Journal of
Human Dynamics
ISSN: 3007-2816 (E), 3007-2808 (P)

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Research Article

Investigating the Relationship between Compulsive Smartphone Use and Impulsive Buying: Role of Self-Control

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ABSTRACT

In contemporary research, there is a growing concern about the addictive nature of smartphone usage, particularly among young consumers, and its impact on consumers' social activities and overall welfare. In this context, a significant concern is the impact of compulsive Smartphone use on impulsive buying. The current study examines the relationship between compulsive smart phone use and impulsive buying. Moreover, the present study aims to investigate the mediating role of self-control in this relationship. For this purpose, we executed an empirical study comprising 200 participants. The data were collected via the convenience sampling method. We used SPSS for the analysis of potential links. The findings indicated that compulsive Smart phone use positively correlates to impulsive buying, and there is a significant negative association between self-control and impulsive buying. Mediation analysis through SPSS is executed to analyze the mediating role of self-control using Andrew F. Hayes model 4, and results indicate that self-control fully mediates the relationship between compulsive smartphone use and impulsive buying. Moreover, exploring the study's demographic variables, we found that impulsive buying is more prevalent among the upper and lower socioeconomic classes.

Keywords: Compulsory Smartphone Use, Impulsive Buying, Self-Control, S-O-R.

INTRODUCTION

The smartphone has emerged as one of the most highly acclaimed communication technologies (Lapointe et al., 2013). Nevertheless, it is essential to acknowledge that the wide application of smartphones may give rise to addictive tendencies, manifesting as compulsive behaviour (Salehan & Negahban, 2013). Compulsive smartphone users continuously check their devices 24/7, regardless of location or time (Hoetjes, 2013; Lapointe et al., 2013). Within this context, individuals can experience physical and mental disorders and social difficulties (Thomée et al., 2007, 2011; Bianchi & Phillips, 2005; Park & Lee, 2011). The smartphone, aentertainment, work, social interactions, and education channel, have transformed consumer spending habits. To the extent that experts predicted that sales through mobile commerce will surge to an astonishing 700 billion dollars by 2025 (Bloomberg, 2021).These addictive tendencies possess long been regarded as "dark side consumption phenomena" in the literature on consumption behaviour (Shoham et al., 2015).

Both impulsive and compulsive buying behaviours have drawn considerable criticism for their detrimental impact on individuals and society, as they often lead to unplanned and spontaneous purchases, resulting in psychological and financial challenges. Substantial research is guaranteed to explore consumer impulse buying, an anomaly in which individuals confront abrupt, intense, and insistent urges to make immediate purchases (Rook, 1987, p. 191).

OPEN ACCESS

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Article History
Received: March 12, 2023
Accepted: May 25, 2023
Published: June 30, 2023

In online shopping, impulse buying is marked for the instinctive and instant operation of purchasing aside from intentional shopping intentions (Piron, 1991). Up to the present, the present study's interest is in consumers' impulse buying behaviours. Substantial research is guaranteed to explore consumer impulse buying, an anomaly in which individuals confront abrupt, intense, and insistent urges to make immediate purchases (Rook, 1987, p. 191). In online shopping, impulse buying is marked for the instinctive and instant operation of purchasing aside from intentional shopping intentions (Piron, 1991). Up to the present, the present study's interest is in consumers' impulse buying behaviours.

Accordingly, consumers can gratify impulse buying and espouse mobile shopping behaviours, leading to more incessant and higher-value purchases. A prevailing focus in the current study on impulse buying revolves around the conception of self-control (Baumeister, 2002; Faber & Vohs, 2004). Self-control embraces the cognitive processes empowering individuals to manage their thoughts, emotions, and actions, coordinating them with their extensive objectives (Baumeister, Vohs & Tice, 2007)

When the capability for self-control dilutes, it can contribute to various forms of impulsive behaviour, such as impulse buying (Baumeister, 2002). Whilst the inclination for a product exceeds the intentions of the customer to abstain from a purchase, impulse buying becomes an expected outcome. However, there remains a remarkable scarcity of research concerning this relationship. The effect of mobile devices on the spending procedure (Shankar et al., 2016) and whether, in certain instances, they might devote themselves to maladaptive purchasing behaviours, namely impulsive buying, remains elusive. In addition, the pandemic has emerged in a substantial escalation in smartphone usage (Elhai et al., 2020; Serra et al., 2021) and the deployment of mobile commerce (Chopdar et al., 2022).

Hence, the primary aim of this research is to examine the potential association between compulsive smartphone use and impulsive buying behaviour. Substantial evidence from social psychology highlights the influence of self-control on human behaviour. Still, sufficient scope remains for delving deeper into the vigorous relationship between self-control and consumer behaviour, specifically concerning impulse buying behaviour. Additionally, we examine the impact of demographics on impulsive buying, including age's influence on the relationship between compulsive smartphone use and impulsive buying.

