

Online Compulsive Buying Behavior of Young Consumers in India – Examining the role of Smartphone Addiction, Social Media Addiction, Fear of Missing Out (FOMO) and Impulsive Buying Behavior

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Abstract

There are a lot of reasons why young people nowadays spend so much time on social media and their phones. Their vulnerability to the persuasive marketing tactics used by online retailers leads them to engage in compulsive shopping, which in turn strains their mental and financial resources. Young consumers are more likely to suffer from compulsive buying disorders as a result of the increased pressure to shop online frequently brought on by factors such as increased impulsiveness, greater smartphone and social media use, and the fear of losing out on online rewards. This article aims to examine the impact of impulsive buying, social media addiction, smartphone addiction, FOMO, and other factors on the compulsive online shopping behaviour of young Indian consumers. Primary data was gathered from 164 young consumers who have shopped online before using an online survey. For this study, we used non-parametric tests to examine our hypotheses, and the results showed a positive and statistically significant correlation between smartphone addiction, social media addiction, FOMO, impulsive buying, and online compulsive buying. The study's findings suggest that e-commerce company marketers might boost their bottom lines by catering to the tech-savvy and trendiest tastes of India's youth. Also, they need to be more reasonable and do what's right by promoting responsible consumption among young consumers. They should do this because they believe that if they use responsible marketing methods, young consumers will follow suit, and they will become industry leaders.

Keywords: Compulsive buying behavior, smartphone addiction, social media addiction, fear-of-missing out, impulsive buying, e-commerce

INTRODUCTION

Internet and smartphone use have clearly had a significant impact on the purchasing habits of young people around the globe in recent years. Smartphones and social networking sites were quickly adopted and used due to the inexpensive rates and widespread availability of mobile technologies and the internet. According to the International Telecommunication Union (2021), the number of people using the Internet is projected to reach 4.9 billion in 2021, up from 1 billion in 2005. In 2021, there were 976.26 million Internet users in China, 845.68 million in India, and 302.22 million in the US. This is an important fact to remember (Statista, 2021). In 2010, there were 92.57 million internet users in India; by 2025, that number is expected to rise to 1.13 billion (Ibid). Among Indian internet users, 34% were in the 20–29 age bracket, followed by 20% in the 30–39 bracket, 17% in the 16–19 bracket, 14% in the 12–15 bracket, and 9% in the 40–49 bracket (IAMAI & Nielsen, 2020). In terms of daily pageviews, Instagram and Facebook were the top two social media platforms in India in 2021. Amazon India, Google-Search, and Cricbuzz.com—a website for cricket news—were in second and third place, respectively (We Are Social, & Hootsuite, 2022).

The wireless subscribers base has tremendously increased in the last decade (figure 1) There were 635 million wireless subscribers in India during 2010 which has drastically increased to 1.154.62 million in 2021 (TRAI, 2022).

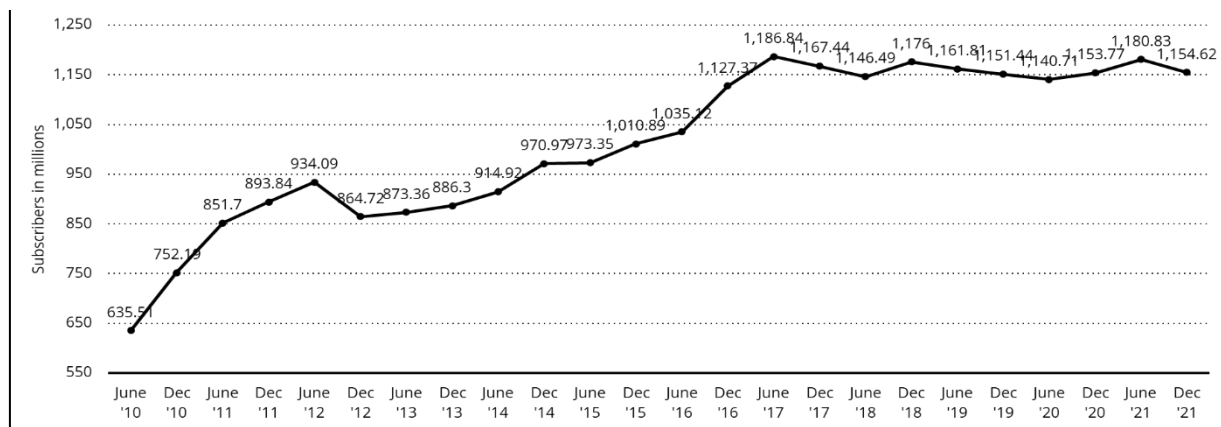


Figure – 1 - Wireless subscribers across India 2010-2021

In recent years, social networking services have exploded in popularity among Indian Internet users. Social media's penetration rate jumped from 19.13% in 2015 to 54.59% in 2021 and is projected to reach 67.4% by 2025, according to Statista (2020). Among the countries where internet users spend the most time on their phones, comScore(2020) ranks India at 93%, followed by Indonesia at 92%, Mexico at 89%, Brazil at 88%, and Argentina at 87%. According to a recent study by We Are Social and Hootsuite (2021), the most popular mobile applications among Indian smartphone users were chat messengers, followed by social networking, entertainment/video, commerce, and maps.

Online social networking, video streaming, and, most importantly, shopping account for the vast majority of time spent online by Internet users worldwide (including in India), as mentioned earlier. From \$1,336 billion in 2014 to \$4,938 billion in 2021, retail e-commerce saw a significant increase globally (eMarketer, 2022a). Additionally, by 2025, this was predicted to reach \$7,391 billion (Ibid). Developed nations like the United States, the United Kingdom, Australia, etc., were largely responsible for the meteoric rise of the e-commerce industry. However, for the past 20 years, this pattern has changed to focus on developing economies. According to eMarketer (2022b), the top five nations in terms of retail e-commerce sales growth globally in 2022 will be the Philippines (at 25.9%), India (at 25.5%), Indonesia (at 23%), Brazil (at 22.2%), and Vietnam (19%).

