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Impulsive buying tendency: Measuring important relationships with a new perspective and an indigenous scale

Anant Jyoti Badgaiyan ^{a,*}, Anshul Verma ^b, Saumya Dixit ^c

^a Vindhya Institute of Management and Research, Satna, Madhya Pradesh, India

^b Institute of Management Technology, Ghaziabad, India

^c The NorthCap University, Gurgaon, India

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Abstract With the opening up of the economy and the proliferation of mall culture, the economic relevance of impulsive buying behaviour has assumed significance. Impulsive buying behaviour is better understood by examining the impulsive buying tendency that shapes such behaviour, and since consumer behaviour differs across cultures, by incorporating an indigenous perspective in understanding and measuring the tendency. Studies were conducted to develop an Indian scale for measuring impulsive buying tendency and to validate it by examining its association with other relevant variables. A two factor, 8-item scale was developed; a significant positive relationship was seen between impulsive buying tendency and impulsive buying behaviour, and the relationship between impulsive buying tendency and self-control was found to be inversely significant. Results also showed significant relationship between impulsive buying tendency and the two personality constructs of Conscientiousness and Extraversion.

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Introduction

The economic importance of impulsive buying is well established in the retail world (Verplanken & Sato, 2011). With an estimated \$4 billion being spent annually in an impulsive manner (Liao & Wang, 2009), and about 62% market sales in supermarkets, and around 80% sales in luxury goods being attributed to impulsive purchase (Ruvio & Belk, 2013), the phe-

nomenon is very important to the retail world. Researchers in the past have delved into many aspects related to impulsive buying behaviour. While some researchers have investigated the possible role of intrinsic factors such as impulsive buying tendency (Flight, Rountree, & Beatty, 2012; Froughi, Buang, Senik, & Hajmisadeghi, 2013; Mohan, Sivakumar, & Sharma, 2013), shopping enjoyment tendency (Bong, 2010; Chavosh, Halimi, & Namdar, 2011; Mohan et al., 2013), materialism (Garðarsdóttir & Dittmar, 2012), personality (Bratko, Butkovic, & Bosnjak, 2013; Herabadi, Verplanken, & Van Knippenberg, 2009), and culture (Dameyasani & Abraham, 2013; Pornpitakpan & Han, 2013), others have tried to unveil

* Corresponding author. Fax: 07672-223301.

E-mail address: anantjyoti@gmail.com (A.J. Badgaiyan).

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the role of external factors (Karbasivar & Yarahmadi, 2011; Lifu, 2012; Mehta & Chugan, 2013) in impulsive buying behaviour. On similar lines, there have been attempts to examine the impact of constraints such as the availability of time and money (Beatty & Ferrell, 1998; Dholakia, 2000), while some others have tried to capture the effect of aspects such as the stimulation level (Sharma, Sivakumaran, & Marshall, 2010); the mood and emotions (Foroughi et al., 2013); and in-store display (Ghani & Kamal, 2010). Needless to say, the importance of the phenomenon called impulsive buying has only grown with time.

Though several facets of impulsive buying behaviour have been researched in the past, according to the authors, it is important to develop an improved understanding of the inherent tendencies that guide and shape such behaviour in order to understand it better. Thus, the widely acclaimed driver of impulsive buying behaviour, the impulsive buying tendency (Flight et al., 2012; Foroughi et al., 2013; Yang, Huang, & Feng, 2011), needs deserved attention.

Though sometimes used synonymously, impulsive buying tendency, a precursor variable, is different from impulsive buying behaviour, as the former captures a relatively enduring consumer trait that produces urges or motivations for the latter (Sun & Wu, 2011; Zhang, Prybutok, & Strutton, 2007). Thus, though these urges sometimes culminate in actual purchases (Foroughi et al., 2013), there is a possibility that other mediating variables such as unavailability of money or time might put an abrupt end to the urge (Dholakia, 2000) and might not result in an actual impulsive purchase. Despite this, however, this manifestation of general impulsiveness called impulsive buying tendency (Dholakia, 2000; Punj, 2011; Sharma et al., 2010; Siorowska, 2011) has been found to have a definite positive relationship with impulsive buying behaviour (Flight et al., 2012; Foroughi et al., 2013).

There have been several attempts to measure impulsive buying tendency. Initial attempts considered it a one-dimensional trait (Beatty & Ferrell, 1998; Rook & Fisher, 1995), and later on a two-dimensional outlook (Puri, 1996; Verplanken & Herabadi, 2001; Youn & Faber, 2002) was developed and a second dimension was also explored. The most detailed approach in this regard was the robust scale by Verplanken and Herabadi (2001) who arrived at a 20-item scale measuring the cognitive aspects (e.g., lack of planning and deliberation) and affective aspects (e.g., feelings of pleasure, excitement, compulsion, lack of control, regret). Though the impulsive buying tendency measurement scale by Verplanken and Herabadi (2001) did seem to cover the essence of impulsive behaviour, yet, as per the research findings of Bosnjak, Bandl, and Bratko (2007) it suffered from a problematic convergent and discriminant validity. Similarly, a robust impulsive tendency measurement scale by Sharma, Sivakumaran, and Marshall (2011) argued that while measuring impulsive buying tendency (they called it impulsivity), the differences in cultural orientation should be considered. To give the cultural orientation due consideration, they presented a three-factor structure (prudence, self-indulgence, and self-control) for the collectivists and a two-factor structure (prudence and hedonism) for the individualists. Though a unique perspective—in the form of a third dimension—was provided by Sharma et al. (2011), their scale was validated through studies in countries such as the United States and Singapore, and thus,

though a robust proposition, it still awaits due validation in Asian sub-continental countries, such as India and Pakistan.

Thus, even though some robust scales for measuring impulsive buying tendency do exist in the literature, a need for a fresh and indigenous outlook was felt on account of the following reasons:

1. With the majority of the existing scales using the English language, it would be questionable whether they could capture the real essence of the phenomenon in cultures and contexts such as India or China where an overwhelming majority of the population converses in the regional language. If attempts were made to exclude the non-English speaking respondents from the survey, it would result in an obvious bias and would not produce reliable results. Alternately, mere translation of the items of the existing scales might create subjective biases and might also change the essence of the context.
2. Barring the consumer impulsiveness scale by Puri (1996) who administered the scale to both US as well as Indian respondents, almost all the previous scales have been developed in different developed countries (such as the US, Singapore, and Norway), where, not only the purchasing power of the consumers is expected to be different, but also the spending philosophy. In their study, Kacen and Lee (2002) observed that the nine-item Rook and Fisher (1995) scale which they administered in four countries, two individualistic (Australia and the US) and two collectivistic (Singapore and Malaysia), resulted in differences in the factor structures across different countries. Kacen and Lee (2002) found a single factor for their sample from the individualist countries but also found two factors for the collectivistic countries. Based on this evidence, Kacen and Lee (2002) noted that the scales developed in the United States were not valid for use in other countries and even suggested that the buying impulsiveness trait may have a different meaning across different cultures. Also, in the same context, Sharma et al. (2011) pointed out that consumers in collectivistic cultures such as China and Vietnam, being more focussed on their social goals, would probably be more in control of their impulses and emotions in comparison to individualistic cultures such as the US. Thus, the authors are of the opinion that given the distinct differences in the behaviour of consumers across cultures, the indigenous perspective assumes definite significance in measurement scales as well.
3. With the consumption focus shifting to the emerging economies of the sub-continent, such as India and Pakistan, where the opening up of the economy and proliferation of mall culture have provided opportunities to the global retail giants, the fact remains that the majority of consumers in these countries consist of a middle class population that is expected to be different in terms of behaviour from the developed world. As pointed out by Ahmed and d'Astous (2008), significant differences in market structure and consumer behaviour are prevalent between the developing and the developed countries, and hence the models from the developed countries may not necessarily be applicable to the developing world. Additionally, in comparison to the impulsive buying literature related to the Western world, there have been few studies in the context of a developing country such as India. Thus, a new

measurement scale would contribute to the existing knowledge base, and also provide an impetus to more related endeavours.