LITERATURE REVIEW

Compulsive Smartphone Use

In modern society, smartphones have become essential tools, especially for younger generations, who show great usage and closeness to these devices. However, this excessive closeness to smartphones has also disclosed negative conclusions (Lee et al., 2014). Anecdotal evidence shows that uncontrollable smartphone use has become common, even reaching pandemic proportions (Lee et al., 2014). Among the real-time interactive applications, social networking, social media, and online gaming stand out as critical, with no direct replacement (Wang, Lee et al., 2015; Xu et al., 2011). Keeping the positive exposure of flow mean while utilizing social networking apps on smartphones has been linked to the growth of nasty habits or behaviours (Salehan& Negahban, 2013).

This relationship remains largely uninvestigated in the research outlook. The impact of mobile devices on the shopping procedure lacks a clear grip (Shankar et al., 2016), and there is variability about whether, in certain cases, it may provide irrational shopping ways, like impulsive buying. Moreover, the pandemic has notably accelerated the time people spend on smartphones(Elhai et al., 2020; Serra et al., 2021) and mobile commerce (Chopdar et al., 2022). Hence, the study mentioned the possible link between compulsive smartphone use and impulsive buying behaviour. Impulse buying tends to bloom in societies that allow such behaviour and when consumers consider it acceptable (Rook & Fisher, 1995).

Impulsive Buying

Impulsive buying refers to random shopping that reacts to outer triggers, such as experiencing a desired product in a store. It is operated by inner motive, where highly impulsive buyers act without much thought, driven by spiritual appeal to the item and the wish for direct satisfaction (Hoch & Loewenstein, 1991; Thompson et al., 1990). These buyers frequently face possible negative outcomes resulting from their impulsive actions (Hoch &Loewenstein, 1991; Rook, 1987; O'Guinn & Faber, 1989). The idea of impulse buying can be drawn back to Applebaum's (1951) study, where he posited that consumers get motivation at an outlet, and buying behaviour is a following reaction. This concept is placed with the "stimulus-response" association, grounded in previous psychology research. Applebaum described impulse buying as "an unplanned purchase made under the stimulus." More recent studies have enlarged this definition.

Liu et al. (2013) described impulse buying as an extemporaneous, quick decision triggered by a powerful and appealing stimulus in the modernized shopping atmosphere. Impulsive buying action has been recognized in lifestyle features enclosing pragmatism, thrill-seeking, and the competitive facet of shopping (Rook, 1987). Based on earlier shopping planning, consumers can normally fall into three groups: planned, partially planned, or impulse shoppers (Cobb & Hoyer, 1986; Iyer & Ahlawat, 1987; Hoyer & Macinnis, 2006). A planned purchase is designated by an intentional and conscious search and rating process, resulting in reasoned, informed decisions, as stated by Halpern (1989), Johnson-Laird (1988), and Lee and Kacen (2008). On the other hand, an unplanned purchase is commenced spontaneously, operated by a strong desire, and assisted by feelings of delight and excitement. It is commonly mentioned as impulsive buying or purchasing (Rook, 1987; Billieux et al., 2008).

Self-Control

The quantity individuals possess, however, desires, environmental stimuli, or purposeful decisions to revise their states and responses, known as self-control, is a key factor for success in life (Baumeister, 2002; Baumeister et al., 2007). Self-control is a natural capability -making demands can consume an individual's reservoir of self-control. When this range for self-control is decreased, it can give rise to numerous forms of impulsive behaviour, including impulse buying (Baumeister, 2002). In this context, Sultan, Joireman, and Sprott (2012) escorted a study revealing that regular physical and logical self-control exercises effectively decrease impulse buying desire over time.

Additionally, another line of research asserted that while all individuals may undergo state depletion of self-control resources, they may vary in their general capacity for self-control (Hagger et al., 2010, p. 500). Previous studies have disclosed a negative connection between trait self-control and impulse purchasing (Roberts & Manolis, 2012; Youn & Faber, 2000).

RESEARCH FRAMEWORK AND HYPOTHESIS

The research framework is structured around the interconnection between compulsive smartphone use and impulsive buying, with self-control as a mediating factor. In this study, we will elaborate on the theoretical background that underpins the relationship between the variables examined.

Relationship between Compulsive Smartphone Use and Impulsive Buying

Smartphones offer a special combination of internet services and mobile phone functionalities, providing comfort, availability, and portability for users of all ages. Young individuals utilize smartphones for video watching, sociability, communication with friends, and information search, while older individuals may use them for video calls with abroad family and gaming (Kraut et al., 1998; Morahan-Martin, 1999; Scherer, 1997).The facility of portability and availability of smartphones often leads to using mobile networks for leisure activities like shopping and entertainment, which can result in increased enjoyment and possible addiction (Rai, 2008). With their internet connectivity, smartphones can accelerate online impulsive buying behaviours. These devices provide charm, energy, and individualized digital environments like mobile commerce. Additionally, they allowed consumers to shop with exceptional benefits and accessibility while avoiding direct interactions with each other(Kukar-Kinnet et al., 2016).