Thanks to advancements in wireless and mobile network capabilities, mobile phones have become the primary means by which multinational corporations may reach their target audiences, market both generic and specialized goods and services, and have one-on-one conversations at any time and from any location. Before the introduction of smart applications, which improved the user experience, mobile shopping could only be done on websites in the tiny browsers that came with mobile phones. Due to its pervasiveness, mobile technology has proven to be more beneficial to online buyers. Now, consumers worldwide may buy what they want, whenever they want, from any location. A number of factors, including the widespread availability of smartphones, improvements in mobile networks, more affordable mobile devices, and the Internet, may be contributing to the meteoric rise of mobile commerce. Worldwide, eMarketer predicted that retail m-commerce sales will soar from \$967 billion in 2016 to a whopping \$3,556 billion in 2021. India ranked sixth on the list of the world's fastest-growing retail m-commerce countries in 2021, with a growth of 28.3 percent, according to eMarketer (2021).

Statement of the Problem

A number of psychological aspects, including impulsive purchasing, social media addiction, smartphone addiction, and the online compulsive buying behavior of young Indian consumers, will be investigated in this study. As mentioned before, the fast-paced changes in both individual and societal lifestyles and conventions have led to young consumers' heavy reliance on cellphones and social media platforms, particularly in emerging nations like India. Young consumers, who are prone to FOMO (fear of missing out), also have an obligation to keep themselves apprised of the possibility of obtaining any satisfying experience via social networks. Researchers discovered that fear of missing out (FOMO) greatly amplified the levels of anxiety and unhappiness brought on by excessive social media use. In addition, irrational, spontaneous, and unexpected purchases are more common when shopping online because of the intense marketing campaigns run by e-commerce companies, the allure of the deals, and the lack of thought put into the purchase's potential outcomes. Young

customers' propensity for impulsive purchases may play a significant role in the development of their compulsive internet shopping habits. Online retailers' marketers would do well to study the effects of these psychological factors on young customers' obsessive shopping habits in order to better target their ads and persuade them to practice responsible consumption.

Objectives of the Study

The objective of this research is to understand the influence of smartphone addiction, social media addiction, fear of missing out and impulsive buying on online compulsive buying behavior of young consumers in India.

Research Questions

This research was guided by the following questions:

1. Is there a relationship between smartphone addiction behavior and online compulsive buying behavior among young consumers in India?
2. Is there a relationship between social media addiction behavior and online compulsive buying behavior among young consumers in India?
3. Is there a relationship between fear of missing out behavior and online compulsive buying behavior among young consumers in India?
4. Is there a relationship between impulsive buying behavior and online compulsive buying behavior among young consumers in India?

Research Hypotheses

Based on the study's objective and research questions, the following hypotheses were proposed:

1. Null Hypothesis One (H1). There is no significant relationship between smartphone addiction and online compulsive buying behavior of young consumers in India.
2. Null Hypothesis Two (H2). There is no significant relationship between social media addiction and online compulsive buying behavior of young consumers in India.
3. Null Hypothesis Three (H3). There is no significant relationship between fear of missing out behavior and online compulsive buying behavior of young consumers in India.
4. Null Hypothesis Four (H4). There is no significant relationship between impulsive buying behavior and online compulsive buying behavior of young consumers in India.

REVIEW OF LITERATURE

Many aspects, including those related to psychology, society, culture, and technology, have a role in consumers' decision-making processes. Many benefits have accrued to consumers as a result of economic globalization. These include, but are not limited to, a greater variety of global brands to choose from, easier access to both high-end and budget brands, and the ability to personalize and purchase products of higher quality at more reasonable costs. Consumers in the modern day have a plethora of options because to the proliferation of online resources that allow them to research products and services, read reviews written by both users and experts, compare prices and features, and take advantage of sales and other promotions. Teens and young adults in India today spend a great deal of time on the internet for the reasons already mentioned: to obtain information, to watch videos and movies, to connect with others through social media, and to take advantage of the flexibility of online purchasing. Online shopping ranks high among these pursuits because e-commerce and online shopping companies have been saturating the market with time-sensitive promotions and offers, encouraging young people to shop more frequently and spend more money online. There is a lot of pressure on young consumers to shop online a lot, which can lead to compulsive buying disorders, because of their high levels of impulsivity, their heavy use of cellphones and social media, and their fear of missing out on online rewards.

Impulsive and compulsive buying have long been regarded as "dark side consumption phenomena" in the research on consumption behavior (Shoham et al., 2015). Critics argue that these actions have far-reaching effects on people's lives and on society as a whole because they encourage impulsive buying, which can cause emotional and financial distress. O'Guinn

and Faber (1989) state that "chronic, repetitive purchasing that becomes a primary response to negative events or feelings" is the best way to describe compulsive buying. harmful customer emotions are the driving force behind this conduct, which has been associated to harmful social, economic, and psychological outcomes (Dittmar, 2004; Roberts et al., 2014). Even fewer empirical studies have examined how this maladaptive pattern of consumer behavior has expanded to the internet setting (Dittmar et al., 2007; Lee et al, 2016; Pahlevan Sharif and Khanekharab, 2017). According to research (Griffiths, 2000; Kukar-Kinney et al., 2009), this conduct is made more worse by the excessive use of the Internet. One of the most prominent areas of study in the field of consumer behavior is compulsive buying (Singh & Tak, 2013).

