

Smartphone addiction of the youth in Kuwait: An empirical research on the antecedents and the outcome

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Abstract:

The purpose of this research is to identify the antecedents and outcomes of smartphone addiction among the youth in Kuwait, develop a model and empirically test it, so as to make suggestions to the governing bodies to minimize its adverse effects. A positivist paradigm has been used in this research, and accordingly, a quantitative approach with a survey sampling strategy has been adopted. The sample size chosen for the study is 236 youth between the age of 15 to 24 years in Kuwait based on convenience sampling. Among the six direct and seven indirect effects, three and two hypotheses were supported respectively. The key revelation of the research is that among loneliness, self-regulation, and self-efficacy it is only self-efficacy that has a positive and significant relationship with smartphone addiction. While smartphone addiction has no significant relationship with family conflict, it does have a positive and significant relationship with personal conflict. Also, personal conflict has a positive and significant influence on the family concept. The theoretical implication of the study is in the form of an empirically tested and validated model that relates to the variables of smartphone addiction and practical implications are in the form of suggestions for the consideration of The Ministry of Social Affairs in Kuwait so that the positive aspects associated with the extensive use of smartphone by the youth can be strengthened.

Keywords: Smartphone addiction, family conflict, personal conflict, loneliness, self-regulation, structural equation modeling.

Received: 27/9/2021

Revised: 27/9/2021

Accepted: 7/10/2021

Available online: 30/9/2022

Introduction

The number of smartphone users has increased drastically from 35% in 2011 to 85% in 2021 in Kuwait, and it is found that the highest number of users (28%) are in the age group of 18 to 29 years (PWR, 2022). The 4G network has 97% coverage and there have been over 200,000 fiber connections in Kuwait (KNIR, 2021). These figures are the indicators for an active smartphone usage by the public in general and the youth in particular in Kuwait. While there is a positive side to smartphone usage, there is also the flip side of it, which is mainly in the form of interpersonal and intrapersonal problems, lack of productivity, and health issues faced by the general public. The menace of smartphone addiction (SPA), also known as 'nomophobia' has been widely discussed across the globe; however, not many of these studies have been in the Gulf region, particularly in Kuwait. There are several studies that have reported that smartphone addiction is detrimental to the personal life and family life of youth. For instance, Chegeni et al., (2022) conducted research in Iran using a sample size of 1800 people and found that smartphone addiction had a negative impact on the personal life of the youth with increased anxiety level, sleep deprivation, and mood fluctuations being the other ill effects. Darcin et al., (2015) conducted research in Turkey (n = 367) and found that social phobia was the result of smartphone addiction. Several such studies have reported that social anxiety, nomophobia, sleep deprivation, phobia, social affiliation, mood fluctuation, and feelings of loneliness have been the result of smartphone addiction (e.g., Gong et al., 2022; Olson et al., 2022; Saffari et al., 2022).

At the international level, there are many studies that have specifically focussed on the antecedents and outcomes of SPA. Matar Boumosleh & Jaalouk (2017) conducted research using a sample size of 688 undergraduate students at Notre Dame University (NDU) in Lebanon to study the ill effects of smartphone addiction. The results indicated that compulsive behavior, functional impairment, tolerance, and withdrawal symptoms were substantial among smartphone addicts. Chak & Leung (2004) conducted a study using a sample of 722 net-generation users and found that shyness, lack of faith in others, irresistible power of others, and ability to choose one's own course of life were the major predictors of smartphone addiction. Implications of this research were mainly in the form of strategies to reduce smartphone addiction. Okasha et al., (2021) conducted research on Egyptian university students (n = 1,380) and found that depression, stress, insomnia, smoking, and suicidal tendency were associated with SPA. The study indicated that measures to reduce smartphone addiction were necessary to counteract these negative influences.

There have been some studies in the middle east region and specifically in Kuwait on the ill effects of SPA. Al-Kandari & Al-Sejari (2021) have undertaken a study on SPA using a sample size of 1431 Kuwaiti youth in the age group of 17 to 26 years and found that technology had a major impact on youth behavior. The study indicated that better social support reduced SPA. SPA addiction also had an impact on psychological well-being. It was also revealed that SPA led to social isolation. Buabbas et al., (2021) studied the ill effects of excessive smart-device usage in Kuwait using a sample of 1993 students in secondary schools. The results indicated that excessive smart-device usage resulted in an increase in levels of stress, anxiety, and depression. The study recommended that a strategy should be developed at the community level to tackle the problem of excessive smart-devise usage. Alzougool & Al-Mansour (2020) conducted research on smartphone usage in educational institutes using a sample of 376 students to study the influence of demographic attributes on the frequency of smartphone usage. It was inferred through the study that gender, marital status, nationality, and student major courses did

not influence smartphone usage frequency; however, the age group did have a significant influence. The study had some suggestions for smartphone manufacturers to develop their markets in educational institutes. Kaposi (2014) combined semi-structured in-depth interviews with casual interviews and conducted qualitative research among American University students in Kuwait to explore the social, cultural, and political relationships in the context of smartphone usage. Based on this study it was concluded that as the majority of the population in Kuwait comprised the youth, smartphone usage would have an impact on their public life on the long run. It was also observed that smartphone usage allowed experimentation with identity, sexuality, and political speech previously unseen in public. This study emphasized the need for detailed quantitative research to arrive at concrete conclusions about the impact of smartphone usage.