This growing trend of mobile usage, combined with the ease of innovations like television shopping chains and 24-hour convenience stores, provides the dormant growth of impulse buying. Retailers exploit mobile devices' pervasiveness to engage consumers in enjoyable shopping experiences through app-only promotions, motivating more frequent and higher-value impulse purchases. This frequent focus on impulse buying in modern research highlights the role of self-control in moderating such behaviour (Baumeister, 2002; Faber & Vohs, 2004). Collectively, these factors may contribute to the facilitation of urges experienced by impulsive buyers, leading to subsequent satisfaction through purchases. Nevertheless, significant gaps exist in the research concerning this relationship. The influence of mobile devices on the shopping process lacks a clear understanding (Shankar et al., 2016).

H1: there is a relationship between compulsive smartphone use and impulsive buying

Self-Control and Impulsive Buying

Impulse buying has been clearly defined as a self-regulation or self-control failure (Baumeister, 2002;Vohs & Faber, 2007). Muraven and Baumeister (2000) define self-control as "control over the self by the self", involving individuals' efforts to prevent desires, stick to rules, and change their thoughts, emotions, or actions (p. 247). Moreover, individual differences in self-control proposed that it can be considered a basic strength or trait (Baumeister, 2002). Failures in self-control may emerge due to varying goals, reduced self-monitoring, or mental resource depletion (Baumeister, 2002; Verplanken & Sato, 2011). Enough evidence in social psychology supports the idea that self-control is important in forming human behaviour. However, there are still chances for additional research to examine

deeper into the relationship between self-control and consumer behaviour, particularly concerning impulse buying behaviour.

H2: there is a negative relationship between self-control and impulsive buying

Relationship Mediation Self-Control between Compulsive Smartphone Use and Impulsive Buying

Self-control plays a key role in impulsive buying (Fenton-O'Creevy et al.,2018). According to Rook and Fisher (1995), impulsive purchases refer to consumers' propensity to make unforced, non-reflective, and instant buying decisions, which are relatively stable but permit situational influences. Additionally, the pervasiveness of the net and easy approach to credit further heightens the probability of impulse buying. Some researchers have demonstrated that self-control is a mediating mechanism affecting social behaviour. For instance, shyness significantly influences call phone addiction in college students, and this relationship is partially and parallelly mediated by self-control. (Han et al., 2017). Adolescents' inattention is related to internet gaming disorder, with self-control and aggression mediating this association (Jeong et al., 2020).

Given that buying impulses can be resisted, it becomes interesting to survey why numerous consumers fight to endure such desires, especially when these impulsive purchases often lead to the following regret. The key to this problem may be present in a consumer's level of self-control. Considering the reasons behind self-control failures is a consequence of vital in comprehending impulse buying and other interrelated facet of consumer behaviour (Baumeister, 2002; Baumeister, Vohs & Tice, 2007; Faber, 2004).

H3: Self-control is acting as a mediator in the relationship between compulsive smartphone use and impulsive buying

The basic assumption is that consumer psychology's key goal is to comprehend the circumstances and reasons behind consumer behaviour being operated by impulses vs reasoned decisions (Hofmann, Strack & Deutsch, 2008b, p. 22). However, this side has not received sufficient attention in consumer psychology (Baumeister et al., 2008). Furthermore, despite the acknowledged importance of self-control in various aspects of life, there remains a limited understanding of how self-control influences shopping behaviour, specifically impulse buying (Roberts & Manolis, 2012).

THE STIMULUS-ORGANISM-RESPONSE MODEL

The Stimulus-Organism-Response (S-O-R) model, developed by Mehrabian and Russell (1974), has been extensively used in environmental psychology to explain impulse buying behaviours. Chan et al. (2017) supervised a comprehensive analysis of research on online impulse-buying attitudes and confirmed that the S-O-R framework was the incredibly widely used theoretical approach. Given the popularity of mobile auctions, this study targets impulse buying behaviours using the S-O-R model to inspect consumers' actions in these conditions. In the factors of the present study, the stimuli that activate the emotions and response is irresistible usage of the smartphone (S-Compulsive Smartphone Use), The organism represents the individual internal state is self-control (O-Self-Control), and the actual behavioural response is impulsive buying (R-Impulsive Buying).