"A consumer's tendency to spontaneously, unreflectively, immediately, and kinetically" is the definition given by Rook and Fisher (1995) when trying to describe impulsive purchase. The marketing literature is replete with discussions of this particular consumer behavior. In addition, Rook (1987) said that "...impulse buying occurs when a consumer experiences a sudden, often powerful and persistent urge to buy something immediately.". Hedonic complexity and potential emotional conflict are hallmarks of the buying impulse. Furthermore, people often buy things on impulse without fully considering the potential outcomes. It has been described as "a pervasive apprehension that others might be having rewarding experiences from which one is absent (...)" and known as FOMO. Reference: Przybylski et al. (2013), page 1842. According to Billieux (2012), "an inability by individuals to regulate smartphone use and which leads to negative consequences and clinical impairment in daily life" is what is meant when someone says they are addicted to their phone. An individual is said to be addicted to social media if they spend "so much it interferes with other aspects of their daily life" on platforms like Facebook, Twitter, and Instagram (Grau et al., 2019),

Roberts (1998) emphasized that low self-esteem, anxiety, frustration, and despair are the precursors and outcomes of compulsive purchasing. The majority of obsessive consumers, he said, were women. According to Elif Akagiün (2010), who also provided empirical evidence for gender variations in compulsive purchase behavior, young consumers are particularly vulnerable to this problem. Credit card misuse was examined by Palan et al. (2011) as a moderator in the association between compulsive buying behavior and three psychological variables: self-esteem, power-prestige, and risk-taking. The study's results demonstrated that power-prestige influences compulsive shopping behavior through credit card misuse as a mediator between the two variables. As to the research conducted by Singh and Tak (2013), individuals in India who engage in compulsive buying tend to be materialistic, highly self-conscious in public, and affected by their role models. According to research by Kumar and Narayanan (2016), consumers' propensity for making impulsive purchases differed by age group, but was unaffected by gender or monthly household income.

Young Malaysian consumers' OCD was positively and significantly affected by brand attachment, hedonic value, and materialism (Lim et al., 2020). Furthermore, it was stated that brand attachment mediated the effects of materialism and utilitarianism on compulsive buying. Another study that Suresh and Biswas (2020) carried out examined the relationship between Internet addiction and the compulsive shopping behavior of millennials in India. The psychological characteristics that were examined were anxiety, loneliness, low self-esteem, and depression. Researchers found that people with poor self-esteem and confidence spend more time in virtual spaces. In the end, the study found that millennials in India benefited from increased internet access in terms of their obsessive online purchasing. Bhatia (2019) investigated the factors that influence the e-compulsive purchasing habits of Indian clothing customers, specifically looking at their passion in fashion, materialism, and internet addiction. According to the findings, consumers' interest in fashion is the most significant element impacting their e-compulsive buying behavior when it comes to clothes. Other crucial factors include materialism and online addiction. Last but not least, the study found that e-compulsive buying behavior is significantly different for men and women. In their study on online compulsive purchase among Indonesian students, Mulyono and Rusdarti (2020) looked at the role of a number of psychological factors. The results showed that young consumers' income, materialism, self-esteem, self-control, narcissism, and money attitude significantly influenced their compulsive buying behavior when shopping online.

Given the above, it should come as no surprise that a number of psychological, social, and cultural factors influence compulsive buying behavior. Additionally, the exponential expansion of online shopping around the globe has contributed to the prevalence of this tendency among Internet users. There is a dearth of research on young people's compulsive internet shopping habits, particularly in the Indian context. Thus, this study intends to address this knowledge vacuum by investigating the connection between four psychological characteristics and the compulsive online shopping behavior of young Indian consumers: addiction to smartphones and social media, FOMO (fear of missing out), and impulsive purchase.

RESEARCH METHODOLOGY

Since most company decisions are dependent on an unpredictable external environment, it is the manager's responsibility to conduct scientifically sound research in order to gather pertinent data for improved decision-making. The impact of impulsivity, social media addiction, smartphone addiction, and FOMO on compulsive online shopping behavior is explored in this study. Because it is based on quantitative data, has comparatively bigger samples, is concerned with hypothesis testing, has structural methodology, and analyses data using statistical methods, this study adheres to the positivistic research paradigm. The information was gathered from young Indian customers through an online survey that required a subscription to access (www.zipsurvey.com). This study employed convenience sampling as its sampling method. Using a web-based poll, this study gathered primary data from young customers who have shopped online before. A total of four months, from February 2022 through May 2022, were devoted to the study. The intended respondents were contacted using electronic means such as e-mail, social media, and mobile messaging apps with a link to the survey questionnaire. Following the aforementioned steps, we were able to collect 187 replies, of which 164 were deemed suitable for inclusion in the final data analysis. To gather information about young customers, including their demographics, mental health, and internet purchasing habits, a systematic questionnaire was developed and administered. The items used to measure the variables in this study were taken from earlier marketing literature. With 1 being a strong disagreement, 2 a disagree, 3 a neutral, 4 an agreement, and 5 a strong agreement, the variables have been measured using five-point Likert-types. Statistical Package for the Social Sciences, version 21.0, was used to conduct the statistical analysis. Using correlation approaches, the study explored various assumptions.

Interestingly, there was no difference in the distribution of male and female responders in this study. As a result, the validity of the empirical findings is further enhanced, since there were equal numbers of male and female respondents. While 58% of Indian Internet users are male and 42% are female (Kantar, 2021), this study's results are reasonable given that it surveyed mainly young consumers who had shopped online before. A significant amount of smartphone use has been recorded by the sample, with the majority of respondents (41.46%) reporting daily usage of 2 to 4 hours. This suggests that the respondents are either working professionals or students in higher education. In addition, the majority of participants (39.02%) admit to spending no more than an hour or two every day on social media. One possible explanation is that young people use the Internet for a wide variety of purposes, including research, entertainment, and education. The majority of respondents (61.57%) have shopped online for one to five years.