Against this background, we looked at the possibility of developing a new impulsive tendency measurement scale to measure the impulsive buying tendency. Further, with our second study assessing the possible relationship between the construct of self-control, the Big Five personality trait constructs, and impulsive buying behaviour, we submit that our endeavour fills a void in the study of an important phenomenon from the retail world.

We conducted twin studies for the purpose. In the first study, responses were collected from 422 consumers for developing the impulsive buying tendency measurement scale. In the second study involving 508 respondents, a scale validation was performed by studying the relationship between impulsive buying tendency and self-control, impulsive buying behaviour, and the Big Five personality traits of emotional stability, agreeableness, extraversion, conscientiousness, and openness to experience. In the following sections, development of the scale to measure the impulsive tendency construct has been discussed, followed by an effort to explore the relationship between the impulsive buying tendency and other relevant variables.

Study 1: Scale construction to measure impulsive buying tendency

The psychology of impulsive buying

The early research on impulsive buying considered it to be “unplanned buying” (Stern, 1962); gradually, it was recognised as an emotional experience, wherein the rapidness of behaviour precluded thoughtful deliberation of alternatives or consequences (Jones, Reynolds, Weun, & Beatty, 2003). Given the rapidness of behaviour and the absence of thoughtful selection, the majority of consumer behaviour models required explanations of impulsive behaviour. For instance, Engel and Blackwell (1982) proposed that consumers processed information in five stages before making a consumption decision, and suggested that consumers first recognised the need, and then searched for relevant information and alternative solutions, followed by evaluation of the alternatives, ultimately leading to the purchase of the chosen alternatives. Finally, as a last stage, the model suggested that consumers made a post-purchase evaluation of the decision. The initial model, however, did not consider the emotional processes and the relevance of self-control, and thus, did not explain impulsive buying behaviour. It was only later that Blackwell, Miniard, and Engel (2006) recognised impulsive buying as a limited problem-solving decision, stating that in the impulsive buying decision making process, the search for information and the pre-purchase evaluations were limited. In the same vein, even the much applauded theory of reasoned action being based on the proposition that “human beings were usually quite rational and made systematic use of accessible information” (Ajzen & Fishbein, 1980, p. 5) meant that its explanatory scope excluded a wide range of behaviours that were spontaneous and impulsive (Bentler & Speckart, 1979; Hale, Householder, & Greene, 2002).

Thus, rationale based or economic cost-benefit oriented models were not found to fit impulse-buying behaviour, and hence, the psychological perspective was given due consideration (Dittmar & Drury, 2000). Thus, for improved understanding of impulsive consumer buying, attention was directed by researchers towards the underlying psychological processes of affect and cognition that influenced impulsivity (Youn & Faber, 2000). It has been highlighted by Youn and Faber (2000) that emotions play a part in the active and reactive experiences of consumption, and hence, it is important to include the inner conflict to better understand the dynamics of the impulse buying phenomena. Youn and Faber (2000) pointed out that although conceptually distinguishable, affective or emotional processes which created impulsivity, and cognitive or reasoned processes which enabled self-control, were not necessarily independent of one another. It has been suggested that impulsive buying takes place when desires are strong enough to override restraints (Hoch & Loewenstein, 1991; Youn & Faber, 2000). Punj (2011) proposed that individuals strive to balance pleasure seeking and self-regulation, and the greater the internal motivation, the more likely the urge to make an impulse buy. In this regard, Rook and Hoch (1985) suggested that “psychological disequilibrium” led to impulsive purchase of products, and pointed out that individuals differed in impulsive tendencies as some people were found to have a higher tendency to buy on impulse than others. Thus, considering the psychological processes to be the key for understanding and interpreting impulsive behaviours, while selecting items for the scale, efforts were made to include items related to both the cognitive and the affective dimensions.

Revisiting existing scales

Impulsive buying tendency has been defined as the degree to which an individual is likely to make unintended, immediate, and unreflective purchases (Beatty & Ferrell, 1998; Rook & Fisher, 1995). Initially, the scales that were developed to measure the impulsive buying tendency treated it as a uni-dimensional construct (Rook & Fisher, 1995); however, on account of the concerns about their validity and because of the underlying psychological structures, Puri (1996) conceptualised it as “consumer impulsiveness”, a construct based on the dimensions of prudence (cognitive) and hedonism (affective). Later, Verplanken and Herabadi (2001) also developed a two factor, 20-item impulsive buying tendency measurement scale. In the same vein, Youn and Faber (2002) termed impulsive buying tendency as “consumer buying impulsivity” and added the behavioural dimension to the affective and cognitive components to come up with three higher-order dimensions. However, the results from the validation studies on US respondents by Youn and Faber (2002) indicated that behavioural and affective elements were found to be merged into one factor. Also, Sharma et al. (2011) showed that for collectivist cultures, the possibility remains for a three-factor structure to explain the consumer impulsiveness trait, while for individualists a two-factor structure was relevant. Though these scales seem to be presenting robust alternatives to measure the impulsive buying tendency, they also highlight the obvious differences and the lack of a universally acceptable measurement scale. Also, as

Table 1 Profile of respondents.

		Frequency	Percent	Cumulative percent
Gender	Male	233	55.2	55.2
	Female	189	44.8	100.0
Age (years)	Less than 20	44	10.4	10.4
	Between 20 and 30	182	43.1	53.6
	Between 30 and 40	86	20.4	73.9
	Between 40 to 50	46	10.9	84.8
	More than 50	37	8.8	93.6
	More than 60	27	6.4	100.0
Marital status	Single	197	46.7	46.7
	Married	214	50.7	97.4
	Divorced	3	.7	98.1
	Widowed	8	1.9	100.0
Employment status	Employed	234	55.5	55.5
	Not employed	188	44.5	44.5

already mentioned, first by [Kacen and Lee \(2002\)](#) and later by [Sharma et al. \(2011\)](#), the interpretation of the impulsive tendency dimensions differed across cultures; thus, it is worthwhile to assess as to how many dimensions of impulsive buying tendency emerge in collectivist Indian consumers.

Finalising the item pool

Based on the review of literature, a relevant pool of 64 items related to the cognitive and affective dimensions of impulsive tendency was first developed. The item pool contained items developed by the authors as well as those adopted from previous studies (e.g., [Beatty & Ferrell, 1998](#); [Rook & Fisher, 1995](#); [Verplanken & Herabadi, 2001](#)). Efforts were made to include items related to both the cognitive as well as the affective dimensions. This item pool was then rated by an independent panel of three experienced consumer behaviour faculty members who rated each item using a 3-point scale (1 = not at all representative, 2 = somewhat representative, and 3 = completely representative) on the extent to which it represented at least one of the two dimensions (cognitive and affective) of consumer impulsiveness. The item scores were then added and items with an average score of 6 or more retained.

In all, 42 items were retained and then translated into Hindi. A professional translator was consulted to ensure that the translated version of the items was as close to the English scale items as possible.

Methodology

Buyers returning from shopping malls in Delhi, India, were selected for the study. With a minimum sample size of 420 in mind, 450 questionnaires were targeted; with 28 non-clear or incomplete responses, 422 questionnaires were finally considered for the analysis. Convenience sampling was used to collect data, so as to avoid the possibility of non-serious respondents adversely affecting the real outcome of the research, and only genuinely interested candidates were

approached and requested to furnish information and opinions. To avoid non-response bias, respondents were assured about the confidentiality of the research and were briefed about its importance as well.

As seen from [Table 1](#), the sample consisted of 233 males and 189 females. While finalising the sample size, since the analysis focussed primarily on exploratory and confirmatory factor analysis, the acceptable rule of 10 observations per item ([Arrindell & van der Ende, 1985](#); [Nunnally, 1978](#)) was accepted and hence for a 42 item scale, a minimum sample size of 420 was targeted. The detailed sampling profile is given in [Table 1](#).

Results

The data were first subjected to exploratory factor analysis (EFA) and later a proper fit was established through confirmatory factor analysis (CFA). The summary of the results from the analyses is as follows.