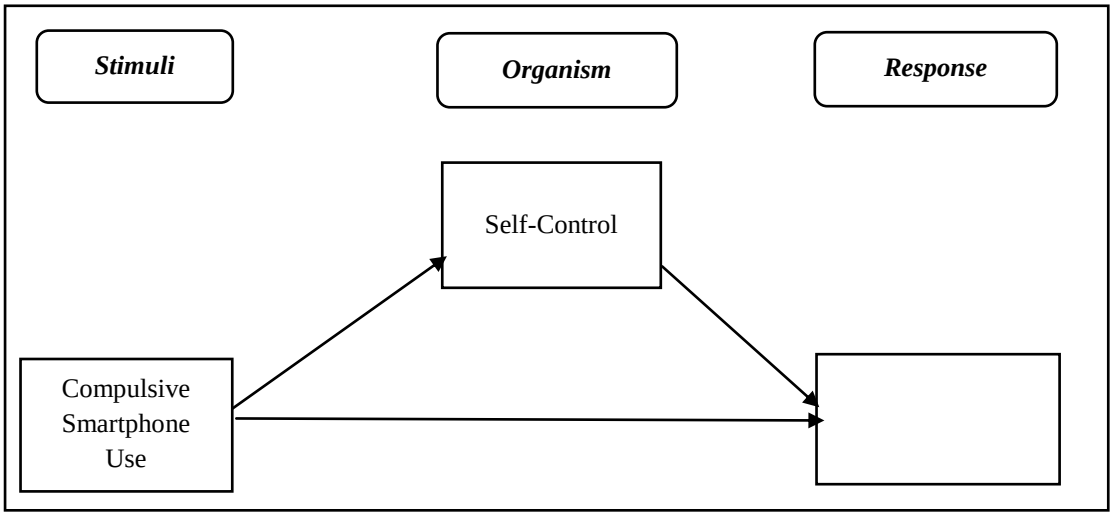
Demographic Variables

Gender is an important factor that affects impulse buying behaviour, as confirmed by various studies (Lai, 2010; Pentecost & Andrews, 2010; Bashir, 2013). Many researchers have found the impact of age on impulsive buying attitudes. Mathai and Haridas (2014)described impulse buying as unplanned shopping because of an unexpected wish for self-indulgence, observing that greener and richer consumers are more expected to be involved in such behaviour. The young generation, especially buyers aged 18 to 40, is more impulsive than other age groups (Mai et al., 2003). Age is an important factor influencing impulsive shopping, with younger shoppers displaying higher impulsivity levels than older ones.

H4: there is a negative or inverse relationship between age and impulsive buying

The growth of e-commerce and consumer-oriented societies worldwide has increased opportunities for impulse buying, but insufficient information about impulsive buying behaviour in non-Western cultures is insufficient. Most of the research on impulse buying target consumers in the United States, with only a little research examining British (Bayley & Nancarrow, 1998; Dittmar, Beattie, & Friese, 1995; McConatha Lightner, & Deaner, 1994) and South African consumers (Abratt& Goodey, 1990).With current developments in marketing and important cultural differences compared to developed economies, emerging economies present a need for studying impulse buying.

THEORETICAL MODEL OF THE STUDY



METHODOLOGY

Sampling and Procedure

Data collection was conducted through an offline and online questionnaire distribution via Google Forms, utilizing diverse social media platforms. This approach facilitated access to a larger sample and simplified the data collection and compilation (Metzner & Mann, 1952). The study focused on adolescents and adults aged 14 and above as the target audience, mainly because this population frequently uses mobile phones. The participants in this study will be selected through the convenience sampling method between 25.06.2023 to 25.07.2023 from district Multan. The convenience sampling method is used because of time and budget constraints. The total sample size included in this study is 200. Informed consent was obtained from all participants. 8% of the total sample were aged less than 18 years; informed consent was obtained from their parents or legal guardians, clarifying the purpose of the study, ensuring voluntary participation, promising confidentiality, and the right to withdraw from the study at any time. The classification of socioeconomic status is a fundamental aspect of the research. We classify socioeconomic status into four categories: upper-class, upper-middle class, middle class, and lower class, and asked participants to check mark which socioeconomic class they belong to.

Measurements

Compulsive usage of smartphones was assessed by incorporating various works (Ehrenberg, Juckes, White, & Walsh, 2008; Jenaro, Flores, Gomez-Vela, Gonzalez-Gil, & Caballo, 2007; Koo, 2009, Meerkerk, Van Den Eijnden Vermulst & Garreetsen, 2009). Nine items were measured on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). The sample item was 'I feel lost and frustrated without my mobile phone. For the measurement of self-control, a brief version of the self-control' Forale was administered (BSCS; Tangney, Baumeister, & Boone, 2004). All 13 items were rated on a 5-point Likert scale, ranging from 1 (not at all like me) to 5 (very much like me). Sample items include "I do certain things that are bad for me if they are fun. "Impulsive buying was assessed using the "Buying Impulsiveness Scale" (Rook & Fisher, 1995). All nine items ranged from 1 (strongly disagree) to 5 (strongly agree). Sample items consist of "I see it, I buy it", which describes me.' The possible range for the scale is 9 to 45. The present scale exhibits good reliability and validity.