ANALYSIS AND FINDINGS

The normalcy test was run before deciding which statistical techniques to utilize for data analysis. Following the advice of Razali and Wah (2011), this study employed the Shapiro-Wilk test and the Anderson-Darling test, two widely-used normality tests. We can infer that the scales do not meet the normalcy criteria because the p-values of the two normality tests performed on all study variables are smaller than 0.05. In order to assess the study's hypothesis, non-parametric tests were employed. Two tests for hypothesis testing were utilized in the study:

1. Chi-square test of independence – to validate if there is significant relationship between two categorial variables, and
2. Non-parametric correlation coefficient tests - Spearman's rho; Goodman-Kruskal's Gamma; Kendall's tau-b; and Somers' d – to ascertain the strength of relationship between two categorial variables.

Research Question One. Is there a relationship between smartphone addiction behavior and online compulsive buying behavior among young consumers in India? *H1: The First Null Hypothesis - Among young Indian customers, there is no correlation between smartphone addiction and excessive online shopping. Using SPSS's median split method, we aggregate the scale items for both variables and classify them as either low, average, or high; this will allow us to test our research question and null hypothesis. Table 1 shows that the correlation between smartphone use and higher levels of obsessive online shopping behavior is strong.*

Table – 1 – Online compulsive buying behavior and smartphone addiction behavior

Online Compulsive Buying Behavior	Smartphone Addiction Behavior			Total
	Low	Average	High	
Low	27(16.463%)	18(10.976%)	7(4.268%)	52(31.707%)
Average	20(12.195%)	21(12.805%)	22(13.415%)	63(38.415%)
High	4(2.439%)	18(10.976%)	27(16.463%)	49(29.878%)
Total	51(31.098%)	57(34.756%)	56(34.146%)	164(100.0%)

Source: Primary Data

To determine whether is a significant relationship between these two categorical variables, Chi-square test was applied, as given in table 2. It is evident from the results that there exists a significant relationship between smartphone addiction and online compulsive buying behavior of young consumer $X^2 (2, N = 164) = 28.469, p = 0.000$.

Table – 2 – Chi-square test results – online compulsive buying behavior and smartphone addiction behavior

Test Statistic	Value	df	p-value
Pearson Chi-square	28.469	4.000	0.000

Source: SPSS Analysis Results

The strength of relationship between smartphone addiction and online compulsive buying behavior was assessed by applying four non-parametric correlation tests, as given in table 3. All the four test values indicated a strong and positive correlation exists between smartphone addiction and online compulsive buying behavior of young consumers in India.

- Spearman correlation was calculated to assess the relationship between smartphone addiction and online compulsive buying behavior. There was a positive correlation between the two variables, $r_s (162) = 0.414, p < .05, 95\% \text{ CI } [0.290, 0.539]$.
- Goodman and Kruskal's gamma was run to determine the association between smartphone addiction and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between smartphone addiction and online compulsive buying behavior, which was statistically significant, $G = .533, p < .05, 95\% \text{ CI } [0.383, 0.682]$.
- A Kendall's tau-b correlation was run to determine the relationship between smartphone addiction and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between smartphone addiction and online compulsive buying behavior, which was statistically significant $\tau b = .368, p < .05, 95\% \text{ CI } [0.281, 0.454]$
- Somers' d was run to determine the association between smartphone addiction and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between smartphone addiction and online compulsive buying behavior, which was statistically significant $d = .368, p < .05, 95\% [0.256, 0.481]$.

Based on the above results, it can be inferred that there is a strong and positive relationship between smartphone addiction and online compulsive buying behavior of young consumers in India. Therefore, the null hypothesis is rejected.

Table – 3 – Non-parametric test results – Smartphone addiction behavior and online compulsive buying behavior

Coefficient	Value	ASE	95 % Confidence Interval		Z	p-value
			Lower	Upper		
Spearman's rho	0.414	0.064	0.290	0.539	6.523	0.000
Goodman-Kruskal's Gamma	0.533	0.076	0.383	0.682	6.977	0.000
Kendall's tau-b	0.368	0.044	0.281	0.454	8.323	0.000
Somers' d	0.368	0.057	0.256	0.481	6.349	0.000

Source: SPSS Analysis Results

Research Question Two. Is there a relationship between social media addiction behavior and online compulsive buying behavior among young consumers in India? *Null Hypothesis Two (H2). There is no significant relationship between social media addiction and online compulsive buying behavior of young consumers in India.* To validate this research question / null hypothesis, scale items of both variables are summed up and divided into three major categories, namely, low, average, and high, based on median split method in SPSS. As given in Table 4, higher online compulsive buying behavior was directly associated with higher usage of social media websites.

Table – 4 – Online compulsive buying behavior and social media addiction behavior

Online Compulsive Buying Behavior	Social Media Addiction Behavior			Total
	Low	Average	High	
Low	27(16.463%)	16(9.756%)	9(5.488%)	52(31.707%)
Average	23(14.024%)	19(11.585%)	21(12.805%)	63(38.415%)
High	11(6.707%)	13(7.927%)	25(15.244%)	49(29.878%)
Total	61(37.195%)	48(29.268%)	55(33.537%)	164(100.0%)

Source: SPSS Analysis Results

To determine whether is a significant relationship between these two categorical variables, Chi-square test was applied, as given in table 5. It is evident from the results that there exists a significant relationship between social media addiction and online compulsive buying behavior of young consumer $X^2 (2, N = 164) = 14.639, p = 0.000$.

Table – 5 – Chi-square test results – online compulsive buying behavior and social media addiction behavior

Test Statistic	Value	Df	p-value
Pearson Chi-square	14.639	4.000	0.006

Source: SPSS Analysis Results

The strength of relationship between social media addiction and online compulsive buying behavior was assessed by applying four non-parametric correlation tests, as given in table 6. All the four test values indicated a strong and positive correlation exists between social media addiction and online compulsive buying behavior of young consumers in India.