Results from exploratory factor analysis

The 42 items to measure the impulsive buying tendency were subjected to a principal component analysis. Prior to using the principal-axis factor analysis, as it is important to ensure that the data matrix has sufficient correlations to justify the application of factor analysis, results related to the Bartlett tests of sphericity and the Kaiser-Meyer-Olkin (KMO) tests of sampling adequacy were observed. While the test value for Bartlett test of sphericity was 1.014E3, the results showed that the value of .89 for the KMO test of sampling adequacy was extremely good. The initial matrix from the factor analysis showed that five factors explained 72% of the total variance, exceeding the 60% threshold, with the first two factors accounting for 20.56% and 14.06% of the variance respectively. With a view to identify the two most influential factors, exploratory factor analysis was run by limiting the total factors to two and the factor loadings as shown in [Table 2](#) were obtained. Cronbach's alpha of .78 and .81, respectively, for the two factors indicated a reasonable measure of reliability.

Table 2 Component score coefficient matrix in exploratory factor analysis (EFA).

		Component	
		1	2
Factor 1	1. Most of my purchases are planned in advance.	.87	
	2. Before I buy something I always carefully consider whether I need it.	.82	
	3. I carefully plan most of my purchases.	.83	
	4. I often buy without thinking.	.86	
	5. If I see something new, I want to buy it.	.53	
	6. If I buy something, I usually do that spontaneously.	.51	
Factor2	1. I sometimes buy things because I like buying things, rather than because I need them.		.88
	2. I buy what I like without thinking about consequences.		.86
	3. I buy products and services according to how I feel at that moment.		.72
	4. It is fun to buy spontaneously.		.75
	5. I sometimes feel guilty after having bought something.		.52

Results from confirmatory factor analysis

The two factors obtained through EFA were subjected to a series of confirmatory analysis to find the best fit. From the results of the CFA, factor loading was assessed and the initial fit was obtained. However, after deleting the items that did not load adequately, a revised model was obtained that consisted of four items each. The convergent validity of both the constructs was also taken care of, with all the loadings being above the threshold of .70 as recommended (Segars, 1997). Thus, the two factors F1 and F2 were obtained (see Fig. 1).

In line with the generally accepted threshold values for the test statistics, the results indicated an excellent fit for all the five model fit statistics. As seen in Table 3, the results showed an excellent fit with regard to the goodness of fit index (GFI = .977), the adjusted goodness of fit index (AGFI = .957), the normed fit index (NFI = .968), and the root mean square error of approximation (RMSEA = .050, PCLOSE = .48). A look at the standardised residuals revealed that all values were smaller than 2.58 and therefore, indicated that no changes were warranted based on the assessment of the standardised residuals.

Examining validity

It is important to not only interpret the results from factor analysis properly, but also to see whether reliability and validity measurements are established or not. Thus, the convergent as well as discriminant validities of the scale were determined. As seen in Table 4, the two factors had excellent convergent and discriminant validity.

Final scale to measure impulsive buying tendency

The final scale for measuring impulsive buying tendency is listed in Table 5.

Study 2: Relationship between the impulsive buying tendency scores and self-control, personality constructs, and impulsive buying behaviour

In the second study, the relationship between the impulsive buying tendency scores and the constructs of self-control, personality constructs, and impulsive buying behaviour was examined.

Methodology

The methodological modalities were similar to those in the first study, except that the sample size was increased to 508. Though a sample size of 525 was targeted, in line with the planned use of structural equation modelling in data analysis (sample size of 500 has been suggested by Comrey & Lee, 1992), a few incomplete and unclear responses kept the size at 508. The profile of respondents is given in Table 6.

Instrument for the study

Though several instruments have been developed in the past for measuring personality traits (such as John & Srivastava, 1999), for this study, a brief 10 item version for personality measurement developed by Gosling, Rentfrow, & Swann, 2003 was selected. Though some authors argue that single-item scales are usually psychometrically inferior to multiple-item scales (Diamantopoulos, Sarstedt, Fuchs, Wilczynski, & Kaiser, 2012), as pointed out by some others (Bergkvist & Rossiter, 2007; Gosling et al., 2003), the shorter versions can be just as valid as the long and sophisticated scales. To measure self-control, a ten-item scale by Haws, Bearden, & Nenkov (2012) was selected. Further, the construct impulsive buying behaviour was measured on a two item scale (1. I ended up spending more money than I originally set out to spend; and 2. I bought more than I had planned to buy) adapted from Mattila and Wirtz (2008). To measure impulsive buying tendency, the 8-item scale developed by the authors (mentioned in Study 1, Table 5) was used. The reliability of the instrument showed that all the constructs had reasonably good reliability values.

The instrument was pre-tested and due to poor loading, four items from the construct "self-control" (I1. I closely monitor my spending behaviour; I5. When I go out with friends,

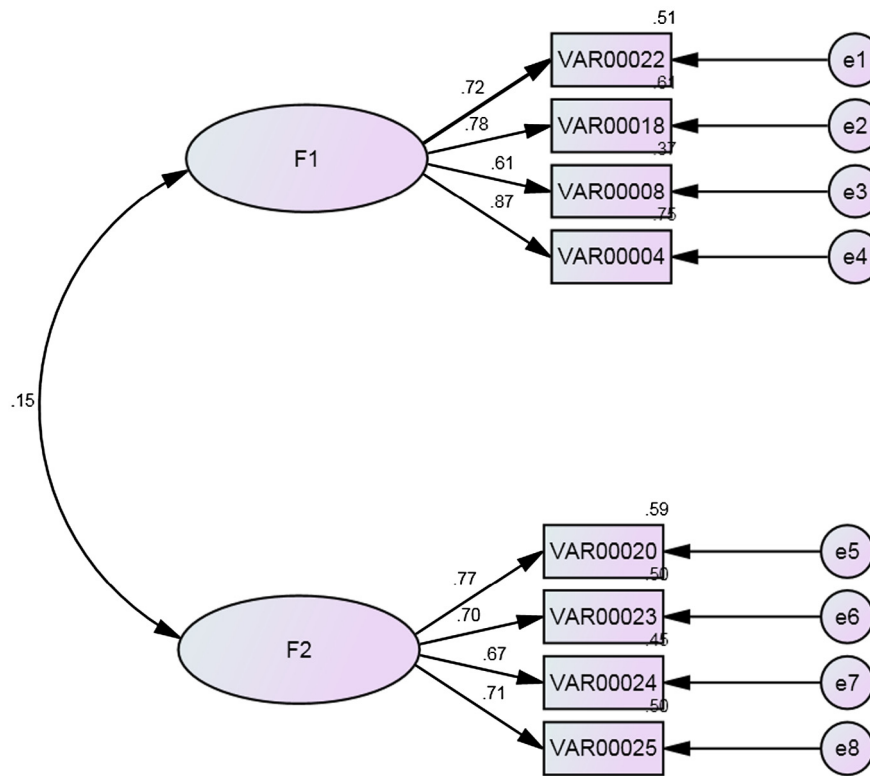


Figure 1 Two factor scale to measure impulsive buying.

Table 3 Summary of results from confirmatory factor analysis.

Chi-square (CMIN/DF)	NPAR	CMIN	DF	p	CMIN/DF
RMR, GFI	17	38.610	19	.005	2.032
Baseline comparison	RMR	GFI	AGFI	PGFI	
	.173	.977	.957	.516	
	NFI	RFI	IFI	TLI	CFI
	.968	.953	.983	.975	.983
FMIN	FMIN	FO	LO90	HI90	
	.092	.047	.013	.098	
RMSEA	RMSEA	LO90	HI90	PCLOSE	
	.050	.026	.072	.481	

Note: RMR, root mean square residual; GFI, goodness-of-fit index; AGFI, adjusted GFI; NPAR, number of estimated parameters; CMIN, minimum of discrepancy function; DF, degree of freedom; P, probability of CMIN (or larger) assuming the default model or probability of an exact fit; PGFI, parsimony goodness-of-fit index; NFI, normed fit index; RFI, relative fit Index; IFI, incremental fit index; TLI, Tucker-Lewis index; CFI, comparative fit index; FMIN, minimum of discrepancy function F; FO, non-centrality parameter divided by DF; HI90, upper limit of the 90% confidence interval of the index; RMSEA, root mean square error of approximation; LO90, lower limit of the 90% confidence interval of the index; PCLOSE, p-value for H0: RMSEA ≤ 0.05.

