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RELATIONSHIP BETWEEN SMART PHONE ADDICTION AND INTERPERSONAL RELATIONSHIPS IN PROSPECTIVE TEACHERS

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Abstract

The present study's goal was to investigate how smartphone addiction affects interpersonal relationships. This research study adopted quantitative research approach. Because the study looked at the causes and effects of smart phone addiction on interpersonal interactions, a causal-comparative research design was adopted. Population made up of prospective teachers studying at public sector universities of Lahore. Four hundred of prospective teachers' were selected through random sampling technique. Smartphone Addiction Scale and Interpersonal Relationship Scale were adapted by the researcher. On the data, both descriptive and inferential statistics were used. The study's conclusions showed that smart phone addiction has a substantial impact on the interpersonal interactions of potential teachers. It is recommended to spread awareness regarding the harmful effect on the mental health of prospective teachers that may lead to poor academic performance and to distract pupils, encourage greater physical activity through workshops, sports, and seminars.

Keywords

Smart Phone, Addiction, Interpersonal Relation

1. Introduction

Technology development has caused an unparalleled, drastic shift in the flow of human existence during the past few years. Mobile phone usage has increased dramatically in recent years as a result of their widespread availability (Zhang *et al*., 2020). Mobile phone addicts have sad, disoriented, and lonely feelings when they are not utilising their devices. It is extensively utilised and regarded as the only form of communication, making it essential for both social and professional interactions (Takao *et al*., 2009). One type of technology addiction is the addiction to mobile phones, which is defined as the habitual usage of a phone to engage in unhealthy activities (Fernandez *et al*., 2014). A feeling of mental pain brought on by mobile phone addiction causes potential teachers to change their attitudes, beliefs, and behaviors. Mobile phone addiction is the term used to describe the development of a range of social, behavioral, and emotional challenges in a person's day-to-day life as a result of their inability to control their usage of a mobile phone. According to the writers, it might lead to significant forms of suffering in one's life. The smartphone makes life easier, but there are drawbacks as well. According to Evegu (2014), continuous use of a mobile phone promotes shyness, social anxiety, and interaction anxiety. The excessive use of mobile devices among aspiring teachers results in their lack of social skills, inability to deal with issues, and display of incompatible behaviours, which makes the use of mobile devices a challenge for aspiring teachers (Konan *et al*., 2018). The state of interpersonal relationships is deteriorated by excessive mobile phone use (Liu & Kuo, 2007). Cell phone addicts exhibit higher levels of unpleasant emotion and are more receptive to social interactions than non-addicts. Additionally, prior study (Nepon *et al*., 2011) has shown that people with severe anxiety or depression have greater interpersonal problems and are generally uncomfortable having face-to-face conversations. The quality of life, life satisfaction, and well-being of children and adolescents were all negatively impacted by problematic mobile phone use (Fischer *et al*., 2021). The excessive use of mobile devices, according to Ardak *et al*. (2013), results in unpleasant emotions including loneliness and sadness, which have been related negatively to psychological health and life satisfaction. The majority of the time, technological innovation appears to have a detrimental effect on aspiring teachers in Pakistan. For instance, teachers enjoy using various devices like mobile phones for communication and amusement purposes rather than to develop their teaching abilities or learn things that would make them a better teacher. Sadly, instead of considering potential occupations, kids spend the majority of their time on their phones. Because of their excessive use, prospective teachers become addicted to their smartphones, which results in strained social interactions and detrimental effects on their general pleasure. Because it will cover topics like interpersonal connections and smartphone addiction, the current study will be helpful to future educators working in public sector institutions. This study is expected to be extremely helpful to future instructors and administrators during the decision-making process. The results of this study will help us better understand smartphone addiction, interpersonal connections, and general life happiness. This report may be cited or used as a model by future academics who are interested in examining how smartphone addiction affects social interactions and life satisfaction. This study will be useful to other interested parties in addition to politicians, administrators, scholars, and theorists. Additionally, it will benefit teacher organizations because it will make it possible for their staff to uphold close family and professional ties while still working.