- Spearman correlation was calculated to assess the relationship between social media addiction and online compulsive buying behavior. There was a positive correlation between the two variables, $r_s (162) = 0.294, p < .05, 95\% \text{ CI } [0.153, 0.436]$.
- Goodman and Kruskal's gamma was run to determine the association between social media addiction and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between social media addiction and online compulsive buying behavior, which was statistically significant, $G = .387, p < .05, 95\% \text{ CI } [0.208, 0.567]$.
- A Kendall's tau-b correlation was run to determine the relationship between social media addiction and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between social media addiction and online compulsive buying behavior, which was statistically significant $tb = .262, p < .05, 95\% \text{ CI } [0.150, 0.375]$
- Somers' d was run to determine the association between social media addiction and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between social media addiction and online compulsive buying behavior, which was statistically significant $d = .262, p < .05, 95\% \text{ CI } [0.136, 0.389]$.

Based on the above results, it can be inferred that there is a strong and positive relationship between social media addiction and online compulsive buying behavior of young consumers in India. Therefore, the null hypothesis is rejected.

Table – 6 - Non-parametric test results – Social media addiction behavior and online compulsive buying behavior

Coefficient	Value	ASE	95 % Confidence Interval		Z	p-value
			Lower	Upper		
Spearman's rho	0.294	0.072	0.153	0.436	4.077	0.000
Goodman-Kruskal's Gamma	0.387	0.092	0.208	0.567	4.230	0.000
Kendall's tau-b	0.262	0.058	0.150	0.375	4.562	0.000
Somers' d	0.262	0.065	0.136	0.389	4.057	0.000

Source: SPSS Analysis Results

Research Question Three. Is there a relationship between fear of missing out behavior and online compulsive buying behavior among young consumers in India? *Null Hypothesis Three (H3). There is no significant relationship between fear of missing out behavior and online compulsive buying behavior of young consumers in India.* To validate this research question / null hypothesis, scale items of both variables are summed up and divided into three major categories, namely, low, average, and high, based on median split method in SPSS. As given in Table 7, higher online compulsive buying behavior was directly associated with higher fear of missing out behavior.

Table – 7 – Online compulsive buying behavior and fear of missing out behavior

Online Compulsive Buying Behavior	Fear Of Missing Out			Total
	Low	Average	High	
Low	28(17.073%)	17(10.366%)	7(4.268%)	52(31.707%)
Average	19(11.585%)	20(12.195%)	24(14.634%)	63(38.415%)
High	7(4.268%)	14(8.537%)	28(17.073%)	49(29.878%)
Total	54(32.927%)	51(31.098%)	59(35.976%)	164(100.0%)

Source: SPSS Analysis Results

To determine whether is a significant relationship between these two categorical variables, Chi-square test was applied, as given in table 8. It is evident from the results that there exists a significant relationship between fear of missing out and online compulsive buying behavior of young consumer $\chi^2 (2, N = 164) = 25.888, p = 0.000$.

Table – 8 – Chi-square test results – online compulsive buying behavior and fear of missing out behavior

Test Statistic	Value	df	p-value
Pearson Chi-square	25.888	4.000	0.000

Source: SPSS Analysis Results

The strength of relationship between fear of missing out and online compulsive buying behavior was assessed by applying four non-parametric correlation tests, as given in table 9. All the four test values indicated a strong and positive correlation exists between fear of missing out and online compulsive buying behavior of young consumers in India.

- Spearman correlation was calculated to assess the relationship between fear of missing out and online compulsive buying behavior. There was a positive correlation between the two variables, $r_s (162) = 0.395, p < .05, 95\% \text{ CI } [0.264, 0.526]$.
- Goodman and Kruskal's gamma was run to determine the association between fear of missing out and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between fear of missing out and online compulsive buying behavior, which was statistically significant, $G = .511, p < .05, 95\% \text{ CI } [0.352, 0.669]$.
- A Kendall's tau-b correlation was run to determine the relationship between fear of missing out and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between fear of

missing out and online compulsive buying behavior, which was statistically significant $rb = .352, p < .05, 95\% \text{ CI } [0.259, 0.445]$

- Somers' d was run to determine the association between fear of missing out and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between fear of missing out and online compulsive buying behavior, which was statistically significant $d = .352, p < .05, 95\% [0.235, 0.471]$.

Based on the above results, it can be inferred that there is a strong and positive relationship between fear of missing out and online compulsive buying behavior of young consumers in India. Therefore, the null hypothesis is rejected.

Table – 9 - Non-parametric test results – Fear of missing out behavior and online compulsive buying behavior

Coefficient	Value	ASE	95 % Confidence Interval		Z	p-value
			Lower	Upper		
Spearman's rho	0.395	0.067	0.264	0.526	5.928	0.000
Goodman-Kruskal's Gamma	0.511	0.081	0.352	0.669	6.324	0.000
Kendall's tau-b	0.352	0.047	0.259	0.445	7.436	0.000
Somers' d	0.352	0.060	0.235	0.471	5.872	0.000

Source: SPSS Analysis Results

Research Question Four. Is there a relationship between impulsive buying behavior and online compulsive buying behavior among young consumers in India? Null Hypothesis Four (H4). *There is no significant relationship between impulsive buying behavior and online compulsive buying behavior of young consumers in India.* To validate this research question / null hypothesis, scale items of both variables are summed up and divided into three major categories, namely, low, average, and high, based on median split method in SPSS. As given in Table 10, higher online compulsive buying behavior was directly associated with higher impulsive buying behavior.

Table – 10 – Online compulsive buying behavior and impulsive buying behavior

Online Compulsive Buying Behavior	Impulsive Buying Behavior			Total
	Low	Average	High	
Low	37(22.561%)	13(7.927%)	2(1.220%)	52(31.707%)
Average	12(7.317%)	34(20.732%)	17(10.366%)	63(38.415%)
High	1(0.610%)	13(7.927%)	35(21.341%)	49(29.878%)
Total	50(30.488%)	60(36.585%)	54(32.927%)	164(100.0%)

Source: SPSS Analysis Results

To determine whether there is a significant relationship between these two categorical variables, Chi-square test was applied, as given in table 11. It is evident from the results that there exists a significant relationship between impulsive buying behavior and online compulsive buying behavior of young consumer $X^2 (2, N = 164) = 88.473, p = 0.000$.