RESULTS

In this chapter, we mention psychometric properties, demographic properties, intercorrelation, mediation analysis, analysis of variance, and descriptive properties.

Table 1. Reliability of the Scales.

S. No.	Variables	No. of Items	Scale Alpha Value
1	Compulsive Smartphone Usage Scale	13	0.864
2	Brief version of Self-Control Scale	13	0.751
3	Buying Impulsiveness Scale	9	0.869

Table 1 reveals that there is a good internal consistency of measured variables. The compulsive Smartphone usage scale exhibits the alpha value (α = 0.864). The brief version of the self-control scale has an alpha value (α = 0.751) and buying impulsiveness scale has an alpha value (α = 0.869).

Table 2. Mean and Standard Deviation of Age and Number of Hours (per day)Spending Using Digital Devices.

Demographic Variables	Mean (*M*)	Standard Deviation (*SD*)	Minimum	Maximum
Age	25.10	6.822	14	58
No. of Hours	7.45	3.971	1	20

As shown in Table 2, the mean age of our 200 participants ranged from 14 to 58 years with (M=25.10, SD=6.822) with five categories. The mean no.of hours and standard deviation of study participants ranged from 1 to 20 with (M=7.45, SD=3.971) with four categories. This table will help further categorize the sample into various demographic groups.

Frequencies, percentages, and categories of demographic characteristics of the participants

The demographic distribution statistics are used to determine the background of the respondents. The present study embraces five items representing the "background of respondents", including age, gender, socioeconomic status, education, and no. of hours spent on digital devices, specifically smartphones. The following table shows the descriptive statistics of the overall population.

Table 3. Frequencies, percentages and categories of demographic characteristics of the participants.

Variable	Category	F	%
Age	Less than 18	16	8%
	18-26	116	58%
	27-35	53	26.5%
	36-45	12	6.0%
	>45	3	1.5%
Total		200	100
Gender	Male	88	44%
	Female	112	56%
Total		200	100
Socioeconomic Status	Upper Class	24	12%
	Upper-Middle Class	91	45%
	Middle Class	82	4%
	Lower Class	3	1.5%
Total		200	100
Education	Higher Secondary	39	19.5%
	Graduation	117	58.5%
	Higher Education	44	22%
		200	100
No. of Hours	1-5	81	40.5%
	6-10	75	37.5%
	11-15	37	18.5%
	16-20	7	3.5%
Total		200	100

In total, 200 participants were self-selected to fill in the instrument. Of this number, 88(44%) were male and 112(56%) were female. Intentionally, the study participants selected adolescents and adults aged between 14 to 55 years old. In the present study, 58% of the sample age range is 18 to 26, and 53(26.5%) participants are between 27 to 35. In terms of socioeconomic status, 91(45%) of participants belong to the upper-middle class, 82(41%) belong to the middle class, 24(12%) belong to the upper class, and 3(1.5%) of respondents were from the lower class. Thirty-nine (19.5%) of participants were studying in secondary and higher secondary school, 117(58.5%) of participants graduated from university, and 44(22%) were attaining higher degrees. All participants were expected to have daily

encounters with digital devices, especially smartphones and of 200 participants, 81(40.5%) of participants spent at least 1 to 5 hours daily using smartphones, 75(37.5%) of participants spent up to 10 hours, 37(18.5%) spent up to 15 hours and 7(3.5%) claims to spend up to 20 hours daily using their smartphone.

Table 4. Inter-Correlation and descriptive statistics of study variables.

	Variable	Mean (*SD*)	1	2	3
1	Compulsive Smartphone Use	49.54(15.76)	1	-.357**	.247**
2	Self-Control	39.57(9.300)		1	-.399**
3	Impulsive Buying	25.46(8.235)			1

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

As presented in Table 3, the correlation between compulsive smartphone uses and impulsive buying was exposed using Pearson's moment correlation. The result of the analysis indicates that compulsive smartphone use has a significant negative, weak correlation with self-control (r(198)=-.357**, p<.001) at 0.01 level (2-tailed). The result indicated that compulsive smartphone use has a significant positive relationship with impulsive buying (r(198)=.247**, p<.001) at 0.01 level (2-tailed). However, the relationship between self-control and impulsive buying is significant but negative (r(198)=-.399**, p<.001) at 0.01 level (2-tailed).

Table 5. Regression Coefficient of Compulsive Smartphone Use on Impulsive Buying.

Variable	B	B	SE
Constant	19.045***		1.852
Compulsive Smartphone Use	.128***	.247	.036
R2	.061		

Note: (N==200);***p<.001.