The aforementioned researches clearly indicate that although research on SPA has been pursued in many parts of the world, there is a dearth of research that integrates the antecedents of smartphone addiction with its outcomes related to personal conflict and family conflict. To fill this research gap, an attempt has been made to develop an integrative model that relates the possible antecedents of SPA with its outcomes and empirically test the model in Kuwait.

Research Methodology

The Hypothetical Model

The hypothetical model has been developed based on contemporary research in the field of the SPA. Following linkages have been developed between the antecedents and outcomes of SPA.

Relationship between Loneliness and Smartphone addiction

There are research studies that have established the linkage between loneliness (LNL) and SPA. For instance, Mahapatra (2019) using a sample of 330 university students in India has established a positive correlation between these two variables. Darcin et al., (2016) had established the same result with a sample of 367 students of Uskudar University in Turkey. However, loneliness need not necessarily be compensated by smartphone usage as evidenced through these studies and the youth may resort to other modes of overcoming their loneliness such as spending time with a pet, developing a hobby, joining a group with similar problems, etc. So, this inference need not necessarily be generalizable across nations as there are social, political, and cultural aspects that may influence the subject's behavior. So, to test the relationship between these two variables in the context of Kuwait the following hypothesis has been developed.

H₁: *Loneliness* has a significant relationship with *smartphone addiction*.

Relationship between Self-regulation and Smartphone addiction

Self-regulation (SLR) has been associated with SPA because it is nothing but a self-generated plan to achieve personal goals (Van Deursen et al., 2015). Zhang et al., (2022) used the convenience sampling method to study the association between these two variables in a public university in China. The results indicated that the poorer the self-regulation, the higher will be the SMA. Wang & Jiang (2022) using a sample size of 728 students in grades 10 to 12 found an association between these two variables. Gökçearslan et al., (2016) used a sample size of 598 students in public universities in Turkey and found that there was a significant but negative correlation between these two variables. There are several such studies that have established a relationship between these two variables. However, there are not many studies in Kuwait that have explored this relationship, and hence the following hypothesis has been established.

H₂: *Self-regulation* has a significant relationship with *smartphone addiction*.

Relationship between Self-efficacy and Smartphone addiction

There is a relatively lesser number of studies that have explored the relationship between Self-efficacy (SEC) and SPA. The use of smartphones by an individual is a social phenomenon and almost everyone is bound to make use of it for communication and several other functions; however, making it an addiction could be controlled depending upon an individual's ability to exercise control over the duration of the usage. Gökçearsan et al., (2016) used a sample size of 614 undergraduates chosen based on the convenience sampling method in public universities in Turkey and established the association between the SEC and SPA. To explore the nature of the relationship between these two variables as the antecedents of family conflict, the following hypothesis is postulated.

H₃: *Self-efficacy* has a significant relationship with *smartphone addiction*.

Relationship between smartphone addiction and personal conflict

Smartphone addiction is an active area of research today as it has several associated ill effects on the physical and mental well-being of an individual as found by several researchers (e.g., Gökçearsan et al., 2018; Gligor & Mozoş, 2019; Samaha & Hawi, 2016). Personal conflict (PRC) by definition can be influenced by SMA people may be in a difficult situation of making a choice, say whether to use the smartphone for socializing or spend quality time with the family. Mahapatra, (2019) established a positive correlation between SMA and PRC through research based on a sample size of 330 respondents who were university students. Kuem et al., (2021) conducted research using a sample size of 441 smartphone users and found that SMA and PRC were associated positively. There is relatively lesser number of studies on the association of PRC with SMA and to explore the relationship between these two variables the following hypothesis has been postulated.

H₄: *Smartphone addiction* has a significant relationship with *personal conflict*.

Relationship between smartphone addiction and family conflict

Research has shown that SPA can have either a direct or a mediated relationship with family conflict (FMC) (e.g., Jin Jeong et al., 2020; Yen et al., 2007). Hawi & Samaha (2017) found that anxiety mediated a positive relationship between SMA and FMC using a sample size of 381 university students in Lebanon. Yen et al., (2007) used a sample size of 3662 from high schools in Taiwan and established a positive significant correlation between these two factors. Jin Jeong et al., (2020) conducted similar research in Korea using a sample of size of 768 high school students and found the same results. There are many such studies; however, the direct and mediating influence of SPA on FMC has not been explored in Kuwait and hence the following hypothesis is postulated.

H₅: *Smartphone addiction* has a significant positive correlation with *family conflict*.

Relationship between personal conflict and family conflict

Boles et al., (2001) using a sample size of 144 employees established a significant correlation between *personal conflict* (PRC) and FMC. Bradford et al., (2004) using a sample of 164 employees found that personal conflict tends to induce stress and it could increase FMC. Van Erp et al., (2011) interviewed 103 couples and concluded that personal conflict negatively influenced cordial relations between family members. There are not many studies that have explored the nature of the relationship between PRC and FMC and hence the following hypothesis is postulated.

H₆: *Personal conflict* has a significant positive correlation with *family conflict*.

The mediating relationships

In addition to the aforementioned direct relationships, there are also many indirect relationships (mediating relationships) that have not been explored by earlier researchers. In this research, the following mediating relationships have been postulated.

H₇: *Smartphone addiction* has a significant positive mediating role between *loneliness* and *personal conflict*.

H₈: *Smartphone addiction* has a significant positive mediating role between *loneliness* and *family conflict*.