2. Review of Literature

Smartphone addiction is the term used to describe an addiction to using a smartphone and having continuous access to the internet through it. It has a number of distinct drawbacks that affect consumers (Haug & Colleagues, 2015). When two people share similar goals and interests, they start dating or become friends. The ability to g*et al*ong with one another is essential for persons who are in a relationship (Juneja, 2015). The definition of addiction is the compulsive need to engage in activities that are pleasurable for one's feelings, emotions, society, or financial well-being (Fischer *et al*., 2021). It might be exciting, and impulsive reinforcement could be addictive (Bian & Leung, 2015). People who get socially obsessed with their cellphones, social media, and other electronic devices are diverted from their other obligations. Some people would even stay up late and eat in order to continue their addictive habit (Haug *et al*., 2015). The most important instrument in people's daily lives has eclipsed all other communication devices: the smartphone (Suparp, 2006). Recently, their reputation has improved (Palachaipiromsil, 2011). People can use them to connect with their pals online, making it easier for them to communicate, work, and have fun in their personal life (Boonuyang *et al*., 2015). They could have a serious impact on their quality of life (Jitsukpluem, 2014). Addiction to smartphones is associated with a number of harmful consequences. People's moods and tempers may be impacted as a result of them. Addiction to smartphones has been linked in studies to improvements in mood problems (Park *et al*., 2015; Thongjuephong, 2016). Smartphone addiction has been linked to health problems in addition to having a negative impact on physical activities like walking and jogging, eating, and sleeping (Arbi *et al*., 2014; Jones, 2014). User disturbance of their daily routine, health, and academics are only a few of the specific negative repercussions of smartphone addiction. Smartphone addiction is a behavioral addiction that is predominantly characterized by utilizing mobile phones, often known as problematic smartphone usage or mobile phone dependency. Due to the increasing use of mobile phones, it is getting harder to manage one's behavior, which causes an obsession with the gadget (Haug *et al*., 2015). One of the issues society is likely to face is the negative impacts of excessive mobile phone use that have emerged in recent years, particularly in connection with a rise in the prevalence of cellular phone use (King *et al*., 2013; Nawaz *et al*., 2017). The global educational system has changed as a result of the proliferation of technology. In recent years, learner-centered environments have become more creative and dynamic (Huffaker, 2005). Mobile devices, such as cellphones, are used for a number of activities such information search and retrieval as a means of accessibility and pleasure (Dorsey *et al*., 2017) log onto mass media to research news articles and publications (Anderson & Jiang, 2018; Park *et al*., 2018). Social interaction, banking, and gaming are being taught (Anshari *et al*., 2017; Brodmann *et al*., 2018). Furthermore, younger people are much more likely than older people to acquire a smartphone (Poushter *et al*., 2018). People may engage with others, learn things, have fun, and go about their daily lives in a more convenient and effective way thanks to smartphones (Park *et al*., 2015). Global smartphone usage is rising quickly in response. One of the most significant target demographics for mobile public services, as well as the largest consumer group, continues to be college students, despite the fact that smartphone usage is increasing across all income and age categories (Head & Ziolkowski, 2012). Smart phones promote public contact and increase the likelihood that students will engage in it; hence they are used by students more frequently than other forms of communication (Hong *et al*, 2012). Although it gives them a handy way to

communicate, the growing use of cellphones among college students has the potential to cause addiction, as research has shown (Hassanzadeh & Rezaei, 2011). When a person's smartphone use habits aren't being used, they may have a negative impact on their ability to interact socially. Despite not being regarded as an addiction by law, it is growing more widespread worldwide because of the suffering and anxiety it causes, among other things. Due to the following factors, there hasn't been agreement on how to define cellphone dependence in previous studies: a) the numerous habit indicators linked to smartphone usage; b) the wide variety of new uses for mobile phones; and c) the many difficult effects that come with using a mobile device (Takao *et al*., 2009). Contrarily, smartphone addiction may not show up as overt signs or indicators, such functional markers of appetite, and the preoccupied personality may appear to be acting in a normal and generally acceptable manner when using a smartphone (Lemon, 2002). It's fascinating that most research on smartphone addiction focuses either on how frequently symptoms of the addiction appear to occur or on how much time is spent using cellphones by tracking requests made and acknowledged, despite the fact that both are necessary. According to this study, smartphone addiction is a pattern of behavior characterized by a number of detrimental symptoms, including a disregard for the effects of conduct, obsession, and an inability to regulate desire, as well as a loss of productivity, a sense of anxiety, and a loss of control. Three indicators can be assessed to determine the extent of addiction.