Table – 11 – Chi-square test results – online compulsive buying behavior and impulsive buying behavior

Test Statistic	Value	Df	p-value
Pearson Chi-square	88.473	4.000	0.000

Source: SPSS Analysis Results

The strength of relationship between impulsive buying behavior and online compulsive buying behavior was assessed by applying four non-parametric correlation tests, as given in table 12. All the four test values indicated a strong and positive correlation exists between impulsive buying behavior and online compulsive buying behavior of young consumers in India.

- Spearman correlation was calculated to assess the relationship between fe impulsive buying behavior and online compulsive buying behavior. There was a positive correlation between the two variables, $r_s(162) = 0.674, p < .05, 95\% \text{ CI } [0.584, 0.764]$.
- Goodman and Kruskal's gamma was run to determine the association between impulsive buying behavior and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between impulsive buying behavior and online compulsive buying behavior, which was statistically significant, $G = .832, p < .05, 95\% \text{ CI } [0.748, 0.916]$.
- A Kendall's tau-b correlation was run to determine the relationship between impulsive buying behavior and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between impulsive buying behavior and online compulsive buying behavior, which was statistically significant $\tau_b = .621, p < .05, 95\% \text{ CI } [0.530, 0.704]$
- Somers' d was run to determine the association between impulsive buying behavior and online compulsive buying behavior amongst 164 participants. There was a strong, positive correlation between impulsive buying behavior and online compulsive buying behavior, which was statistically significant $d = .621, p < .05, 95\% [0.533, 0.711]$.

Based on the above results, it can be inferred that there is a strong and positive relationship between impulsive buying behavior and online compulsive buying behavior of young consumers in India. Therefore, the null hypothesis is rejected.

Table – 12 - Non-parametric test results – Impulsive buying behavior and online compulsive buying behavior

Coefficient	Value	ASE	95 % Confidence Interval		Z	p-value
			Lower	Upper		
Spearman's rho	0.674	0.046	0.584	0.764	14.695	0.000
Goodman-Kruskal's Gamma	0.832	0.043	0.748	0.916	19.438	0.000
Kendall's tau-b	0.621	0.045	0.530	0.704	13.681	0.000
Somers' d	0.621	0.046	0.533	0.711	13.682	0.000

Source: SPSS Analysis Results

CONCLUSION

The overarching goal of this study is to investigate the connections between five factors affecting young Indian consumers: addiction to social media and smartphones, FOMO (fear of missing out), impulsive buying, and compulsive buying behavior when shopping online. In particular, the research examined how four psychological factors affected compulsive purchase behavior when shopping online. An online survey was used to gather data from 164 young consumers, ranging in age from 18 to 34. Due to high levels of impulsive purchase, excessive smartphone and social media use, FOMO, and other similar traits, the results showed that young Indian consumers exhibited higher levels of compulsive buying behavior when it came to online shopping. This study is important because it draws attention to the four psychological characteristics that influence young consumers' online compulsive purchase behavior and provides policymakers, academics, and businesses with information they can use to combat this problem.

Practical Implications

Young people nowadays are more cynical and brand loyalist than previous generations, spending a lot of time on social media and cellphones to research and compare costs, features, and availability of various products and services (Lim et al., 2020). In order to keep up with the ever-changing landscape of the online marketplace, it is imperative that e-commerce marketers regularly and relentlessly work to make their products more appealing to younger consumers. Online retailers must cater to this particular type of illogical behavior, whether it's impulsive or compulsive, if they want to attract and keep young customers for the sake of their long-term success.

Even if making money is the first priority for any business, companies should nonetheless pay attention to customers' compulsive buying behavior because it causes problems for people, families, and society as a whole. Instant gratification is so common in today's technologically advanced society that people often buy things they don't really need or buy more

of them than they need because they want to save time and effort. Such diseases of customers' compulsive purchase can have numerous causes. Online shopping has many appealing qualities, such as being more entertaining and fun, offering easy credit options, being the simplest and quickest method, and being promoted aggressively by e-commerce firms through multiple media at once. Peer pressures via social media websites also play a role, as does the excessive usage of smartphones, which leads to unnecessary exposure of online offers and discounts. One sensible thing that marketers may do as part of their social responsibility efforts is to promote responsible consumption among young consumers.

Just like alcoholic beverage businesses target young people, socially responsible marketers should tell young people to be careful with their credit card spending so they don't have to buy things they don't need (Palán et al., 2011). The authors went on to say that the corporation may reap long-term benefits by putting the interests of its customers first and encouraging responsible consumption among young people. Similarly, in today's technology age, young consumers are more likely to suffer from compulsive buying disorders because of the abundance of credit options that allow them to shop online and promote "buy now, pay later" mentality. Particularly in a developing nation like India, this would cause significant long-term psychological and financial problems for individuals and unstable social and economic situations for communities as a whole.

By avoiding deceitful marketing tactics (such as appealing to consumers' sense of self-importance) and teaching them to be responsible, marketers can maintain their competitive edge and earn their trust and loyalty (Shoham et al., 2015). In addition to the profit-driven nature of business and its targeting methods, leaders and managers can incorporate social responsibility into their company DNA to ensure continued relevance and accountability. Businesses would be able to gain a lasting competitive edge if they used responsible marketing tactics that encouraged responsible consumption.