H₉: *Smartphone addiction* has a significant positive mediating role between *self-regulation* and *personal conflict*.

H₁₀: *Smartphone addiction* has a significant positive mediating role between *self-regulation* and *family conflict*.

H₁₁: *Smartphone addiction* has a significant positive mediating role between *self-efficacy* and *personal conflict*.

H₁₂: *Smartphone addiction* has a significant positive mediating role between *self-efficacy* and *family conflict*.

H₁₃: *Personal conflict* has a significant positive mediating role between *smartphone addiction* and *family conflict*.

The Figure 1 depicts the hypothetical model.

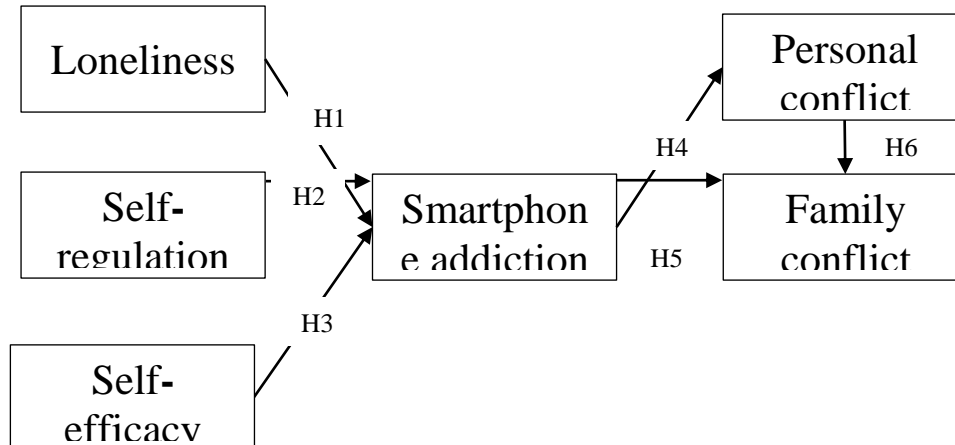


Figure 1: The hypothetical model (Direct relationships)

Research Design

The *positivist paradigm* of research with a *quantitative approach* has been adopted in this research. The type of research can be classified as a *descriptive study* based on the intent of the research and *survey sampling* based on the method of study. The sampling frame is the general public in Kuwait who use smartphones and are in the three age groups (20 up to 40 years; above 40 up to 60 years; and above 60 years). The *unit of analysis* is at the individual level. The *instrument* used for data collection is a tested and validated *questionnaire* derived from standard scales. The questionnaire preparation is as per the standard procedure to be adopted when scales of individual items are available from earlier studies. The specific dimension, contributing authors, meaning, and sample item have been given in Table 1. The reliability of the data and the validity of the instrument is ensured through the reliability indices and *confirmatory factor analysis* using a sample size of 35 has been carried out to confirm that the factors have been represented well by the items in the questionnaire. Exploratory

factor analysis is not required as the items used in the questionnaire have proved reliability and validity and they have been slightly modified to suit the local requirements of the place of survey. The questionnaire was translated to Arabic for ease of use by the participants. The data collection was based on *convenience sampling*, as there is no access to the complete sampling frame. The sample size chosen was 236 citizens in Kuwait and this number was reached after posting emails through contact groups in three stages. The data collection was from August 2022 to October 2022. The sample was analyzed initially when 201 samples were collected, and the analysis was repeated upon reaching 220, and finally, the same analysis was undertaken upon reaching 236. As the results of hypothesis testing did not change, based on the saturation point method the data collection was stopped.

Table 1: Dimension, contributing authors, meaning and sample item from questionnaire

Dimension	Contributing authors	Meaning	Sample item
Loneliness	Darcin et al., 2016; Mahapatra, 2019; Russell, et al., 1980;	It is the gap between the intended and actual relationships with acquaintances.	I usually sense an experience of emptiness.
Self-regulation	Gökçearsan et al., 2016; Van Deursen et al., 2015; Wang & Jiang, 2022; Zhang et al., 2022	It is self-generated opinions, feelings, and actions that are planned to achieve personal goals.	I stay attentive to my goal and don't get distracted from my plan of action.
Self-efficacy	Gökçearsan et al., 2016; Sim et al., 2016.	It is a belief of an individual in his/her capacity to function according to the demands of challenging situations.	I am confident that I can deal efficiently with unexpected events.
Smartphone addiction	Darcin et al., 2016; Mahapatra, 2019; Van Deursen et al., 2015; Wang & Jiang, 2022.	It is the fear of not having a smartphone.	I get restless when my smartphone is out of my sight.
Personal conflict	Bradford et al., 2004; Gökçearsan et al., 2018; Gligor & Mozoş, 2019; Samaha & Hawi, 2016; Mahapatra, 2019.	It is an ethical decision and is based on whether a person is prepared to take the blame as a consequence of his/her action.	Due to excess use of my smartphone, I experience physical and mental stress like headache, and pain in the eyes.
Family conflict	Hawi & Samaha, 2017; Jin Jeong et al., 2020; Yen et al., 2007.	It is the incompatibility between the members of the family due to conflict of interests.	Smartphone usage keeps me away from my family, friends, and relatives.