I keep track of what I am spending; I8. In social situations, I am generally aware of what I am spending; I10. I am responsible when it comes to how much I spend) were not included in the final analysis. Reliability results of constructs used in the study and measurement properties of items are shown in Tables 7 and 8, respectively.

Hypotheses

The following sub-sections describe the theoretical premise of the hypothesised relationships. Firstly, the theoretical back-

drop to the possible association of self-control and impulsive buying tendency has been provided. This is followed by an investigation of the theoretical backdrop related to the relationship between the five personality traits (emotional stability, agreeableness, extraversion, conscientiousness, and openness to experience) and impulsive buying tendency, and finally, the theoretical background to the assumed relationship between impulsive tendency and impulsive behaviour has been explained.

Self-control and impulsive buying tendency

Self-control, as defined by Kuhn (2013, p. 17), refers to a “person’s ability to prevail upon and regulate socially

Table 4 Validity measures.

CR	AVE	MSV	ASV
0.81	0.51	0.02	0.02
0.84	0.56	0.02	0.02

Note: Table indicating the validity measurement scores. The table is showing that the two necessary conditions for discriminant validity (MSV: maximum shared variance < AVE: average variance extracted, and ASV: average shared variance < AVE) were fulfilled. Similarly, for assessing the convergent validity, the three conditions (a. composite reliability (CR) being greater than .7; b) CR being greater than average variance extracted (CR > AVE); and c) AVE being greater than .5) were found to be satisfied.

unacceptable and undesirable impulses and it includes delay of gratification, which is the capacity to decline immediate, less preferred outcomes to attain more preferred outcomes in the future". Individuals high in self-control tend to be reflective and deliberative in their actions, can continue such behaviour in the absence of reward, and exhibit high levels of forethought and planning (Kuhn, 2013). This is in contrast to the basic assumption underlying the construct of impulsive tendency that it is unreflective and spontaneous.

Also, as pointed out by Vohs and Faber (2003), self-control or self-regulation is critical in enabling people to progress from current to desired states. Thus, as the consumer purchase process also involves the progression towards possession, it is logical to see the role of self-control in the consumer decision making process. It is also seen that when

Table 5 Scale to measure impulsive buying tendency.

1. Most of my purchases are planned in advance. (Reverse coded)	Cognitive factor
2. Before I buy something I always carefully consider whether I need it. (Reverse coded)	
3. I carefully plan most of my purchases. (Reverse coded)	
4. I often buy without thinking.	
1. I sometimes buy things because I like buying things, rather than because I need them.	Affective factor
2. I buy what I like without thinking about consequences.	
3. I buy products and services according to how I feel at that moment.	
4. It is fun to buy spontaneously.	

Table 6 Sampling profile of respondents.

		Frequency	Percent	Cumulative %
Gender	Male	267	52.6	52.6
	Female	241	47.4	100
Age (years)	Less than 20	62	12.2	12.2
	Between 20 and 30	241	47.4	59.6
	Between 30 and 40	104	20.5	80.1
	Between 40 to 50	35	6.9	87.0
	More than 50	38	7.5	94.5
	More than 60	28	5.5	100.0
Marital status	Single	256	50.4	50.4
	Married	233	45.9	96.3
	Divorced	8	1.6	97.8
	Widowed	11	2.2	100.0
Employment status	Employed	306	60.2	60.2
	Not employed	202	39.8	100.0
Education level	Middle school or below	15	3.0	3.0
	High school only	36	7.1	10.0
	Diploma	93	18.3	28.3
	Bachelor's degree	211	41.5	69.9
Income level	Master's degree or above	153	30.1	100.0
	Below INR 1.5 lakhs (less than \$2727)	164	32.3	32.3
	Between INR 1.5- INR 3.5 lakhs (between \$2727 and \$6364)	181	35.6	67.9
	Between INR 3.5 lakhs to INR 5.5 lakhs (between \$6364 and \$10 000)	74	14.6	82.5
	Between INR 5.5 lakhs to INR 7.5 lakhs (between \$10 000 and \$13 637)	47	9.3	91.7
Above INR 7.5 lakhs (above \$13 637)	42	8.3	100.0	

Table 7 Reliability of constructs used in the study.

Construct	Number of items	Cronbach's alpha
Personality trait—Emotional stability (adapted from Gosling et al., 2003)	2	.79
Personality trait—Agreeableness (adapted from Gosling et al., 2003)	2	.83
Personality trait—Extraversion (adapted from Gosling et al., 2003)	2	.60
Personality trait—Conscientiousness (adapted from Gosling et al., 2003)	2	.79
Personality trait—Openness to experience (adapted from Gosling et al., 2003)	2	.80
Consumer spending self-control (adapted from Haws et al., 2012)	6	.77
Impulsive buying tendency (Authors, 2014)	8	.75
Impulsive buying behaviour (scale adapted from Mattila & Wirtz, 2008)	2	.87

Table 8 Item measurement properties.

Construct	Item	Loading
Impulsive buying tendency	Most of my purchases are planned in advance. (Reverse coded)	.79
	Before I buy something I always carefully consider whether I need it. (Reverse coded)	
	I carefully plan most of my purchases. (Reverse coded)	
	I often buy without thinking.	
	I sometimes buy things because I like buying things, rather than because I need them.	
	I buy what I like without thinking about consequences.	
Personality Extraversion	I see myself as extraverted, enthusiastic.	.49
	I see myself as reserved, quiet.	.69
Agreeableness	I see myself as critical, quarrelsome.	.72
	I see myself as sympathetic, warm.	.96
Conscientiousness	I see myself as dependable, self-disciplined.	.87
	I see myself as disorganised, careless.	.81
Emotional stability	I see myself as anxious, easily upset.	.82
	I see myself as calm, emotionally stable.	.78
Openness to experiences	I see myself as open to new experiences, complex.	.91
	I see myself as conventional, uncreative.	.73
Self-control	I am able to work effectively towards long-term financial goals.	.76
	I carefully consider my needs before making purchases.	.85
	I often delay taking action until I have carefully considered the consequences of my purchase decision.	.74
	I am able to resist temptation in order to achieve my budget goals.	.78
	I know when to say when regarding how much I spend.	.86
	Having objectives related to spending is important to me.	.69

self-control capacities are impaired, people are more likely to engage in ill-considered and unwise spending behaviours (Vohs & Faber, 2003). On the same line, Baumeister (2002, p. 674) pointed out that “the person with low self-control may be vulnerable to being seduced by the moment, and a sales pitch emphasising immediate gratification would be appealing and successful. In contrast, the person with high self-control is more likely to purchase based on being convinced of long-term value and benefits”. This shows that there is a clear case for the relationship between impulsive buying tendency and self-control, and there is a likelihood that people who score high on self-control would be less impulsive and

vice versa. Thus, in relation to the construct of self-control, it is hypothesised that,

H1. The construct “self-control” has significant negative effect on impulsive buying tendency.

Personality and impulsive buying tendency

The basic premise of the relationship between personality traits and impulsive buying tendency—as pointed out by Verplanken and Herabadi (2001)—was the underlying assumption that impulsive buying tendency is a stable individual difference trait, and hence, it was expected that impulsive

buying tendency would correlate with one or more of the five dimensions of personality. While personality is considered to be a set of psychological traits and mechanisms within the individual that are organised, relatively enduring, and are supposed to reflect individual differences (Larsen & Buss, 2010), impulsive buying tendency is conceptualised as a consumer trait (Rook & Fisher, 1995) and defined as “the degree to which an individual is likely to make unintended, immediate, and unreflective purchases” (Jones et al., 2003, p. 506).