2.1 Purpose of the study

The goal of this study was to investigate how smartphone addiction affects interpersonal relations. Additionally, it explored how prospective teachers perceived smart phone addiction and interpersonal relations. The following research questions were developed to address objectives of the study:

1. How do prospective teachers perceive interpersonal relationships and smartphone addiction?
2. How smartphone addiction does impacts prospective teachers' interpersonal relationships?

3. Research Methodology

This research study adopted quantitative research approach. Because the study looked at the causes and effects of smart phone addiction on interpersonal interactions, a causal-comparative research design was adopted. Cross sectional survey conducted to collect data. All potential instructors enrolled in Lahore's public sector universities made up the study's population. Using a random sampling procedure, the desired sample of 400 prospective teachers was chosen. Demographic properties of the sample are given below.

Table1: Demographic Information of the Respondents

Demographics	**%**	***F***	***CF***
Gender			
Male	36.6	247	36.6
Female	63.4	427	100
Age (in years)			
Below 23	93.3	629	93.3
23-28	6.4	43	99.7
Above 28	2	2	100

The demographic data of the respondents are shown in Table 1. In the present study there were 247 males (30%) and 427 females (70%). Respondents below 23 years of age were 629 (93.3%) while 43 (6.4%) were belonged to the age group 23 to 28. Moreover, two plaintiffs were above 28 age (2%). There were four parts to the instrument. Data on the sample's demographic characteristics was gathered in the first part. Smart phone addiction was tested by SPAS. It includes 33 items on six factors that are positive anticipation, cyberspace-oriented relationship, withdrawal, daily-life disturbance, tolerance and overuse. It employed a five-point Likert type rating scale, with strongly agreeing (coded as 1) and strongly disagreeing (coded as 5).

Table 2: Smartphone Addiction Scale Subscales with Number of Items

Sr. No.	Subscales	Item number in scale
1	Academic Performance (AP)	1, 5, 9,
2	Health Related Issues (HRI)	2, 6, 10,
3	Mood Disorders (MD)	3, 7, 11, 13, 15, 17, 19, 20
4	Relationship Satisfaction (RS)	4, 8, 12, 14, 16, 18

Interpersonal relationship scale (IRS) was used to measure interpersonal relationship. It included 27 items identified on five subscales that are open communication, trust, teamwork, conflict management and positive attitude. It is a 27-item, five-point Likert type rating scale that ranged from strongly agree (coded as 1) to strongly disagree (coded as 5).

Table 3: Interpersonal Relationship subscales with Number of Items

Sr. No.	Variables	Items in scale
1	Trust (T)	1, 6, 11, 16, 21
2	Team Work (TW)	2, 7, 12, 17,
3	Open Communication (OC)	3, 8, 13, 18, 22, 26
4	Positive Attitude (PA)	4, 9, 14, 19, 23, 25, 27
5	Conflict Management (CM)	5, 10, 15, 20, 24,

The instrument was pilot tested on 76 students who were not part of sample. The validity of the instrument was confirmed using professional judgment. For reliability of the instrument, reliability analysis was run. Reliability of the instrument was indicated to be good.

Table 4: Alpha Reliability Coefficients by Scale

Scale	*N*	*Items*	*α*
SPAS	76	20	.82
IRS	76	27	.80

The researcher personally gathered the data. Prior permission was taken from the concerned authority to collect the data. Respondents were briefed regarding the research and the instrument. They were assured of the confidentiality and anonymity. Data were analyzed by the researcher using descriptive and inferential statistics.

Research Question 1

What is the perception of prospective teachers regarding smart phone addiction?