Hypotheses testing is performed by Structural Equation Modelling (SEM) using SmartPLS[®] Version 3. The standard procedure of analysis involves two models, the first being the *measurement model* that facilitates the testing of the reliability and validity of the study, and the second being the *structural model* that facilitates the testing of hypotheses. Based on the results of the hypotheses

testing, implications were drawn to the benefit of the policymakers in the Ministry of Social Affairs in Kuwait.

Results and Analysis

Demographic details of Respondents

The respondents to this research are citizens of Kuwait. The sample size in this research was 236 decided based on convenience sampling. According to gender, the number of male respondents (53.4%) was slightly higher than that of the female respondents (46.6%) (Table 2). The respondents were mainly Diploma holders (30.5%) followed by Bachelor's Degree holders (28.8%). In terms of the reason for the use of smartphones, the majority of the respondents used it as a phone (32.2%), followed by social networking (26.3%). Thus, the conclusions drawn in this research are representative of the perceptions of these groups.

Table 2: Demographic distribution of the Respondents (N = 236)

Attributes	Frequency	Percentage
<i>Gender</i>		
Male	126	53.4
Female	110	46.6
<i>Educational Qualification</i>		
Certificate	36	15.3
Diploma	72	30.5
Bachelor's degree	68	28.8
Master's degree	42	17.8
Others	18	7.6
<i>Reason for Smartphone use</i>		
Internet	46	19.5
Social networking	62	26.3
Games	52	22.0
Phone	76	32.2

The Measurement Model

The Cronbach's Alpha varied from 0.7 to 0.8 indicating a moderate level of acceptance in terms of the internal consistency of the data (Cut off 0.7; Taber, 2018) (Table 3). The *composite reliability* ranging from 0.8 to 0.9 indicate acceptable reliability in terms of each variable in the dimension construction (Cut off 0.6; Ahmad, et al., 2016)). *Composite reliability* in terms of Rho-A had a range from 0.7 to 0.9 which are considered acceptable (Rigdon et al., 2010). The measurement model should also pass the *convergent validity* that is measured in terms of standardized *factor loading* (FL) after

factor reduction. This is because in this research the original scale with 27 items was reduced to 18 items after Confirmatory Factor Analysis. *Convergent validity* of these factor loadings as indicated by the outer loadings ranged from 0.7 to 0.9 (Table 3) indicating moderate to good correlation between the factor and the observed variable (Cut off 0.5; (Rigdon et al., 2010)). Finally, *discriminant reliability* of the model was to be tested, which is a measure of mutual exclusiveness of the factors from each other. If they are not mutually exclusive they may measure the same variable repeatedly. To meet this criterion, the square roots of *average variance extracted* of all the dimensions have to be greater than their respective correlation between the remaining constructs. This criterion of the square roots of *average variance extracted* of all the dimensions being greater than their respective correlation between the remaining constructs is satisfied by the model (Table 4). The path model (Figure 2) indicates that the R^2 value of the model for the three endogenous variables SPA, PRC and FMC were 0.503, 0.353 and 0.166, which means the model has been successful in explaining about 20 to 40% of the influence of independent variables on the dependent variables (cut-off is 10%; Rigdon, et al., 2010). Thus, the model has the required level of reliability and validity and can be subjected to inferential analysis.

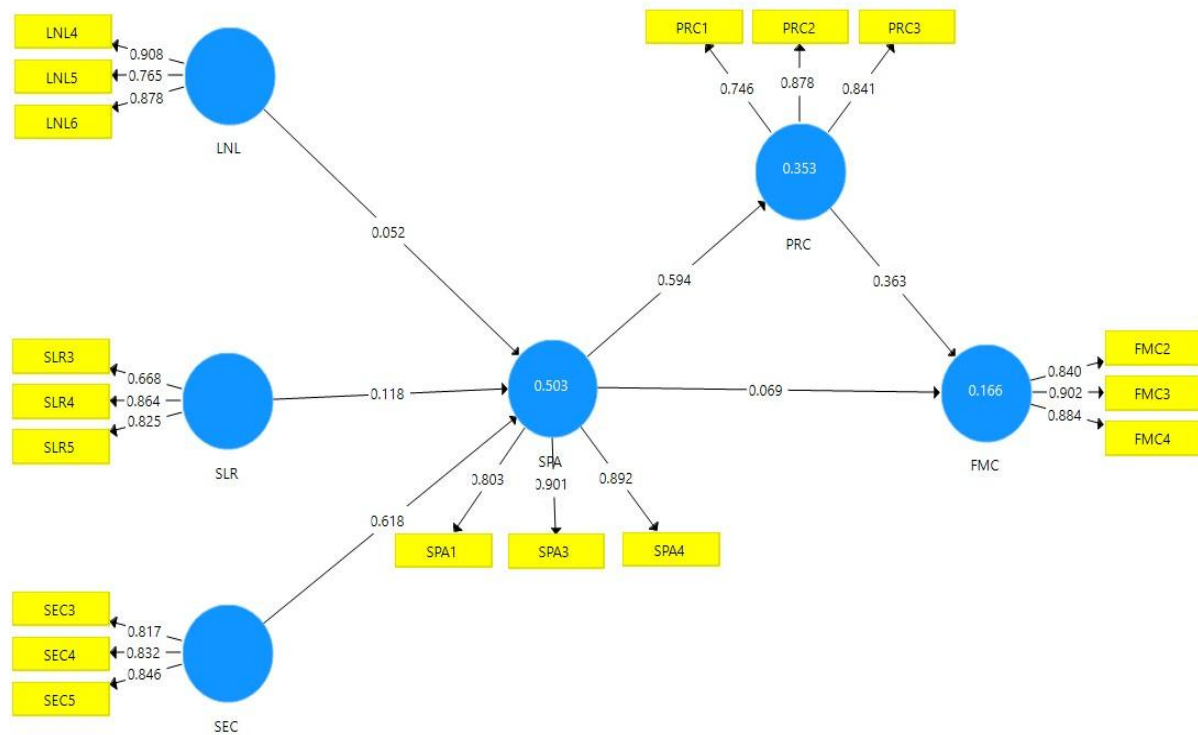
Table 3: Reliability and Validity Measures