There is enough evidence to suggest that personality traits have been a topic of interest in impulsive buying studies of individual differences (e.g., Verplanken & Herabadi, 2001; Youn & Faber, 2000). Verplanken and Herabadi (2001) argued that impulsive buying tendency can be seen as an expression of broader personality patterns, and one who always acts before thinking may also adopt such a behavioural pattern while shopping. This belief was provided substance when Herabadi (2003) demonstrated that whilst conscientiousness and agreeableness correlated negatively with the impulsive buying tendency, the cognitive dimension, neuroticism, was positively associated with the impulsive buying affective factor. In the same vein, Bratko et al. (2013) showed that phenotypic correlations with impulsivity, neuroticism, and extraversion were driven mainly by overlapping genetic influences on the impulsive buying tendency and those personality traits. Thus, based on the discussed trends in the literature, it is expected that impulsive buying tendency scores would be significantly related to one or more of the personality traits.

Considering the undisputed position of the Big Five personality traits in best reflecting personality dimensions (Doost, Hossein, & Mahsa Akbari, 2013; Feldman, 2010; Liao & Chuang, 2004), the five traits of emotional stability, agreeableness, extraversion, conscientiousness, and openness to experience emerge as the obvious choice for studies involving personality traits. Hence, while understanding the possible association between personality traits and impulsive buying tendency, it becomes imperative to consider the five constructs related to the Big Five traits. In the following subsections, the hypothesised relationship between the five personality constructs with impulsive buying tendency is discussed.

Personality trait “emotional stability” and impulsive buying tendency

According to McCrae and Costa (2008), the personality trait emotional instability (which is reversed and referred to as emotional stability) indicates personalities prone to insecurity and emotional distress. Thus, individuals high on emotional instability are supposedly more prone to distress and are less likely to be relaxed in comparison to their opposite numbers. As impulsive buying is often associated with lack of cognitive control and an unreflective urge (Dawson & Kim, 2009; Youn & Faber, 2000), it is expected that individuals who experience emotional instability, anxiety, moodiness, and irritability would score high on impulsive tendency. The findings from Shahjehan, Qureshi, Zeb, and Saifullah (2011) present a point in this case, wherein results indicated a positive relationship between “emotional instability” and impulsive behaviour. Thus, rendered in the reversed form, the trait “emotional stability” would be expected to have a negative

effect on impulsive buying tendency. Therefore, it is hypothesised that,

H2A. The personality trait “emotional stability” has significant negative effect on impulsive buying tendency.

Personality trait “agreeableness” and impulsive buying tendency

The second personality trait, “agreeableness”, deals with motives for maintaining positive relations with others (McCrae & Costa, 2008) and reflects how people tend to interact with others. People high in agreeableness tend to be trustful, friendly, and cooperative (McCrae & Costa, 2008). With regard to the association of this trait with impulsive tendency, as pointed out by Verplanken and Herabadi (2001), with impulsive buying tendency being associated with inclination towards disregarding harmful consequences, it could be hypothesised that agreeableness would be inversely related to impulsive buying tendency. Thus, it is proposed that,

H2B. The personality trait “agreeableness” has significant negative effect on impulsive buying tendency.

Personality trait “extraversion” and impulsive buying tendency

Individuals high on the trait “extraversion” have an energetic approach to the social and material world and have a tendency to experience positive emotions (John & Srivastava, 1999; McCrae & Costa, 2008). It has been generally observed that those high on extraversion are energetic and look for the company of others, while those low on this trait tend to be quieter and reserved. Given the excitement-seeking and uncertainty preference propensity being consistent with the extravert disposition (Chen, 2011), on account of intense and irresistible urge for novelty and sensation being associated with impulsive buying tendency (Rook, 1987; Verplanken & Herabadi, 2001), it is expected that these two traits will have positive association. Hence, we have sufficient ground to hypothesise that,

H2C. The personality trait “extraversion” has significant positive effect on impulsive buying tendency.

Personality trait “conscientiousness” and impulsive buying tendency

The fourth personality trait “conscientiousness” describes individual differences in the propensity to be self-controlled, responsible to others, hardworking and goal-directed (McCrae & Costa, 2008). Individuals who score high on this dimension behave with deliberation and restrain from excessiveness (Chen, 2011), and thus, in buying situations, these individuals are expected to evaluate thoroughly before taking a decision (Chen, 2011). Also, it has emerged that the trait conscientiousness was linked to “planning for future expenses” (Donnelly, Iyer, & Howell, 2012). This is in contrast to the unintended, immediate or spontaneous, and unreflective nature of impulsive tendency (Flight et al., 2012; Jones et al., 2003), and hence, it is expected that this personality trait would be negatively related to impulsive buying tendency. Therefore, it is hypothesised that,

H2D. The personality trait “conscientiousness” has a significant negative effect on impulsive buying tendency.

Personality trait "openness" and impulsive buying tendency

The trait "openness" is characterised by original, imaginative and broad interests, and is supposed to describe people who are neither rigid in their own views, nor in their expectations towards others (McCrae & Costa, 2008; Mondak, 2010). Considering the intellectual curiosity associated with this trait (McCrae & Costa, 2008), individuals high on this trait are considered to have willingness to enjoy new experiences and ideas (Myers, Sen, & Alexandrov, 2010) as well as the willingness to accept change (De Raad, 2000; Myers et al., 2010). This, in our view, means that such individuals might feel the urge to buy new products or will be attracted towards new technologies. Hence, it is hypothesised that this personality trait is positively related to impulsive buying tendency, and therefore, it is proposed that,

H2E. The personality trait "openness" has significant positive effect on impulsive buying tendency.

Impulsive buying tendency and impulsive buying behaviour

Impulsive buying tendency, conceptualised by Rook and Fisher (1995) as a consumer trait, is defined as "the degree to which an individual is likely to make unintended, immediate, and unreflective purchases" (Jones et al., 2003, p. 506). Considered as a manifestation of general impulsiveness (Dholakia, 2000; Siorowska, 2011), the impact and importance of impulsive tendency have been visible in a number of studies (Froughi et al., 2013; Mattila & Wirtz, 2008; Sharma et al., 2010).

With regard to the relationship with impulsive behaviour, it has been suggested that consumers with high impulsive buying tendency tend to indulge more in impulsive buying since people high on impulsive buying tendency experienced more lack of control than customers with relatively lower impulsive buying tendency (Dawson & Kim, 2009; Froughi et al., 2013; Herabadi et al., 2009; Youn & Faber, 2000). Also, it has been reported that individuals high in impulsive buying tendency were more likely to be affected by marketing stimuli such as advertisements, visual elements, or promotional gifts, and engage in in-store browsing and tended to respond more frequently to urges to buy impulsively (Beatty & Ferrell, 1998; Froughi et al., 2013).

Thus, enough evidence is available to suggest a positive relationship between the impulsive buying tendency and impulsive buying behaviour, and hence it can be hypothesised that,

H3. Impulsive buying tendency has significant positive effect on impulsive buying behaviour.

Results

Both measurement as well as structural models were analysed for studying the relevant constructs and the underlying relationships.

Developing the measurement model

The measurement model showed that barring the relatively weak loadings of the construct extraversion (.56 and .79), all

other constructs indicated factor loadings well within the acceptable range. Results showed a decent fit with regard to chi-square (CMIN/DF = 3.256), the goodness of fit index (GFI = .935), the adjusted goodness of fit index (AGFI = .878), the normed fit index (NFI = .751), and the root mean square error of approximation (RMSEA = .067). Regression weights for the output of the measurement model suggested that all the items correlated significantly to the construct, while the calculations related to convergent and discriminant validity results indicated that except for slight aberration with construct extraversion, all constructs showed excellent validity. The slightly-below-the-threshold value of the extraversion construct was deemed acceptable on account of the exploratory use of single item measurement scales, thus permitting flexibility with lower levels of reliability and validity (Nunnally, 1978).

Common method variance test

Considering the fact that the questionnaire method was used to collect data, after examining the measurement model, common method variance test was conducted. Firstly, the diagnostic Harman's one-factor test was used to identify the possible presence of errors due to the common method, and results showed that a single factor accounted for around 26% of the variance, thereby indicating possible absence of common method variance. However, for better clarity, all the variables were loaded on one factor to examine the fit of the confirmatory factor analysis model. Results indicated extremely poor fit, with almost all the indicators showing poor fit scores $\chi^2 = 620$, $p = .000$; GFI = .73; CFI = .64; TLI = .62; and RMSEA = .12. Thus, as per Podsakoff, MacKenzie, Lee, and Podsakoff (2003), the absence of common method variance was confirmed.