The negative effects of internet compulsive buying on people's lifestyles, social mores, and national economies should be seriously considered by public policymakers, consumer researchers, and marketers from business organizations (Elif Akagiün, 2010). According to Khandelwal et al. (2021), young Indian consumers might benefit from a "personal finance" education program that teaches them how to budget their money wisely and encourages them to buy responsibly. It is strongly advised that the Government of India institute statutory warnings in cases when e-commerce companies subject young consumers to excessive promotions and offers, leading to impulsive and compulsive online shopping. It is imperative that the relevant authorities in the e-commerce arena launch similar awareness campaigns, given that this is already prevalent in certain market scenarios (online/mobile games) in India.

Limitations and Future Research

Future research in the field of online compulsive buying should take into account the study's limitations, which are present. One major limitation is that the responders were all quite young, which limits the results' applicability to a broader population. It is recommended that future studies compare this behavior across different age groups, taking into account different market segments' technology and behavioral traits. In addition, the study's results were supported by the use of non-parametric correlation approaches, which were employed to clarify the connection between the chosen psychological factors of young Indian customers. It is suggested that in future research, the aim should be to use PLS-SEM methods to measure the causal links among these variables. And lastly, this study is cross-sectional and uses a small sample size. Longitudinal research methods should be prioritized due to the ever-changing nature of consumers' compulsive online behavior.

REFERENCES

1. Bhatia, V. (2019). Impact of fashion interest, materialism and internet addiction on e-compulsive buying behaviour of apparel. *Journal of Global Fashion Marketing*, 10(1), 66-80.
2. Billieux, J. (2012). Problematic use of the mobile phone: A literature review and a pathways model. *Current Psychiatry Reviews*, 8(4), 299–307.
3. comScore. (2020). Mobile share of total digital minutes in leading online markets as of August 2020 <https://www.comscore.com/Insights/Presentations-and-Whitepapers/2020/Global-State-of-Mobile>
4. Dittmar, H. (2004), "Understanding and diagnosing compulsive buying", in Coombs, R.H. (Ed.), *Handbook of Addictive Disorders: A Practical Guide to Diagnosis and Treatment*, Wiley, New Jersey, pp. 411-450.

5. Dittmar, H., Long, K. and Bond, R. (2007), "When a better self is only a button click away: associations between materialistic values, emotional and identity-related buying motives, and compulsive buying tendency online", *Journal of Social and Clinical Psychology*, Vol. 26 No. 3, pp. 334-361.
6. Elif Akagün, E. (2010). Compulsive buying behavior tendencies: The case of Turkish consumers. *African journal of business management*, 4(3), 333-338.
7. eMarketer (2018), Retail Mcommerce Sales Worldwide 2016-2021, <https://www.emarketer.com/Report/Worldwide-Retail-Ecommerce-Sales-eMarketers-Updated-Forecast-New-Mcommerce-Estimates-20162021/2002182>
8. eMarketer (2021), Top 10 Countries, Ranked by Retail Mcommerce Sales Growth 2021, <https://www.matteocurvels.com/latamonline-blog/mobile-will-capture-more-than-half-of-retail-ecommerce-sales-in-latin-america-next-year>
9. eMarketer. (2022a). Retail e-commerce sales worldwide from 2014 to 2025 (in billion U.S. dollars) <https://www.insiderintelligence.com/content/global-ecommerce-forecast-2022>
10. eMarketer (2022b). Top 10 Countries, Ranked by Retail Ecommerce Sales Growth, 2022. <https://www.insiderintelligence.com/chart/253485/top-10-countries-ranked-by-retail-ecommerce-sales-growth-2022-change>
11. Griffiths, M. (2000), "Does internet and computer addiction exist? Some case study evidence", *Cyber Psychology and Behavior*, Vol. 3 No. 2, pp. 211-218.
12. Internet and Mobile Association of India, & Nielsen. (May 5, 2020). Distribution of internet users in India between January and November 2019, by age group. <https://reverieinc.com/wp-content/uploads/2020/09/IAMAI-Digital-in-India-2019-Round-2-Report.pdf>
13. ITU. (2021). Number of internet users worldwide from 2005 to 2021 (in millions) <https://www.itu.int/itu-d/reports/statistics/global-connectivity-report-2022/>
14. Khandelwal, R., Kolte, A., Veer, N., & Sharma, P. (2021). Compulsive buying behaviour of credit card users and affecting factors such as financial knowledge, prestige and retention time: a cross-sectional research. *Vision*, 0972262920981428.
15. Kukar-Kinney, M., Ridgway, N.M. and Monroe, K.B. (2009), "The relationship between consumers' tendencies to buy compulsively and their motivations to shop and buy on the internet", *Journal of Retailing*, Vol. 85 No. 3, pp. 298-307.
16. Kumar, M. R., & Narayanan, A. G. V. (2016). Effect of impulse buying on socioeconomic factors and retail categories. *Indian Journal of Marketing*, 46(9), 24-34.
17. Lee, S., Park, J. and Bryan Lee, S. (2016), "The interplay of internet addiction and compulsive shopping behaviors", *Social Behavior and Personality: An International Journal*, Vol. 44 No. 11, pp. 1901-1912.
18. Lim, X.-J., Cheah, J.-H., Cham, T.H., Ting, H. and Memon, M.A. (2020), "Compulsive buying of branded apparel, its antecedents, and the mediating role of brand attachment", *Asia Pacific Journal of Marketing and Logistics*, Vol. 32 No. 7, pp. 1539-1563.
19. Mulyono, K.B. and Rusdarti, R. (2020), "How psychological factors boost compulsive buying behavior in digital era: A case study of Indonesian students", *International Journal of Social Economics*, Vol. 47 No. 3, pp. 334-349.
20. O'Guinn, T. C., & Faber, R. J. (1989). Compulsive buying: A phenomenological exploration. *Journal of consumer research*, 16(2), 147-157.
21. Pahlevan Sharif, S. and Khanekharab, J. (2017), "Identity confusion and materialism mediate the relationship between excessive social network site usage and online compulsive buying", *Cyberpsychology, Behavior, and Social Networking*, Vol. 20 No. 8, pp. 494-500.
22. Palan, K. M., Morrow, P. C., Trapp, A., & Blackburn, V. (2011). Compulsive buying behavior in college students: the mediating role of credit card misuse. *Journal of Marketing Theory and Practice*, 19(1), 81-96.
23. Przybylski, A. K., Murayama, K., DeHaan, C. R., & Gladwell, V. (2013). Motivational, emotional, and behavioral correlates of fear of missing out. *Computers in human behavior*, 29(4), 1841-1848.
24. Razali, N. M., & Wah, Y. B. (2011). Power comparisons of shapiro-wilk, kolmogorov-smirnov, lilliefors and anderson-darling tests. *Journal of statistical modeling and analytics*, 2(1), 21-33.