Latent variable	Item code	Outer loading (λ)	Cronbach's Alpha	Rho_A	Composite Reliability	AVE
FMC	FMC2	0.84	0.85	0.85	0.91	0.77
	FMC3	0.90				
	FMC4	0.88				
LNL	LNL4	0.91	0.81	0.86	0.89	0.7
	LNL5	0.77				
	LNL6	0.88				
PRC	PRC1	0.75	0.76	0.77	0.86	0.68
	PRC2	0.88				
	PRC3	0.84				
SEC	SEC3	0.82	0.78	0.78	0.87	0.69
	SEC4	0.83				
	SEC5	0.85				
SLR	SLR3	0.67	0.70	0.73	0.83	0.63
	SLR4	0.86				
	SLR5	0.83				
SPA	SPA1	0.80	0.83	0.85	0.90	0.75
	SPA3	0.90				
	SPA4	0.89				

Legend: FMC = Family conflict; LNL = Loneliness; PRC = Personal conflict; SEC = Self efficacy; SLR = Self regulation; SPA = Spartphone addiction.

Table 4: Inter Item correlation

	FMC	LNL	PRC	SEC	SLR	SPA
FMC	0.88					
LNL	0.44	0.85				
PRC	0.40	0.39	0.82			
SEC	0.28	0.27	0.54	0.83		
SLR	0.43	0.38	0.60	0.56	0.79	
SPA	0.28	0.26	0.59	0.69	0.49	0.87



Legend: FMC = Family conflict; LNL = Loneliness; PRC = Personal conflict; SEC = Self efficacy; SLR = Self regulation; SPA = Spartphone addiction.

Figure 2: Path Model

The Structural Model

The structural model (Figure 3 and Table 5) provides the results of hypothesis testing (direct relationships). It can be observed that the following hypotheses have been supported (rejected the null hypothesis):

H₃: *Self-efficacy* has a significant negative correlation with *smartphone addiction*.

H₄: *Smartphone addiction* has a significant positive correlation with *personal conflict*.

H₆: *Personal conflict* has a significant positive correlation with *family conflict*.

The following hypotheses have not been supported:

H₁: *Loneliness* has a positive correlation with *smartphone addiction*.

H₂: *Self-regulation* has a significant negative correlation with *smartphone addiction*.

H₅: *Smartphone addiction* has a significant positive correlation with *family conflict*.

Table 5: t-statistic of Direct Relationships

Hypotheses	Original Sample	Sample Mean	T Statistics	P Values	Result
LNL -> SPA (H1)	0.05	0.06	0.73	0.47	Not supported
SLR -> SPA (H2)	0.12	0.12	1.33	0.18	Not supported
SEC -> SPA (H3)	0.62	0.62	7.96	0.00	Supported
SPA -> PRC (H4)	0.59	0.60	8.17	0.00	Supported
SPA -> FMC (H5)	0.07	0.06	0.46	0.65	Not supported
PRC -> FMC (H6)	0.05	0.06	0.73	0.47	Supported

Legend: FMC = Family conflict; LNL = Loneliness; PRC = Personal conflict; SEC = Self efficacy; SLR = Self regulation; SPA = Smartphone addiction.

Following indirect relationships have been supported in this research (Table 6):

H₁₁: *Smartphone addiction* has a significant positive mediating role between *self-efficacy* and *personal conflict*.

H₁₃: *Personal conflict* has a significant positive mediating role between *smartphone addiction* and *family conflict*.

Following indirect relationships have not been supported in this research (Table 7):

H₇: *Smartphone addiction* has a significant positive mediating role between *loneliness* and *personal conflict*.

H₈: *Smartphone addiction* has a significant positive mediating role between *loneliness* and *family conflict*.

H₉: *Smartphone addiction* has a significant positive mediating role between *self-regulation* and *personal conflict*.