A simple linear regression was performed to predict impulsive buying behaviour based on compulsive smartphone use. That is how well compulsive smartphone use predicts impulsive buying behaviour in study participants. Table 4 shows compulsive smartphone use's impact on consumers' impulsive buying behaviour. The R2 value of .061 revealed that the predictor variable explained 6% of the variance in the outcome variable with *F*(1, 197)=12.829, *P*<.001. The findings revealed that compulsive smartphone use positively predicts impulsive buying (β=.24, *p*<.001).

Table 6 . Mediation Analysis Summary.

Relationship	Total Effect	Direct Effect	Indirect Effect	Confidence Interval		T-Statistics	Conclusion
				Lower Bound	Upper Bound		
Compulsive smartphone use->Self-control->Impulsive Buying	0.1283 (0.0004)	0.0664 (0.0690)	0.0618	.0312	.0975	3.6568	Full Mediation

Note: p<.001.

The present study's mediation analysis uses Andrew F. Hayes model number 4. A simple mediation analysis will be run to investigate the mediating role of self-control in the relationship between compulsory smartphone use and impulsive buying. The study assesses the mediating role of self-control on the relationship between compulsive smartphone use and impulsive buying. The result revealed a significant indirect effect of compulsive smartphone use and impulsive buying (b=0.0618, t=3.6568), supporting the hypothesis. Furthermore, the direct effects of compulsive smartphone use on impulsive buying in the presence of mediators were found to be non-significant (b=0.0664, p=0.069). Hence, self-control fully mediates the relationship between compulsive smartphone use and impulsive buying.

Table 7. Analysis of Variance based on Age (N=200).

Variable	Less than 18	18 to 26 years	27 to 35 years	36 to 45 years	More than 45	F	P	Partial η²
	M SD	M SD	M SD	M SD	M SD			
Impulsive Buying	28.62 11.34	25.24 7.969	24.84 8.321	24.83 5.828	30.66 3.055	1.001	.408	0.020

Table 7 indicates the analysis of variance based on age, and results showed that impulsive buying was found to be non-significant based on age with F(4, 195)=1.001, p=.408, η²=.020.

Table 8. Analysis of Variance based on Socioeconomic Status (N=200).

Variable	Upper Class	Upper Middle Class	Middle Class	Lower Class	F	P	Partial η²
	M SD	M SD	M SD	M SD			
Impulsive Buying	30.00 7.407	25.098 8.880	24.731 7.460	20.33 0.577	3.193	.025	0.05

Table 8 indicates the analysis of variance based on age, and results showed that impulsive buying was found to be non-significant based on age with F(4, 195)=3.193, p<.05, η²=.05.

Table 9. Analysis of Variance based on Relationship Status (N=200).

Variable	Married	Engaged	Single	F	P	Partial η²
	M SD	M SD	M SD			
Impulsive Buying	42.225 9.045	36.052 11.30	38.745 8.810	4.504	.012	0.04

Table 9 indicates the analysis of variance based on age, and results showed that impulsive buying was found to be non-significant based on age with F(4, 195)=4.504, p=<.05, η²=.040.

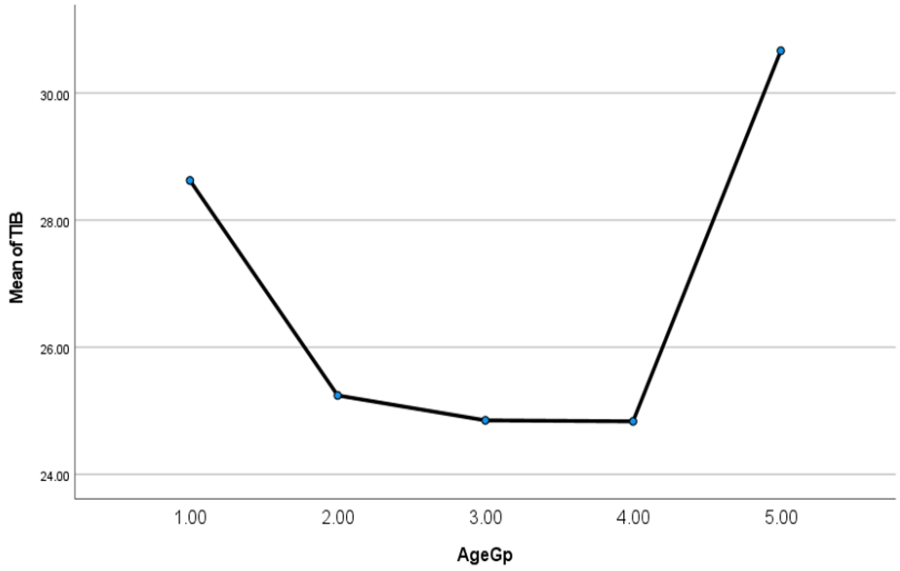


Figure 1. Analysis of Variance for Impulsive Buying.