25. Roberts, J. A. (1998). Compulsive buying among college students: an investigation of its antecedents, consequences, and implications for public policy. *Journal of consumer affairs*, 32(2), 295-319.
26. J. K. S. Al-Safi, A. Bansal, M. Aarif, M. S. Z. Almahairah, G. Manoharan and F. J. Alotoum, "Assessment Based On IoT For Efficient Information Surveillance Regarding Harmful Strikes Upon Financial Collection," 2023 International Conference on Computer Communication and Informatics (ICCCI), Coimbatore, India, 2023, pp. 1-5, doi: 10.1109/ICCCI56745.2023.10128500.
27. Tidake, Vishal & Mazumdar, Nilanjan & Kumar, A. & Rao, B. & Fatma, Dr Gulnaz & Raj, I.. (2023). Sentiment Analysis of Movie Review using Hybrid Optimization with Convolutional Neural Network in English Language. 1668-1673. 10.1109/ICAIS56108.2023.10073750.
28. M. A. Tripathi, R. Tripathi, F. Effendy, G. Manoharan, M. John Paul and M. Aarif, "An In-Depth Analysis of the Role That ML and Big Data Play in Driving Digital Marketing's Paradigm Shift," 2023 International Conference on Computer Communication and Informatics (ICCCI), Coimbatore, India, 2023, pp. 1-6, doi: 10.1109/ICCCI56745.2023.10128357.
29. M. Lourens, A. Tamizhselvi, B. Goswami, J. Alanya-Beltran, M. Aarif and D. Gangodkar, "Database Management Difficulties in the Internet of Things," 2022 5th International Conference on Contemporary Computing and Informatics (IC3I), Uttar Pradesh, India, 2022, pp. 322-326, doi: 10.1109/IC3I56241.2022.10072614.
30. Abd Algani, Y. M., Caro, O. J. M., Bravo, L. M. R., Kaur, C., Al Ansari, M. S., & Bala, B. K. (2023). Leaf disease identification and classification using optimized deep learning. *Measurement: Sensors*, 25, 100643.
31. Ratna, K. S., Daniel, C., Ram, A., Yadav, B. S. K., & Hemalatha, G. (2021). Analytical investigation of MR damper for vibration control: a review. *Journal of Applied Engineering Sciences*, 11(1), 49-52.
32. Abd Algani, Y. M., Ritonga, M., Kiran Bala, B., Al Ansari, M. S., Badr, M., & Taloba, A. I. (2022). Machine learning in health condition check-up: An approach using Breiman's random forest algorithm. *Measurement: Sensors*, 23, 100406. <https://doi.org/10.1016/j.measen.2022.100406>
33. Mourad, H. M., Kaur, D., & Aarif, M. (2020). Challenges Faced by Big Data and Its Orientation in the Field of Business Marketing. *International Journal of Mechanical and Production Engineering Research and Development (IJMPERD)*, 10(3), 8091-8102.
34. Roberts, J.A., Manolis, C. and Pullig, C. (2014), "Contingent self-esteem, self-presentational concerns, and compulsive buying", *Psychology & Marketing*, Vol. 31 No. 2, pp. 147-160.
35. Rook, D. W., & Fisher, R. J. (1995). Normative influences on impulsive buying behavior. *Journal of consumer research*, 22(3), 305-313.
36. Rook, D.W. (1987), "The buying impulse", *Journal of Consumer Research*, Vol. 14 No. 2, pp. 189-199.
37. Shoham, A., Gavish, Y., & Segev, S. (2015). A cross-cultural analysis of impulsive and compulsive buying behaviors among Israeli and US consumers: The influence of personal traits and cultural values. *Journal of International Consumer Marketing*, 27(3), 187-206.
38. Singh, S., & Tak, P. (2013). Psychological Motivations and Compulsive Buying: A Study of Consumers in Delhi. *Indian Journal of Marketing*, 43(9), 47-56.
39. Statista. (2020). Social network user penetration in India from 2015 to 2020, with estimates until 2025. <https://www.statista.com/statistics/240960/share-of-indian-population-using-social-networks/>
40. Statista. (2021). Number of internet users in selected countries in 2021 (in millions) <https://www.statista.com/statistics/271411/number-of-internet-users-in-selected-countries/>
41. Suresh, A. S., & Biswas, A. (2020). A study of factors of internet addiction and its impact on online compulsive buying behaviour: Indian millennial perspective. *Global business review*, 21(6), 1448-1465.
42. TRAI. (2022). Number of wireless subscribers across India between June 2010 and December 2021 (in millions) https://www.trai.gov.in/sites/default/files/QPIR_05052022.pdf
43. We Are Social, & Hootsuite. (2021). Mobile app usage across India in the 3rd quarter of 2020, by category. <https://www.statista.com/statistics/1108880/india-share-of-mobile-app-usage-by-category/>
44. We Are Social, & Hootsuite. (2022). Leading websites in India as of November 2021, by traffic (in pages per day). <https://www.statista.com/statistics/1108779/india-websites-ranking-by-traffic/>