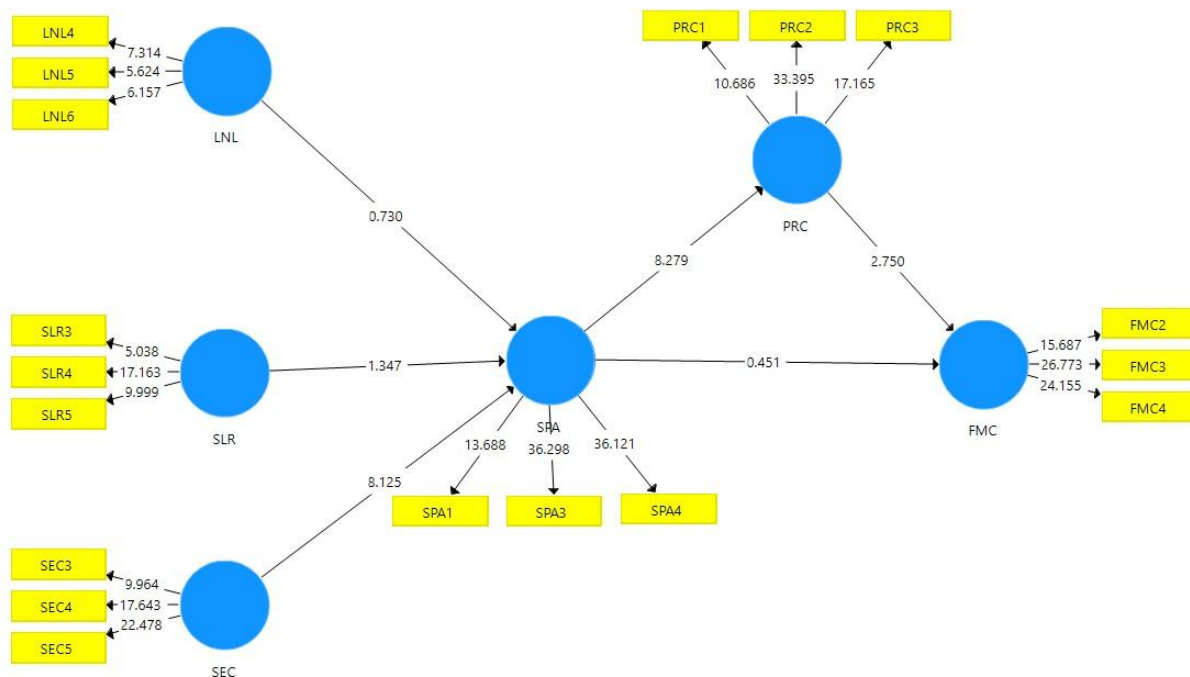
H₁₀: *Smartphone addiction* has a significant positive mediating role between *self-regulation* and *family conflict*.

H₁₂: *Smartphone addiction* has a significant positive mediating role between *self-efficacy* and *family conflict*.

Table 6: t-statistic of Indirect Relationships

Model relationships	dependency	Original Sample	Standard Deviation	t value s	p values	Result
LNL -> SPA -> PRC (H7)		0.03	0.05	0.69	0.49	Not supported
LNL -> SPA -> FMC (H8)		0.004	0.02	0.22	0.83	Not supported
SLR -> SPA -> PRC (H9)		0.07	0.06	1.26	0.21	Not supported
SLR -> SPA -> FMC (H10)		0.01	0.02	0.35	0.73	Not supported
SEC -> SPA -> PRC (H11)		0.37	0.07	5.50	0.00	Supported
SEC -> SPA -> FMC (H12)		0.04	0.09	0.45	0.65	Not supported
SPA -> PRC -> FMC (H13)		0.22	0.09	2.52	0.01	Supported

Legend: FMC = Family conflict; LNL = Loneliness; PRC = Personal conflict; SEC = Self efficacy; SLR = Self regulation; SPA = Spartphone addiction.



Legend: FMC = Family conflict; LNL = Loneliness; PRC = Personal conflict; SEC = Self efficacy; SLR = Self regulation; SPA = Spartphone addiction.

Figure 3: Structural Model

Discussions and Implications

This research has both theoretical and practical implications emerging from the observations made in model building and hypothesis testing. First of all, SMA is a widely researched topic and researchers have adopted several approaches to study the antecedents and outcomes of this research construct. In this research, the focus has been to explore the impact of LNL, SLR, SEC on SPA as the first part of the analysis, and then, the impact of SPA on PRC and FMC. While several researchers have concluded that LNL has a positive and significant relationship with SPA (e.g., Bian & Leung, 2015; Darcin et al., 2016; Jiang & Shypenka, 2018; Mahapatra, 2019) this research could not subscribe to this finding in the context of Kuwait. While it is not justifiable to rule out the relationship, the indication is that LNL may not be the only reason for people to get into SMA and there could be some positive aspects that lead an individual to SPA. For instance, Lee et al., (2017) conducted research using a sample size of 1300 students chosen randomly from China, Japan, Taiwan, and South Korea. The results indicated that it was *self-expressive benefits* and *utilitarian benefits* that led to the smartphone addiction and the relationship was mediated by the *locus of control*. This could be one of the reasons behind the non-association of LNL with SPA. It was found that SLR also did not have a significant association with SPA. This finding is in contrast to the results obtained by many researchers (e.g., Gökçearsan et al., 2016; Van Deursen et al., 2015; Wang & Jiang, 2022; Zhang et al., 2022). According to the theory of SLR it is the social environment, parenting, and genetic factors which constitute SLR (Ching & Tak, 2017). If these variables have not been conducive to the development of SLR to have a negative and significant influence on SPA, then it need not necessarily have a significant relationship. However, the research has endorsed the relationship between SEC and SPA to be positive and significant and the finding corroborates with that of a group of researchers (e.g., Gökçearsan et al., 2018; Gligor & Mozoş, 2019).