Table 5: Descriptive Statistics of SPAS (Item Wise)

Items	*N*	*SDA*	*DA*	*UD*	*A*	*SA*	*M*	*SD*
Academic Performance (AP)								
SPAS 1	674	4	15	25	207	423	4.53	.73
SPAS 5	674	4	17	31	263	359	4.42	.75
SPAS 9	674	2	8	63	223	378	4.44	.74
Health Related Issues (HRI)								
SPAS 2	674	2	21	20	277	354	4.42	.73
SPAS 6	674	7	15	27	293	332	4.38	.76
SPAS 10	674	2	10	16	297	349	4.46	.65
Mood Disorders (MD)								
SPAS 3	674	-	12	42	276	344	4.41	.69
SPAS 7	674	-	15	24	295	340	4.42	.67
SPAS 11	674	2	9	29	293	341	4.43	.67
SPAS 13	674	1	10	20	305	338	4.44	.64
SPAS 15	674	4	14	54	280	322	4.34	.76
SPAS 17	674	4	13	65	279	313	4.31	.77
SPAS 19	674	-	29	73	261	311	4.27	.82
SPAS 20	674	2	11	55	282	324	4.36	.73
Relationship Satisfaction (RS)								
SPAS 4	674	7	16	61	278	312	4.29	.81
SPAS 8	674	5	5	37	287	340	4.41	.70
SPAS 12	674	6	8	26	259	375	4.47	.71
SPAS 14	674	2	12	37	258	365	4.44	.71
SPAS 16	674	1	11	41	278	343	4.41	.69
SPAS 18	674	4	27	49	298	296	4.27	.81

Table 5 presents item wise responses of prospective teachers on SPAS. It also presents item wise mean and standard deviation.

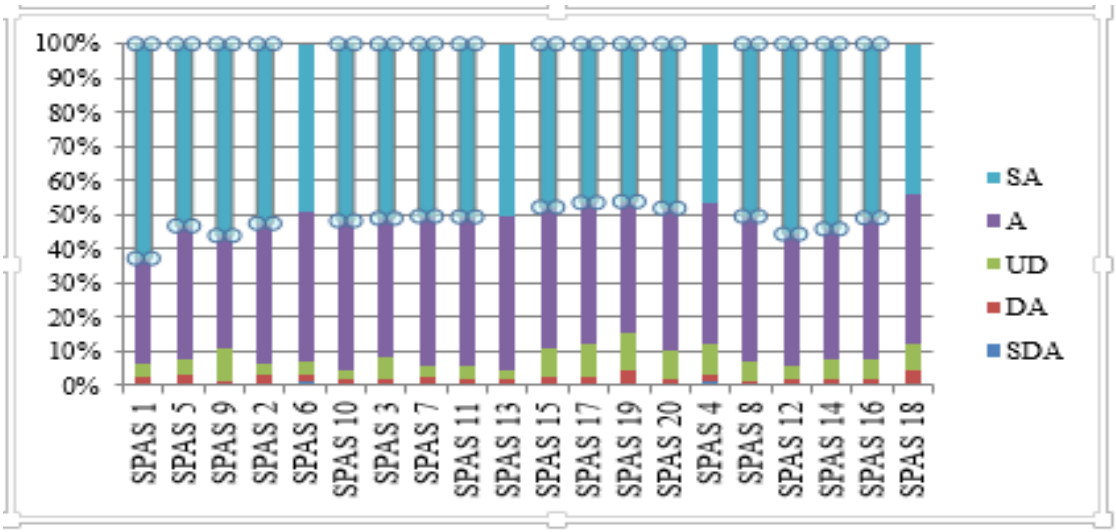

Figure 1: Item Wise Responses of SPAS

Table 6: Descriptive Statistics of SPAS

Scale	*N*	*M*	*SD*	*MPI*	Range		Skewness	Kurtosis
					Potential	Actual		
AP	674	13.38	1.93	4.46	3-15	4-15	-1.64	3.84
HRI	674	13.26	1.80	4.42	3-15	4-15	-1.78	5.37
MD	674	34.98	4.16	4.37	8-40	16-40	-1.16	2.54
RS	674	26.30	3.19	4.38	6-30	12-30	-1.21	2.47
SPA	674	87.91	9.48	4.40	20-100	40-100	-1.60	4.89

Table six reveals the descriptive statistics regarding perceptions of prospective teachers on SPAS. Values of skewness and kurtosis approve the data to be normally distributed. Perceptions of prospective teachers regarding SPA on the five point Likert type rating scale fall above the scale median near the scale point Agree. As far as subscales are concerned respondents depict that AP has the highest mean per item value followed by HRI, RS and MD respectively.

Research Question 2

What is the perception of prospective teachers regarding interpersonal relationships?