Figure 1 indicates that there is no significant difference based on impulsive buying related to the age of the participants. However, the mean plot represents that impulsive buying seems slightly higher among participants older than 45.

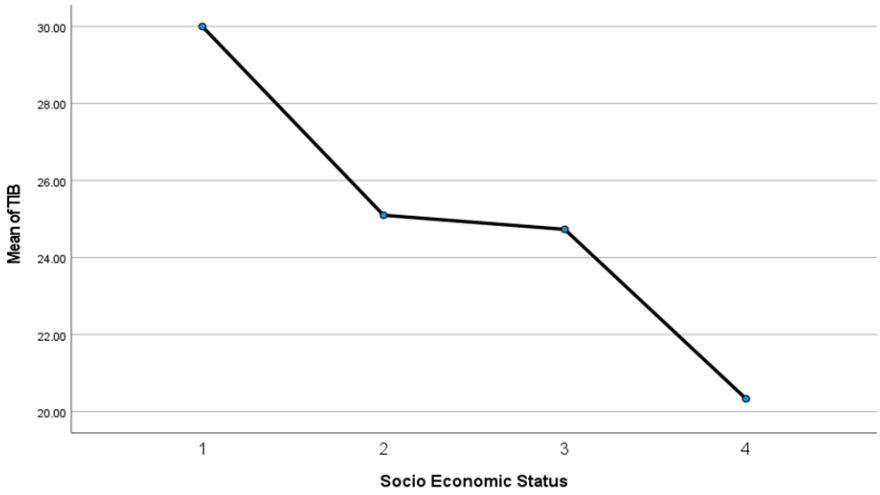


Figure 2. Analysis of Variance for Impulsive Buying,

Figure 2 indicates a significant difference based on impulsive buying related to participants' socioeconomic status. The mean plot represents that impulsive buying has seemed significantly higher in participants who belong to the upper class with (M=30.00, SD=7.407). Impulsive buying is lower in participants who belong to lower socioeconomic classes (M=20.33, SD = .5773). So, we can conclude that socioeconomic status could be one of the significant factors for impulsive buying among consumers. However, upper-middle class and middle class represent moderate impulsive buying with (M=25.098, SD=8.880) and (M=24731, SD=7.460), F(4,196)=3.193, p < .05, respectively.

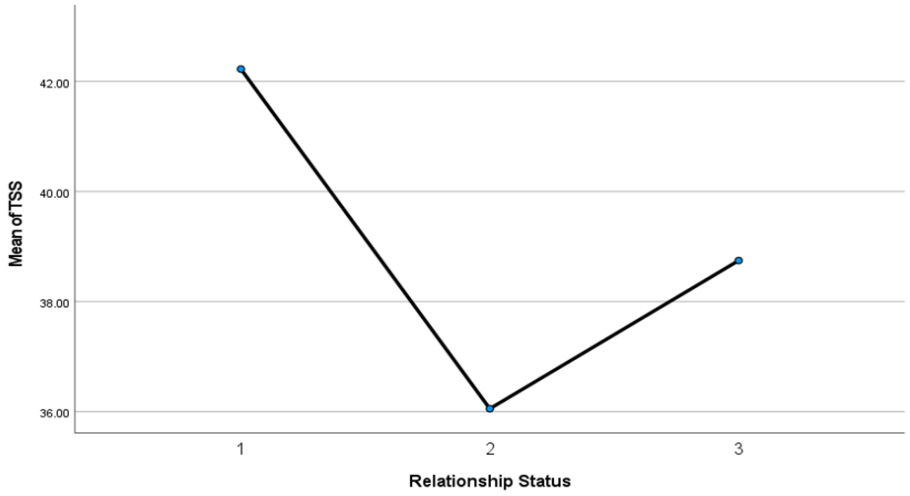


Figure 3. Analysis of variance for Self-Control.

Figure 3 indicates a significant difference based on self-control-related relationship status. The mean plot represents that self-control has seemed significantly higher among married individuals with (M=42.225, SD=9.045) than individuals who were single or engaged with (M=36.025, SD=11.30) and (M=38.745,SD=8.810), F(4,196)=5.504,p<.05. Respectively. In the present study, married participants report that they have high self-control.

DISCUSSION

This study intends to investigate the relationship between compulsive smartphone use and impulsive buying in check how compulsive use of smartphones can lead to impulsive buying behaviour. More particularly, the research estimates the mediating role of self-control in the relationship between compulsive smartphone use and impulsive buying. Two hundred samples of young consumers between the age group of 14 to 55 years were approached through online and offline surveys.

In our study, the first focused hypothesis was that we were investigating the relationship between compulsive smartphone use and impulsive buying. The second focused hypothesis was that there is a negative relationship

between self-control and impulsive buying behaviour. The third focused hypothesis was whether self-control mediates the relationship between compulsive smartphone use and impulsive buying. The fourth focused hypothesis was whether there is any difference based on age in impulsive buying.