The relationship of SPA with its outcomes in the form of PRC and FMC has been widely discussed by researchers. The findings of this research indicated no significant relationship between SPA and FMC which is in contrast to the findings of earlier researchers (Hawi & Samaha, 2017; Jin Jeong et al., 2020; Yen et al., 2007). The chances of SPA leading to FMC can be high if the youngsters spend most of their time on their phones and parents expect their children to spend quality time with them. On the contrary, if the parents themselves are busy with their day-to-day routine or they themselves are into smartphone addiction there is no scope for FMC. So, the relationship between these two dimensions is subject to social and cultural contexts. Kuwait is a country with high mobile penetration and the households are tuned to the usage of electronic gadgets of all forms. There are deep-rooted religious and traditional practices in which members of the family participate without fail and the rest of the time they are free to be at their own, and this is reflected in this research through the unsupported relationship between SPA and FMC. On the contrary, SPA has a positive significant relationship with PRC. Personal conflict is more of an ethical decision on smartphone usage and it has a significant positive relationship with SPA. This finding corroborates well with the earlier researchers (e.g., Gligor & Mozoş, 2019; Mahapatra, 2019; Samaha & Hawi, 2016). There is no earlier study in Kuwait which has investigated this relationship and this could be a basis for drawing implications on the smartphone usage. As a continuation of this relationship, hypothesis testing has also revealed that PRC further has a positive significant relationship with FMC. This finding is in alignment with several earlier research studies (i.e., Boles et al., 2001; Bradford et al., 2004); Erp et al., 2011). It has to be

noted that as per the revelations of this research SPA has no significant relationship with FMC; however, through the mediation of PRC it has an indirect positive and significant relationship with FMC which is also confirmed through the indirect effects (Table 7). One more indirect relationship or mediating relationship that has been established through this research is the positive significant mediating relationship of SPA between SPA and PRC (Table 7). Thus, the path of significant positive relationship is from the SEC to SPA, SPA to PRC, and PRC to FMC which is the basis for drawing the practical implications of this research.

Theoretical Implications

There are not many theoretical models which have been established in the context of Kuwait in connection to the antecedents and outcomes of smartphone addiction. This research has established a positive significant relationship between SEC, SPA, PRC and FMA (Figure 4).

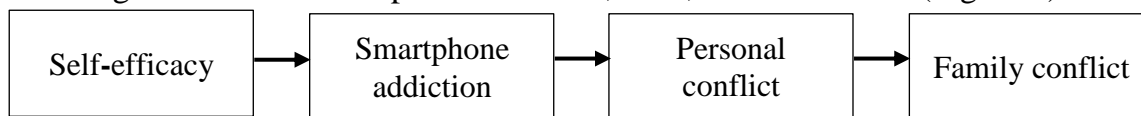


Figure 4: The Theoretical Model

Self-efficacy has been the positive and significant antecedent of smartphone addiction of the youth of Kuwait. By definition, self-efficacy is the belief of an individual to develop functionality to meet the modern requirements posed by the dynamic environment, and the youth need to develop the necessary skill sets to build their personality in a manner that provides them the right kind of motivation and competence in building their career. The job environment in Kuwait is highly competitive and the primary goal of the youth is to remain up-to-date with the knowledge of management, science, and technology supported with the right qualifications demanded by the job. So, the social environment that is available through smartphones helps them to keep themselves abreast of both hard skills and soft skills. Interaction with the peer group and timely suggestions could pave the way to success during their journey toward reaching their career goals. This is rightly revealed through the positive significant relationship of SEC with SPA. Further, the ethical dilemma operates in the subconscious mind of the youth regarding the time they spend on smartphones vis-à-vis time spent on other day-to-day activities. This is also revealed in through the positive significant relationship established between SPA and PRC. Finally, Kuwait is governed by *collectivism* as a social construct (Abdel-Khalek & Lester, 2009), unlike the *individualism* in the western countries. Collectivism is characterized through togetherness and joint family type of existence that demands a certain amount of time to be spent by the individual with the family members. Thus, the positive significant association between SPA and PRC. Finally, PRC also has a positive significant relationship with FMC as revealed by the hypothesis testing. This is a very established relationship as per the earlier studies (e.g., Bradford et al., 2004; Erp et al., 2011). When a person is having a PRC in relation to any aspect of life including smartphone usage he/she will be continuously trying to resolve the conflict as the general tendency of the mind is to seek answers to the problems and such an individual may suffer the quality time with the family and the family life may suffer. This theoretical model to the best of knowledge explains the relationships between the antecedents and outcomes of smartphone addiction of youth in Kuwait.

Practical Implications

The hypothesis testing has provided the basis for drawing practical implications which are essentially in the form of suggestions for The Ministry of Social Affairs in Kuwait (MSAK). The main revelation of this research is that *self-efficacy* of the youth plays an instrumental role in controlling smartphone addiction, personal conflict, and family conflict. Self-efficacy varies from task to task and also varies from time to time (Welsh, 2014). This provides an immense scope for the authorities of MSAK to strategize measures to build the self-efficacy of the youth. According to the theory, the self-efficacy of the youth is built through four sources: enactive mastery, vicarious experiences, verbal persuasion, and physiological reactions (Margolis & McCabe, 2006).

Enactive mastery of the youth can be strengthened by giving them tasks with moderating challenges initially so that they build confidence in themselves on their abilities progressively. Community programs organized by the MSAK can consider these aspects, particularly during the awareness-building programs in science and technology.

Vicarious experiences of the youth are through the observation of the task performance by the peer group. Group learning activities must be encouraged by the MSAK during the community development programs and also provide inputs to the schools on how model-based performance of the students can be encouraged by the use of audio-visual aids available in the multimedia-based applications.