Table 7: Descriptive Statistics of IRS (Item Wise)

Items	*N*	*SDA*	*DA*	*UD*	*A*	*SA*	*M*	*SD*
Trust (T)								
IRS 1	674	4	8	45	297	320	4.37	.71
IRS 6	674	3	9	30	295	337	4.42	.68
IRS 11	674	10	13	35	293	323	4.34	.79
IRS 16	674	3	10	36	278	347	4.42	.70
IRS 21	674	2	27	59	307	279	4.24	.79
Team Work (TW)								
IRS 2	674	7	15	74	278	300	4.26	.81
IRS 7	674	15	19	81	294	265	4.15	.89
IRS 12	674	15	23	61	304	271	4.18	.89
IRS 17	674	15	21	69	317	252	4.14	.88
Open Communication (OC)								
IRS 3	674	27	65	93	259	230	3.89	1.10
IRS 8	674	67	145	80	197	185	3.43	1.35
IRS 13	674	96	160	118	159	141	3.13	1.36
IRS 18	674	93	83	110	200	188	3.46	1.37
IRS 22	674	19	39	98	278	240	4.01	.99
IRS 26	674	6	39	98	298	233	4.06	.89
Positive Attitude (PA)								
IRS 4	674	2	23	56	309	284	4.26	.77
IRS 9	674	3	15	51	304	301	4.31	.74

IRS 14	674	7	15	45	278	327	4.34	.78
IRS 19	674	12	14	42	273	333	4.34	.82
IRS 23	674	12	10	28	260	364	4.42	.79
IRS 25	674	12	12	40	269	341	4.36	.81
IRS 27	674	10	16	24	298	326	4.36	.78
Conflict Management (CM)								
IRS 5	674	7	8	35	304	320	4.37	.73
IRS 10	674	4	9	59	295	307	4.32	.73
IRS 15	674	6	12	31	326	299	4.34	.72
IRS 20	674	9	11	43	310	301	4.31	.77
IRS 24	674	5	27	51	294	297	4.26	.82

Table 7 presents item wise responses of prospective teachers on IRS. It also presents item wise mean and standard deviation.

