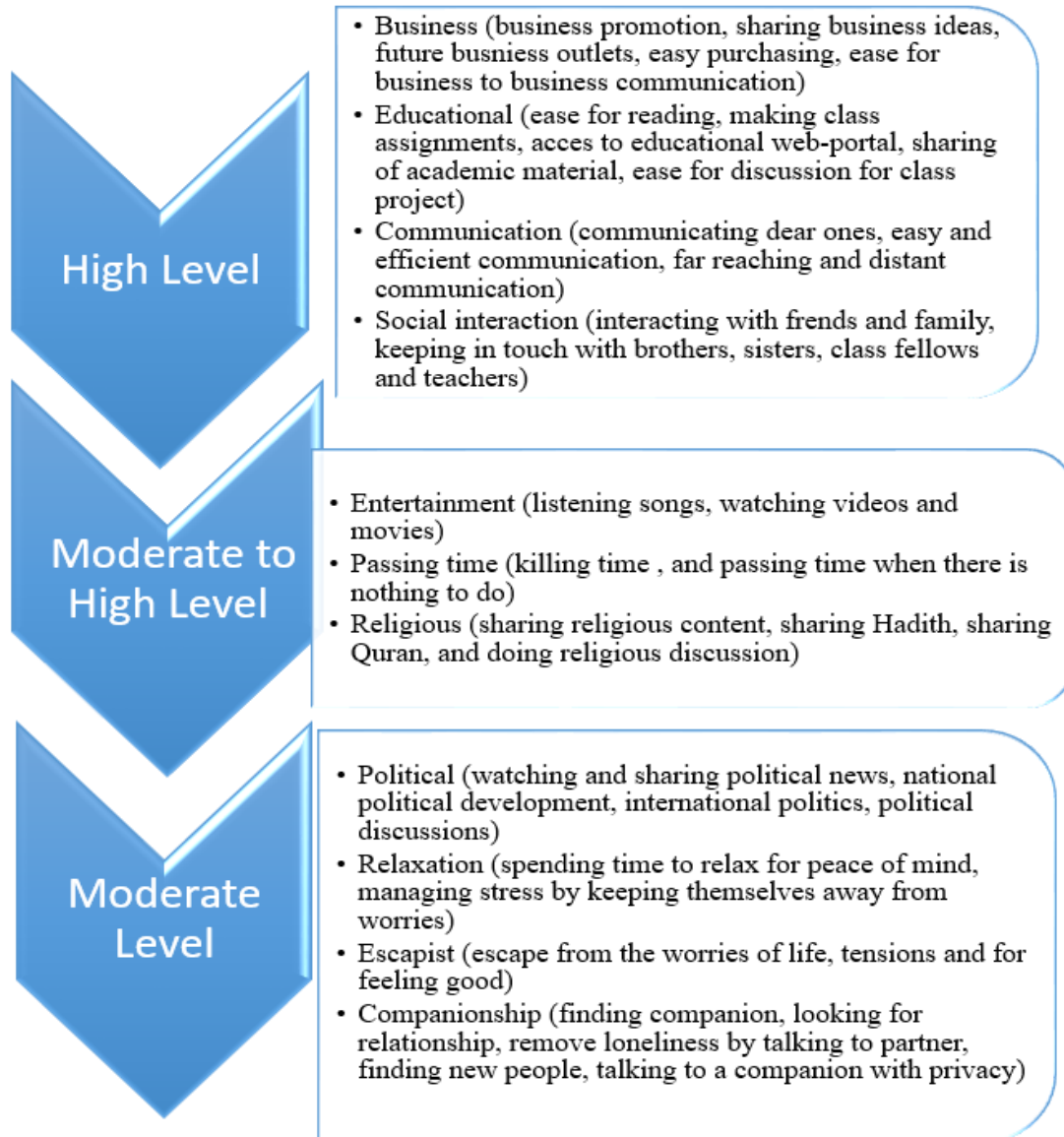
Figure 2. Explaining Moderate to High Levels of Smartphone Dependency based on Gratifications Sought

Moderate to high levels of smartphone dependency for entertainment gratifications include listening to songs, watching videos and movies, for passing time it includes for killing time, and passing time when there is nothing to do, for religious gratifications include sharing religious content, sharing Hadith, sharing the Quran, and doing religious discussions.

The moderate level of smartphone dependency is for political gratifications like watching and sharing political news, national political development, international politics, and political discussions. The smartphone dependency for relaxation gratifications includes spending time to relax for peace of mind, and managing stress by keeping themselves away from worries. The dependency on escapist gratifications includes escape from the worries of life, and tensions and for feeling good. The dependency for companionship gratifications includes finding a companion, looking for a relationship, removing loneliness by talking to a partner, finding new people, and talking to a companion with privacy.

The results of the study are consistent with the previous study by Nawaz (2023) who pointed out that smartphone is used for the management of social and professional life.

Conclusion

High levels of smartphone dependency are found for business, educational, communicative, and social interactive uses and gratifications in the context of Pakistani culture among university youth across Pakistan. This implies that a smartphone is a device for the management of tasks for university students. Smartphones are helping them socialize through the communicative features of smartphones. On the one hand, smartphones are helping university students with their educational activities, and on the other hand, it is also handy for them for business-related activities.

Implications

The study has implications for future researchers for the development of scales for smartphone dependency based on the gratifications sought. The constructs can be made based on high, moderate, and low levels of dependency and to research their effects on problematic smartphone use.

Limitations

The current study does not measure the effect of smartphone dependency in the context of gratifications sought and obtained on the dependent variable of problematic smartphone use. The cause and effect studies can be conducted by taking help from this in-depth descriptive analysis.

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