Verbal persuasion is giving importance to the messages provided by someone who is considered to be important. The higher the credibility of the message transmitter, the higher will be the importance attached by the student to accomplish the task being performed. This form of building self-efficacy can be facilitated by sending verbal messages on important aspects of life by people considered important in society. This also helps the programming of the minds of the youth towards positive thoughts thereby strengthening self-efficacy.

Physiological reaction is the feeling of the youth before and after the performing of the task. This is basically the feel-good factor on task performance and the higher the feeling of satisfaction, the higher will be the interest and involvement with the task. This feeling can be generated through the motivational programs organized by the MSAK. There are several Philanthropic Organizations in Kuwait operating under the umbrella of MSAK and they organize programs for the benefit of youth through online social-purpose portals. This could be a very good forum to launch efficacy enhancement programs to the youth so that smartphone usage could be for productive purposes rather than addiction and it can be used more for competence building and skill development so that their career path can be strengthened.

The practical implications of this research are thus aiming towards the transformation of smartphone addiction into active smartphone usage driven by the efficacy of the user. The catch is that as smartphone addiction has no direct significant relationship with family conflict as revealed in this research, instead has a positive significant influence on personal conflict, which in turn, affects family conflict; if proper control is executed on the smartphone usage driven by the efficacy of the user, better control can be ensured on the interpersonal conflict, and thus, the family conflict can be minimized if not eliminated totally.

Conclusion

The primary objective of this research was to identify the antecedents and outcomes of smartphone addiction in Kuwait where there is an exponential growth in smartphone usage, particularly among the youth. It was identified through contemporary research that loneliness, self-regulation, and self-efficacy were the principal antecedents of smartphone addiction in general according to the research undertaken mainly in western countries, and personal conflict and family conflict were the outcomes of it.

The hypothetical model developed in this research has been tested using a sample size of 236 based on convenience sampling and among the six direct relationships three were supported and among the eight indirect relationships two were supported. The results obtained have been discussed in terms of their agreements and disagreements with earlier research by providing justifications for the deviation through which it could be concluded that self-efficacy was the significant contributor to smartphone addiction of the youth among the three antecedents considered in this research. Even though the empirical testing was through the survey sampling method with limited sample, it is justifiable that compared to loneliness and self-regulation it is the self-efficacy that has been considered to be contributing more for smartphone addiction of the youth in Kuwait. It could be also concluded through the hypothesis testing that smartphone addiction of the youth in Kuwait is not a significant predictor of the family conflict; however, it is that of the personal conflict. This revelation has led to the development of a theoretical model applicable to the smartphone addiction of youth in Kuwait. It also provided the basis for practical implications mainly to the Ministry of Social Affairs in Kuwait.

While smartphone addiction cannot be eliminated completely among the youth, it can be driven through self-efficacy in a positive manner so that the youth in Kuwait consider the positive aspects that can be drawn through smartphone usage such as competence building, professional skill development, soft-skills and hard-skills training, etc. In this knowledge-driven economy, the success of an individual is based on the ability of an individual to remain in touch with the advancements in science and technology, and if most of the smartphone usage time is dedicated to this purpose, then it may be producing positive results to the individual as well as the country. The youth of any country is the future of the country and as suggested in this research if the government takes steps to build self-efficacy among the youth, as it is the prime driver of smartphone addiction it has the potential to produce positive results for the whole community and the country. Thus, the findings of this research could pave the way for effective usage of smartphones with minimum interference with personal conflict and family conflicts.

المستخلص

إدمان الشباب للهواتف الذكية في الكويت: بحث تجريبي على السوابق والنتائج جواد عبد الرضا عبدالرزاق القلاف

الغرض من هذا البحث هو تحديد السوابق ونتائج ادمان الهواتف الذكية بين الشباب في الكويت، وتطوير نموذج واختباره بشكل تجريبي، وذلك لتقديم اقتراحات للهيئات الادارية لتقليل آثاره الضارة، ثم استخدام نموذج ايجابي في هذا البحث وبناء عليه تم اعتماد النهج الكمي مع استراتيجيات اخذ عينات المسح بلغ حجم العينة المختارة للدراسة 236 شاباً تتراوح اعمارهم بين 15 - 24 عاماً بالكويت بناء علي اخذ العينات الملائمة.

من بين التأثيرات الستة المباشرة والسبعة غير المباشرة، ثم دعم ثلاث فرضيات وأثنتين علي التوالي. الكشف الرئيسي للبحث هو أنه بين الشعور بالوحدة والتنظيم الذاتي، والفعالية الذاتية والشعور بالوحدة والتنظيم الذاتي والفاعلية الذاتية وتبين ان الكفاءة الذاتية هي فقط التي لها علاقة ايجابية وهامة مع ادمان الهواتف الذكية في حين أن ادمان الهواتف لاذكية ليس له علاقة مهمة بالصراع الاسري الا أنه يتمتع بعلاقة ايجابية وهامة مع الصراع الشخصي. اتضح أن النزاع الشخصي تايثر ايجابي وهام علي مفهوم الاسرة .

ثم وضع الشكل النظري للدراسة في شكل نموذج تم اختباره والتحقق منه تجريبياً والذي يتعلق بمتغيرات ادمان الهواتف الذكية والاثار العملية في شكل اقتراحات للنظر فيها من قبل وزارة الشؤون الاجتماعية في الكويت بحيث تكون الجوانب الايجابية يمكن تعزيز الاستخدام المكثف للهاتف الذكي من قبل الشباب.

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