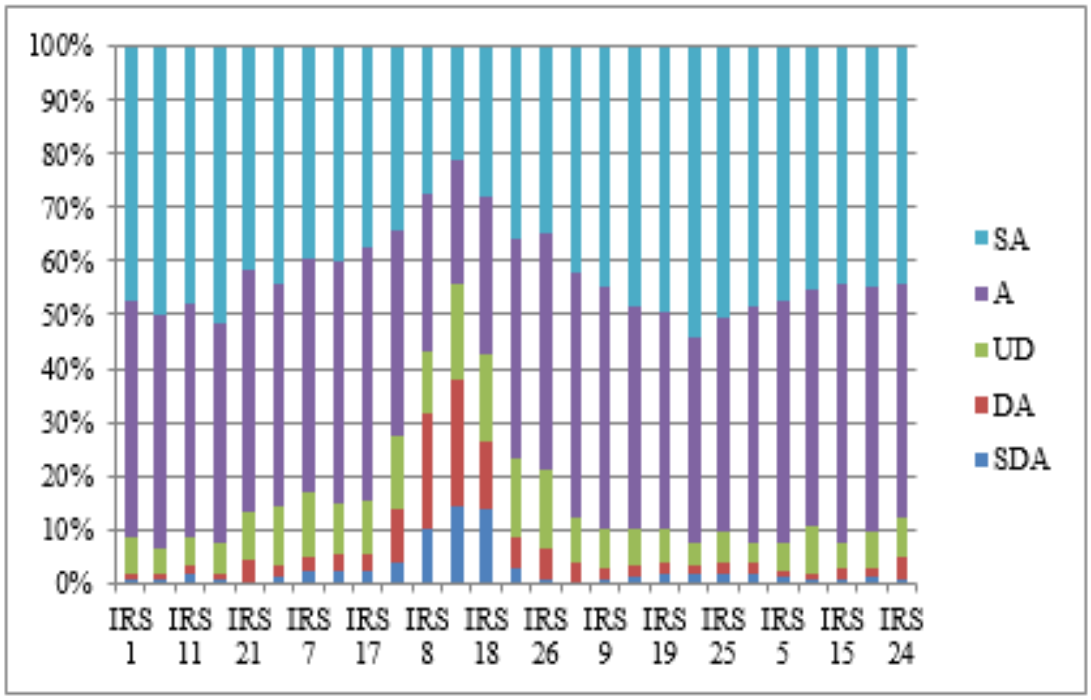

Figure 2: Item Wise Responses of IRS

Table 8: *Descriptive Statistics IR*

Scale	*N*	*M*	*SD*	*MPI*	Range		Skewness	Kurtosis
					Potential	Actual		
T	674	21.78	2.82	4.36	5-25	7-25	-1.47	4.45
TW	674	16.73	2.99	4.18	4-20	6-20	-1.19	1.66
OC	674	21.97	4.52	3.66	6-30	12-30	1.05	-.72
PA	674	30.38	4.23	4.34	7-35	10-35	-1.71	4.76
CM	674	21.60	3.03	4.32	5-25	5-25	-1.38	4.25
IR	674	112.46	11.65	4.57	27-135	51-135	-1.25	4.59

The descriptive data on potential instructors' interpersonal interactions are shown in Table 8. On a five-point Likert type rating scale around the scale point agrees, prospective instructors' perceptions of IR are above the scale median. As far the subscales are concerned, respondents have the highest mean value on Trust followed by PA, CM, TW and OC respectively.

Research Question 4

Is there any impact of smart phone addiction on interpersonal relationships in prospective teachers?

Table 9: Correlation between Smart Phone Addiction and Interpersonal Relationship

Variable	N	M	SD	AP	HRI	MD	RS	SPAS	T	TW	OC	PA	CM
AP	674	13.38	1.93	-									
HRI	674	13.26	1.80	.66**	-								
MD	674	34.98	4.16	.63**	.64**	-							
RS	674	26.30	3.19	.55**	.58**	.65**	-						
SPAS	674	87.91	9.48	.79**	.80**	.91**	.85**	-					
T	674	21.78	2.82	.54**	.57**	.67**	.66**	.74**	-				
TW	674	16.73	2.99	.47**	.46**	.55**	.43**	.57**	.51**	-			
OC	674	21.97	4.52	.20**	.29**	.13**	.15**	.21**	.14**	.24**	-		
PA	674	30.38	4.23	.33**	.35**	.41**	.36**	.44**	.38**	.36**	.12**	-	
CM	674	21.60	3.03	.33**	.39**	.45**	.38**	.47**	.46**	.32**	.12**	.50**	-
IRS	674	112.46	11.65	.53**	.60**	.62**	.56**	.68**	.69**	.69**	.56**	.72**	.69**

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

*Correlational is significant at the 0.5 level (2-tailed).

Table 9 presents the results of correlational analysis. Pearson r was run in SPSS to find out the relationship among the variables. Using Pearson r, a correlation study was created to examine the relationships between the variable sub-scales. Strong positive relationship was explored between SPA and IR (r=.68).

Regression Analysis

Evaluation of Model: Relationship between SPA and IR

Table 10: Model Summary[b] (N = 400)

Model	*R*	R^2	Adj. R^2	Std. Error	*F*	*P*
1	.68[a]	.47	.47	8.51	591.75	.00

a. Predictor: (Constant) SPA

b. Dependent Variable: IRS

Regression analysis in SPSS was run to test whether SPA significantly predicted IR.

Overall regression was statistically significant (R2=.47, F=591.75. P=.00).

Regression Equation

Table 11: Regression Coefficients[a] (N = 400)

	Unstandardized Coefficients		Standardized Coefficients		
Model	***B***	***SEB***	**β**	***t***	***P***
Constant (MPAS)	38.50	3.06		12.59	.00

IR	.84	.04	.68	24.33	.00

a. Dependent Variable: IR

SPA was found significantly predicted IR (β=.68, P=.00) . It reveals that SPA contributes significantly to IR. This indicated that SPA was associated with IR.