The structural model

The measurement model showed that the constructs related to each other with visibly acceptable levels of convergent validity, discriminant validity, and reliability. Thus, the structural model showing the hypothesised relationships between the latent constructs and the paths between the latent variables and their associated observed variables was examined (Fig. 2).

In line with the mentioned threshold values for the test statistics, results as indicated in Fig. 2 show a fit for the structural model. Model fit results showed a decent fit with regard to chi-square (CMIN/DF = 3.843), the goodness of fit index (GFI = .899), the adjusted goodness of fit index (AGFI = .848), CFI = .685, FMIN = .955 and the root mean square error of approximation (RMSEA = .067).

Hypothesis testing results, as mentioned in Table 9, show significant relationship of the two personality traits of extraversion (positively related, $\beta = .59$, $p = ***$) and conscientiousness (negatively related) with impulsive buying tendency. Thus, H2C and H2D were both supported. Likewise, there was evidence supporting negative effect of self-control on impulsive buying tendency ($\beta = -1.673$, $p = .003$) leading to the support of H1. Also, on expected lines, the findings revealed that impulsive buying tendency had significant positive effect ($\beta = .63$, $p = ***$) on impulsive buying behaviour and hence H3 was also supported.

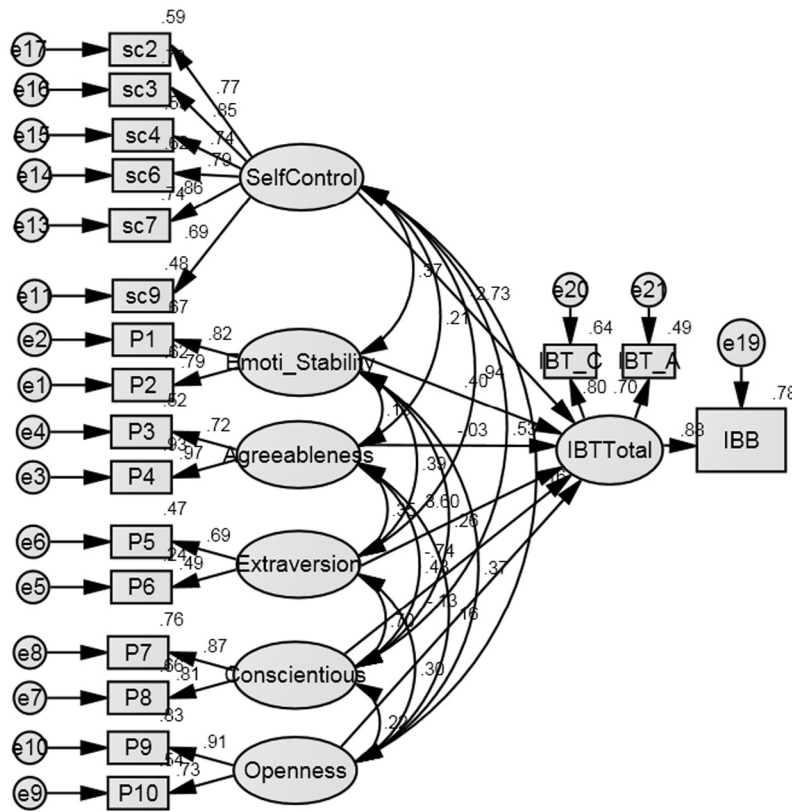


Figure 2 Structural model for self-control, personality traits, impulsive buying tendency (IBT) and impulsive buying behaviour (IBB).

Table 9 Summary of hypotheses results.

Hypotheses	Estimate	S.E.	C.R.	p	Result
1 H1: The construct "self-control" has significant negative effect on impulsive buying tendency.	-1.673	.554	-3.02	.003	Supported
2 H2: The Big Five personality traits positively affect impulsive buying tendency.					Partially supported
H2A: The personality trait "emotional stability" has significant negative effect on impulsive buying tendency.	.337	.200	1.688	.091	Not supported
H2B: The personality trait "agreeableness" has significant negative effect on impulsive buying tendency	-.017	.121	-.145	.88	Not supported
H2C: The personality trait "extraversion" has significant positive effect on impulsive buying tendency	.590	.097	6.070	***	Supported
H2D: The personality trait "conscientiousness" has significant negative effect on impulsive buying tendency.	-.502	.254	-1.97	.048	Supported
H2E: The personality trait "openness to experience" has significant positive effect on impulsive buying tendency.	-.107	.209	-.515	.607	Not supported
3 H3: Impulsive buying tendency has significant positive effect on impulsive buying behaviour.	.61	.059	10.3	***	Supported

***Significant relationship with impulsive buying tendency.

Note: The table shows S.E. (standard error), C.R. (critical ratio), and P (probability value).

Discussion

We submit that the impulsive buying tendency scale developed through the twin-studies would be an important addition to the available measurement instruments. This new measurement scale shows promise to measure both affective as well as cognitive components of impulsive tendency through relatively small number of measurement items without

compromising with measurement effectiveness, which indicates a possible reduction in the burden for both researchers and respondents. With respectable validity and reliability being displayed by the scale in the validation study, this 8-item impulsive buying tendency scale could be a preferred choice of instrument in the near future. However, prior to that, other cross cultural studies in varying geographical boundaries need to be conducted to further put the stamp of approval and

authenticity on this new measurement instrument. This provides an opportunity to researchers to conduct more studies using a varying set of variables that are found to be related to the impulsive buying tendency.

Another important finding of this research endeavour has been the visible relationships between the impulsive buying tendency and all the three variables, namely, self-control, personality traits, and impulsive behaviour. Beginning with the significant relationship between two personality constructs and impulsive buying, it could be stated that the assumption put forward by [Verplanken and Herabadi \(2001\)](#) regarding impulsive tendency being deeply rooted in personality appears to hold true.

With results showing a positive relationship between the trait extraversion and impulsive buying tendency, indications are that talkative, bold, and assertive extraverts are likely to be higher on impulsive buying tendencies than on their counterparts. In terms of theoretical contributions, this validates the findings of [Verplanken and Herabadi \(2001\)](#), while on the practical front, it calls for efforts on the part of the marketers to utilise this association. For this, the authors advocate the use of personality profiling cards as discussed below.

Personality profiling cards

It is envisaged that personality profiling could provide useful insights to marketers regarding the likelihood of an individual's indulgence in impulsive behaviour. With an almost established relationship between personality constructs and impulsive buying tendency, consumers belonging to impulsive personality type could be treated differently. Though this may be considered an overtly hypothetical suggestion, the availability of short scales to measure personality dimensions provides marketers an opportunity to analyse the personality dimensions of consumers and come up with a personality score which can even be stored on electronic consumer cards. By undertaking further research, one might be able to decipher the probable links between personality types and other important aspects such as impulsiveness, brand preference, product quality choice, features, colours, and so on. Thus, with this profiling, from the retailer's point of view, a better understanding could be developed about the expected behavioural pattern of the consumer and this could be utilised to provide the customer with the right product. From the consumer's perspective, it would help in easing the struggle related to product selection and choice. Additionally, by providing special consideration such as dedicated sales help or special discount offers, or even an extra "special-counter" to customers using such profile cards, the use of such cards could realistically be encouraged. It is envisaged that such cards could be used at the entrance gates of stores so that as soon as the consumer enters the store, the marketer is aware of the personality type as well as the impulsive score of the concerned consumer.

In addition to personality cards, the importance of positive association between "extraversion" and impulsive tendency deserves attention in view of other related and relevant behavioural aspects associated with this personality trait. Considering the findings from [Goldberg \(1992\)](#) that bold and assertive extraverts tend to attempt to influence others' behaviour or thinking, there is a possibility that the presence of such individuals might influence others to indulge in

impulsive buying during shopping trips. Thus, group shopping could be encouraged through advertisement messages.