The study showed the connection between compulsive smartphone use and impulsive buying. Furthermore, the outcome indicated a significant relationship between compulsive smartphone use and impulsive buying. As demonstrated by former literature, the negative outcome of uncontrolled time spent on smartphones can lead to behavioural outcomes (Ratan et al., 2021). Moreover, Kukar-Kinney et al. (2016) explain how the convenience and accessibility characteristics of smartphones promote mobile shopping.

Smartphones combine internet services and mobile phone features, providing benefits and accessibility for all age groups. Their portability stirred engagement in time off activities like shopping and entertainment through mobile networks, directing to increased enjoyment and the possibility of addiction (Kraut et al., 1998; Morahan-Martin, 1999; Scherer, 1997). In line with former studies, our first hypothesis has been supported. Self-control and its effect on consumer behaviour, especially impulsive buying, remains uninvestigated in research. Little empirical studies have focused on understanding how self-control influences impulse buying and other associated facets of consumer behaviour. The second focused hypothesis was that there is a negative relationship between self-control and impulsive buying. Our study illustrated the connection between self-control and impulsive buying and showed a negative relationship between self-control and impulsive buying. This hypothesis has support from former research (Baumeister, 2002; Vohs & Faber, 2007). This research indicated that self-control failure may be a notable reason for impulsive buying among consumers.

For the advancement of literature and a better understanding of whether self-control describes the relationship between compulsive smartphone use and impulsive buying, our study inspects the relationship, and findings showed that self-control mediated the relationship between compulsive smartphone use and impulsive buying. For mediation analysis, we used the 4th model of Andrew F. Hayes. The analysis shows that self-control is fully mediated in the relationship between compulsive smartphone use and impulsive buying. In the survey of the model, the direct impact of compulsive smartphone use on impulsive buying in the presence of self-control is found to be insignificant. So, we can conclude that self-control plays an important role in impulsive buying.

The basic idea of self-control in consumer psychology centres around resisting desires and making controlled buys of important items rather than succumbing to impulsive buying that may lead to deportation later (Baumeister, 2002; Baumeister et al., 2008). Similarly, this paper highlights the importance of studying impulse buying because of the self-control process, like other aspects of human behaviour. Based on the specified context, the current study also explores the psychological processes that could allow consumers to repel impulse buying behaviour in online marketplaces.

Finally, the current study showed that age is a possible factor that can change impulsive buying behaviour. Previous studies showed a significant reverse relationship between age and impulsive buying, and many studies have found this relationship significant. Research on trait impulsiveness holds up these findings, indicating that younger participant normally getsa higher score on measures of impulsivity in comparison to older people and show low self-control (Eysenck et al., 1985; Helmers et al., 1995; Logue & Chavarro, 1992; Rawlings et al., 1995). However, in the present study, age is not found to be significant in impulsive buying. The most relevant reason for this is that in economically developing countries like Pakistan, where strong family relationships and interdependence are common, the youth often show a weaker bent towards impulse buying compared to more individualistic societies. Most of the youth financially rely on their parents. Cultural values and social standards prioritizing collective decision-making and financial constraints may contribute to this aware and thoughtful consumer behaviour among the young population (Tirmizi, Rehman & Saif, 2009).

Our research contributed to contemporary literature by discovering the impact of compulsive smartphone use, particularly on impulsive buying among adolescents and adults. The present study also contributes to what was already found in the literature on the dark side of mobile addiction (Thomée et al., 2007, 2011; Bianchi & Phillips, 2005; Park & Lee, 2011). Further, we increase the findings of these studies by searching for other major results of compulsive smartphone use. In addition, our research also gives an awareness of the potential mechanism of self-control in impulsive buying. The research aims to offer valuable perception into the shopping behaviour of online smartphone users, benefiting both the shoppers and concerned researchers.

LIMITATIONS AND SUGGESTIONS

Even though the present study enhances the literature, a few restrictions should be renowned. First, the present study's data was assembled through a self-reporting method, which means that the result could be distorted. Moreover, the chance of biased data will be increased. Secondly, the study has been assisted in a very short period with a limited sample size. Sample size may have an impact on the results of the research. Thirdly, the data was collected from specific geographical areas, which can affect the results. For data generalization, future studies should consider all districts of Pakistan.

CONCLUSION

The research aims to study the link between compulsive smartphone use and impulsive buying among teenagers and adults in Pakistan. The data was assembled through a survey. The current study's findings showed a relationship between compulsive smartphone use and impulsive buying; moreover, this relationship is further mediated by the role of self-control. This study also inspects age as an influential factor in impulsive buying but found no relationship. However, the present study found that impulsive buying is more prevalent in people who belong to upper socioeconomic status than those who belong to lower socioeconomic status.

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