The fitted regression model was:

IR= 38.50+.84(SPA)

4. Discussion

The present study's goal was to consider the impacts of smart phone addiction on the interpersonal interactions of potential university professors. The study's conclusions showed that smart phone addiction has a substantial impact on the interpersonal interactions of potential teachers. The average score on the SPA for instructors and its sub-factors are found to be in agreement and are higher than the scale's median. The study's findings demonstrate the existence of smartphone addiction and its subscales. The study's findings help aspiring instructors understand the importance of SPA and its components. The results are in line with research on smartphone addiction done by (Archibald *et al*., 2014; Handal *et al*., 2013). Many other research studies also confirmed the similar findings (Marinakou & Giousmpasoglou, 2014; Mills *et al*., 2014; Pegrum *et al*., 2013). Moreover, same results were reported by the researchers (Sad & Goktas, 2016; Thomas & Bannon, 2013; Woodill, 2013). The results were shown to be in agreement with past investigations (Adalar, 2021; Reese & Bomhold, 2013). The results of the subscales are consistent with those of other studies, such as those cited in (Eurostat, 2016), which reported similar findings regarding Academic performances and Relationship satisfaction. Smartphone addiction is characterized by excessive use of the device, inability to control the need to use it, difficulty stopping or limiting use, stress when it cannot be used, and lying about the amount of time spent using it. Numerous studies have explained similar conclusions (Kwon, 2013; Savc & Aysan, 2017). Numerous researchers have reported similar findings (Aktaş & Ylmaz, 2017; Dahlstrom, *et al*., 2012; Hong, *et al*., 2012). Additionally, using a smartphone is something that defines today's youth (Ylmaz *et al*., 2015; Choliz, 2012). The median of the scale is found to agree with the mean score for IR at the instructor level and its sub factors. The study's findings showed that teachers believed that interpersonal interactions were crucial to the classroom atmosphere, students' values, cognitive development, and social consequences (Dika, 2012; Hurtado *et al*., 2012; Kim & Sax, 2014; Myers & Rocca, 2001; Pascarella & Terenzini, 2005). Numerous studies have revealed the similar outcomes (Christensen & Menzel, 1998; Fraser, 1986). The results of the subscales (Positive attitude and open communication) are consistent with those of other studies, such as those by Rosenthal *et al*. (2000), who revealed similar findings about Positive attitude and open communication. Since the late 1980s, researchers have examined how students' interpersonal interactions with teachers affect their sense of self-efficacy, motivation, self-actualization, and academic success (Parrott, 2021). According to this study, there is a link between potential teachers' interpersonal relationships and smartphone addiction. The results showed that there was a strong correlation between the factors. Cell phone addicts exhibit higher levels of negative feeling and are more receptive to social interactions than non-addicts. Positive relationship in the literature clearly shows that as SPA rises, IR also rises (Nepon *et al*., 2011). The excessive usage of smartphones among potential instructors may result in bad interpersonal relationships (Zhang *et al*., 2020). The state of

interpersonal relationships is deteriorated by excessive mobile phone use (Liu & Kuo, 2007). According to Ardak *et al*. (2013), excessive mobile phone use causes unpleasant emotions including loneliness and sadness, both of which have been linked negatively to psychological well-being. The parallel outcomes of the study findings are shown by (Konan *et al*., 2018). Additionally, Evegu (2014) found results that corresponded with the study. Parents, parents-to-be, and others should encourage more responsible smartphone usage until additional research can expand on the conclusions of the current study. According to Rosen *et al*. (2013) and Thomée *et al*. (2011), excessive usage of a smart phone may be accompanied by negative attitudes, feelings of reliance, and anxiety. In order to help students utilize their smartphones responsibly for employment, school, and home, institutions and parents could train them. Institutions ought to establish Academic institutions should encourage professors to imitate one another in order to incorporate smart phones as another teaching approach in the classrooms for better learning and teaching, as well as to demonstrate to students the better ways to learn. By teaching their kids not to use their smartphones at family events and social gatherings, parents can serve as positive role models for their kids. The influence of smartphone addiction on future teachers' interpersonal interactions and sense of fulfillment in life is significant. As a result of this dependence on smart phones for communication, mood swings, confrontations, etc., it is advised to raise public knowledge of both the advantages and disadvantages of smart phone usage. By informing people about the negative effects of smartphone use through social media and print media, educators, parents, and the media can raise awareness of this issue. Future educators place a greater emphasis on making friends on social media, which affects their ability to concentrate on their studies and their level of happiness. Overuse of smartphones affects future teachers' mental health, which will have an impact on their academic performance. To help them perform better in school, future teachers should be informed about the drawbacks of using their phones. To occupy students' time, it is advised to start engaging them in healthful activities like workshops, sports, and seminars.

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