Regarding the negative relationship between the trait "conscientiousness" and impulsive buying tendency, marketers must understand that this negative relationship could be on account of the fact that conscientious individuals are more likely to seek out information overtly to ensure high performance, and that they view information gathering as part of the process to success ([Tidwell & Sias, 2005](#)). This lack of impulsive approach could be addressed through appropriate and thorough information being provided to such consumers. The sales force should be trained to be able to answer every query of such conscientious individuals.

On an expected note, the relationship between self-control and impulsive buying tendency was found to be inversely significant. Though this validated the measurement property of the newly developed impulsive buying tendency scale, it also reiterated the obvious behavioural characteristic of impulsive buyers. From the marketing point of view, a bold and carefree image of products could be created so that individuals with low self-control could identify themselves with such products, resulting in inherent liking and obvious purchase.

Lastly, the highly positive relationship between impulsive buying tendency and impulsive buying behaviour could be read as a reconfirmation of scale validity and also the fact that individuals high on impulsive tendency indulge in actual impulsive behaviour. However, one must be mindful of the fact that the high impulsive tendencies only increase the likelihood of the impulsive purchase and in no way guarantee impulsive buying ([Sun & Wu, 2011](#)). Thus, it needs to be understood that the distance between the ultimate impulsive purchase and the initial spontaneous impulsive tendency is covered by the consumer in the presence of many external environmental factors, and thus the role of affect-arousing stimuli such as attractive display, or overall store environment, or the associated positive sentiments and feelings, should also be carefully considered while framing strategies aimed at instigating impulsive purchase.

Conclusions

We submit that the study comes up with a new and relatively less cumbersome scale for measuring impulsive buying tendency, which is an important contribution. The fact that the scale was validated through a different study lends its reliability as well. If provided further support through validation in other cultures and countries, the short 8-item scale could be welcomed by researchers. The fact that the scale was designed with responses from the Indian population provides it a greater significance considering the market potential associated with this fast developing retail market.

Another important highlight of this endeavour has been the finding that the traits extraversion and conscientiousness were significantly related to impulsive buying tendency. This could be utilised for trait based classification and consumer profiling with wide potential applicability.

Also, the study unveiling a positive relationship between impulsive buying tendency and impulsive buying behaviour, and a negative relationship between impulsive buying tendency and self-control, validated the measurement qualities of the impulsive tendency measurement scale. Further,

it re-confirmed the belief that impulsive buying tendency is higher in individuals with a relatively lower level of self-control, and that impulsive buying tendencies positively affected impulsive buying behaviour.

Limitations and scope for future research

Though the study provides useful insights regarding impulsive buying tendencies in an important context, it suggests many possibilities for improved endeavours.

First of all, the study used only three variables of individual difference, and could possibly have added a few more—such as personal need for structure, personal fear of invalidity, and need to evaluate. Future research in this direction could possibly include additional variables and could also assess the moderating effects of related variables.

Another visible limitation of the study has been the use of single item scales in measuring personality constructs. Though for most of the constructs, the scale provided valid and reliable measurement, with the use of structural equation modelling, the single item scales limit the scope of analysis. Future endeavours could use more established personality measurement scales while re-visiting these relationships.

Further, the study was conducted in the capital region, which means that though the population could be considered to be representative in nature, there could be vast differences in terms of behavioural patterns if the study is replicated in smaller cities and towns. This could be seen as an opportunity for further research as well. Thus, future endeavours could try replicating the model on consumers from smaller cities, or can also use the online context.

Lastly, the study did not use moderated variables in the study, and thus future endeavours could assess these relationships from different angles such as gender-wise or age-wise assessment of relationships between impulsive buying tendency and other related variables.

References

- Ahmed, S. A., & d'Astous, A. (2008). Antecedents, moderators and dimensions of country-of-origin evaluations. *International Marketing Review*, 25(1), 75–106.
- Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
- Arrindell, W. A., & van der Ende, J. (1985). An empirical test of the utility of the observations-to-variables ratio in factor and components analysis. *Applied Psychological Measurement*, 9(2), 165–178.
- Baumeister, R. F. (2002). Yielding to temptation: self-control failure, impulsive purchasing, and consumer behaviour. *Journal of Consumer Research*, 28(March), 670–676.
- Beatty, S. E., & Ferrell, M. E. (1998). Impulse buying: modeling its precursors. *Journal of Retailing*, 74(2), 169–191.
- Bentler, P. M., & Speckart, G. (1979). Models of attitude-behavior relations. *Psychological Review*, 86(5), 452.
- Bergkvist, L., & Rossiter, J. R. (2007). The predictive validity of multiple-item versus single-item measures of the same constructs. *Journal of Marketing Research*, 44(2), 175–184.
- Blackwell, R. D., Miniard, P. W., & Engel, J. F. (2006). *Consumer behavior*. Mason, OH: Thomson/South-Western.
- Bong, S. (2010). The influence of impulse buying toward consumer store loyalty at hypermarket in Jakarta. *Business and Entrepreneurial Review*, 10(1), 25–44.
- Bosnjak, M., Bandl, A., & Bratko, D. (2007). Measuring impulsive buying tendencies in Croatia: Towards a parsimonious measurement scale. In *Marketing u društvu znanja i suvremenoj poslovnoj stvarnosti*. Rijeka: CROMAR.
- Bratko, D., Butkovic, A., & Bosnjak, M. (2013). Twin study of impulsive buying and its overlap with personality. *Journal of Individual Differences*, 34(1), 8.
- Chavosh, A., Halimi, A. B., & Namdar, J. (2011). The contribution of product and consumer characteristics to consumer's impulse purchasing behaviour in Singapore. In *Proceedings of international conference on social science and humanity* (pp. 248–252). Singapore: IACSIT Press.
- Chen, T. (2011). Personality traits hierarchy of online shoppers. *International Journal of Marketing Studies*, 3(4).
- Comrey, A. L., & Lee, H. B. (1992). *A first course in factor analysis*. Hillsdale, NJ: Erlbaum.
- Dameyasani, A. W., & Abraham, J. (2013). Impulsive buying, cultural values dimensions, and symbolic meaning of money: a study on college students in Indonesia's capital city and its surrounding. *International Journal of Research Studies in Psychology*, 2(4).
- Dawson, S., & Kim, M. (2009). External and internal trigger cues of impulse buying online. *Direct Marketing: An International Journal*, 3(1), 20–34.
- De Raad, B. (2000). *The Big Five personality factors: The psycholexical approach to personality*. Göttingen, Germany: Hogrefe & Huber.
- Dholakia, U. M. (2000). Temptation and resistance: an integrated model of consumption impulse formation and enactment. *Psychology & Marketing*, 17(11), 955–982.
- Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: a predictive validity perspective. *Journal of the Academy of Marketing Science*, 40(3), 434–449.
- Dittmar, H., & Drury, J. (2000). Self-image—is it in the bag? A qualitative comparison between “ordinary” and “excessive” consumers. *Journal Of Economic Psychology*, 21, 109–142.
- Donnelly, G., Iyer, R., & Howell, R. T. (2012). The Big Five personality traits, material values, and financial well-being of self-described money managers. *Journal Of Economic Psychology*, 33, 1129–1142.
- Doost, J. A. A., Hossein, V., & Mahsa Akbari, P. (2013). The role of psychological traits in market mavensim using Big Five model. *Journal of Basic and Applied Scientific Research*, 3(2), 744–751.
- Engel, J., & Blackwell, R. (1982). *Consumer behavior*. Chicago: Dryden Press.
- Feldman, R. S. (2010). *Essentials of understanding psychology* (10th ed.). New York: McGraw Hill.
- Flight, R. L., Rountree, M. M., & Beatty, S. E. (2012). Feeling the urge: affect in impulsive and compulsive buying. *The Journal of Marketing Theory and Practice*, 20(4), 453–466.
- Foroughi, A., Buang, N. A., Senik, Z. C., & Hajmisadeghi, R. S. (2013). Impulse buying behavior and moderating role of gender among Iranian shoppers. *Journal of Basic and Applied Scientific Research*, 3(4), 760–769.
- Garðarsdóttir, R. B., & Dittmar, H. (2012). The relationship of materialism to debt and financial well-being: the case of Iceland's perceived prosperity. *Journal Of Economic Psychology*, 33(3), 471–481.
- Ghani, U., & Kamal, Y. (2010). The impact of in-store stimuli on the impulse purchase behaviour of consumers in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 8(2), 155–160.
- Goldberg, L. R. (1992). The development of markers of the big-five factor structure. *Psychological Assessment*, 4(1), 26–42.
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the Big-Five personality domains. *Journal of Research in Personality*, 37(6), 504–528.

- Hale, J. L., Householder, B. J., & Greene, K. L. (2002). The theory of reasoned action. In J. P. Dillard & M. Pfau (Eds.), *The persuasion handbook: Developments in theory and practice* (pp. 259–286). Thousand Oaks, CA: Sage.
- Haws, K. L., Bearden, W. O., & Nenkov, G. Y. (2012). Consumer spending self-control effectiveness and outcome elaboration prompts. *Journal of the Academy of Marketing Science*, 40(5), 695–710.
- Herabadi, A. G. (2003). *Buying impulses: A study on impulsive consumption* (Published dissertation). Norway: University of Tromsø.
- Herabadi, A. G., Verplanken, B., & Van Knippenberg, A. (2009). Consumption experience of impulse buying in Indonesia: emotional arousal and hedonistic considerations. *Asian Journal of Social Psychology*, 12, 20–31. doi:10.1111/j.1467-839X.2008.01266.x.
- Hoch, S. J., & Loewenstein, G. F. (1991). Time-inconsistent preferences and consumer self-control. *Journal of Consumer Research*, 17, 492–507.
- John, O. P., & Srivastava, S. (1999). The Big-Five trait taxonomy: history, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), *Handbook of personality: Theory and research* (Vol. 2, pp. 102–138). New York: Guilford Press.
- Jones, M. A., Reynolds, K. E., Weun, S., & Beatty, S. E. (2003). The product-specific nature of impulse buying tendency. *Journal of Business Research*, 56(7), 505–511.
- Kacen, J. J., & Lee, J. A. (2002). The influence of culture on consumer impulsive buying behaviour. *Journal of Consumer Psychology*, 12(2), 163–176.
- Karbasivar, A., & Yarahmadi, H. (2011). Evaluating effective factors on consumer impulse buying behavior. *Asian Journal of Business Management Studies*, 2(4), 174–181.
- Kuhn, E. S. (2013). *Decision-making, Impulsivity and Self-control: Between-person and Within-person Predictors of Risk-taking Behavior*, University of New Orleans Theses and Dissertations Paper 1643.
- Larsen, R. J., & Buss, D. M. (2010). *Personality psychology: Domains of knowledge about human nature*. London: McGraw Hill Higher Education. ISBN 978-007-0164-99-4.
- Liao, H., & Chuang, A. (2004). A multilevel investigation of factors influencing employee service performance and customer outcomes. *Academy of Management Journal*, 47(1), 41–58.
- Liao, J., & Wang, L. (2009). Face as a mediator of the relationship between material value and brand consciousness. *Psychology & Marketing*, 26(11), 987–1001.
- Lifu, F. L. (2012). An Analysis of the effect of product packaging on consumers' buying choice in Calabar municipality, cross river state, Nigeria. *Asian Journal of Business Management*, 4(2), 186–191.
- Mattila, A. S., & Wirtz, J. (2008). The role of store environmental stimulation and social factors on impulse purchasing. *Journal of Services Marketing*, 22(7), 562–567.
- McCrae, R. R., & Costa, P. T. (2008). Empirical and theoretical status of the five-factor model of personality traits. *The Sage handbook of personality theory and assessment*, 1, 273–294.
- Mehta, N., & Chugan, P. (2013). The impact of visual merchandising on impulse buying behavior of consumer: a case from central mall of Ahmedabad, India. *Universal Journal of Management*, 1(2), 76–82.
- Mohan, G., Sivakumaran, B., & Sharma, P. (2013). Impact of store environment on impulse buying behaviour. *European Journal of Marketing*, 47(10), 8.
- Mondak, J. J. (2010). *Personality and the foundations of political behavior*. Cambridge: Cambridge University Press.
- Myers, S. D., Sen, S., & Alexandrov, A. (2010). The moderating effect of personality traits on attitudes towards advertisements: a contingency framework. *Management & Marketing*, 5(3).
- Nunnally, J. (1978). *Psychometric theory*. New York: McGraw-Hill.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: a critical review of the literature and recommended remedies. *The Journal of Applied Psychology*, 88(5), 879–903.
- Pornpitakpan, C., & Han, J. H. (2013). The effect of culture and salespersons' retail service quality on impulse buying. *Australasian Marketing Journal (AMJ)*, 21(2), 85–93.
- Punj, G. (2011). Impulse buying and variety seeking: similarities and differences. *Journal of Business Research*, 64(7), 745–748.
- Puri, R. (1996). Measuring and modifying consumer impulsiveness: a cost-benefit accessibility framework. *Journal of Consumer Psychology*, 5(2), 87–113.
- Rook, D. W. (1987). The buying impulse. *Journal of Consumer Research*, 14, 189–199. doi:10.1086/209105.
- Rook, D. W., & Fisher, R. J. (1995). Normative influences on impulsive buying behavior. *Journal of Consumer Research*, 22(3), 305–313.
- Rook, D. W., & Hoch, S. J. (1985). Consuming impulses. *Advances in Consumer Research*, 12, 23–27.
- Ruvio, A. A., & Belk, R. W. (Eds.), (2013). *The Routledge companion to identity and consumption*. Routledge.
- Segars, A. H. (1997). Assessing the unidimensionality of measurement: a paradigm and illustration within the context of information systems research. *Omega*, 25, 107–121.
- Shahjehan, A., Qureshi, J. A., Zeb, F., & Saifullah, K. (2011). The effect of personality on impulsive and compulsive buying behaviors. *African Journal of Business Management*, 6(6), 2187–2194.
- Sharma, P., Sivakumaran, B., & Marshall, R. (2010). Impulse buying and variety seeking: a trait-correlates perspective. *Journal of Business Research*, 63(3), 276–283.
- Sharma, P., Sivakumaran, B., & Marshall, R. (2011). Deliberate self-indulgence versus involuntary loss of self-control: toward a robust cross-cultural consumer impulsiveness scale. *Journal of International Consumer Marketing*, 23, 3–4, 229–245.
- Siorowska, A. G. (2011). Gender as a moderator of temperamental causes of impulse buying tendency. *Journal of Customer Behaviour*, 10(2), 119–142.
- Stern, H. (1962). The significance of impulse buying today. *Journal of Marketing*, 26(2), 59–62.
- Sun, T., & Wu, G. (2011). Trait predictors of online impulsive buying tendency: a hierarchical approach. *Journal of Marketing Theory and Practice*, 19(3), 337–346.
- Tidwell, M., & Sias, S. (2005). Personality and information seeking. *Journal of Business Communication*, 42(1), 51–78.
- Verplanken, B., & Herabadi, A. (2001). Individual differences in impulse buying tendency: feeling and no thinking. *European Journal of Personality*, 15, 571–583.
- Verplanken, B., & Sato, A. (2011). The psychology of impulse buying: an integrative self-regulation approach. *Journal of Consumer Policy*, 34(2), 197–210.
- Vohs, K., & Faber, R. (2003). Self-regulation and impulsive spending patterns. *Advances in Consumer Research*, 30, 125–126.
- Yang, D. J., Huang, K. C., & Feng, X. (2011). A study of the factors that affect the impulsive cosmetics buying of female consumers in Kaohsiung. *International Journal of Business and Social Science*, 2(24), Special Issue—December 2011.
- Youn, S., & Faber, R. J. (2000). Impulse buying: its relation to personality traits and cues. *Advances in Consumer Research*, 27, 179–185.
- Youn, S., & Faber, R. J. (2002). The dimensional structure of consumer buying impulsivity: measurement and validation. *Advances in Consumer Research*, 29, 280.
- Zhang, X., Prybutok, V. R., & Strutton, D. (2007). Modeling influences on impulse purchasing behaviors during online marketing transactions. *Journal of Marketing Theory and Practice*, 15(1), 79–89. doi:10.2753/MTP1069-6679150106.