

**A DUAL PROCESS ON SHOPPING WELL-BEING ACROSS
SHOPPING CONTEXTS: THE ROLE OF SHOPPING VALUES
AND IMPULSE BUYING**

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Abstract

Purpose – Adopting the duality approach, this study examines cognitive and affective associations between shopping values, impulse buying tendencies and consumer shopping well-being. In addition, the study also aims to test the moderating role of self-control and compare the proposed relationships across the offline and online shopping contexts.

Design/methodology/approach – A survey dataset was collected from a sample of 529 offline and online consumers in Vietnam. Structural Equation Modelling (SEM) was employed to test the proposed relationships among studied constructs.

Findings – The consequence of impulse buying is positive and affect-based. In addition, the positive associations between shopping values and impulse buying via dual process are validated and moderated by self-control. In addition, the association between cognitive impulse buying and shopping well-being is stronger in the online shopping context. All other relationships are not statistically different across the two shopping contexts.

Originality/value – This study introduces an appropriate theoretical framework for studying impulse buying—the duality approach. Second, the research validates the dual process and positive consequence of impulse buying. Third, self-control’s moderating role is validated, whereas the studied associations are initially compared across shopping contexts.

Keywords – Impulse buying, shopping well-being, shopping value, self-control, online, offline.

Paper type – Research paper

Introduction

Shopping is an inevitable activity in people's lives and the effect of shopping on subjective well-being is a research topic of great interest. Ni and Ishii (2019) call for further research to explore the impact of shopping on subjective well-being. Consumers shop not only to complete their daily purchasing tasks (i.e., utilitarian shopping value) but also to relax, have fun, and enjoy novelty, surprise, excitement and pleasure (i.e., hedonic shopping value) (Babin *et al.*, 1994) which contributes to individual well-being (i.e., shopping well-being) (Ekici *et al.*, 2018). However, impulse buying could result in harmful consequences (Akram *et al.*, 2018; Iyer *et al.*, 2019) such as “financial problems, post-purchase dissatisfaction, and lower self-esteem” (Boonchoo and Thoumrungroje, 2017, p. 5) or even have negative impact on the natural environment (Zafar *et al.*, 2021). The literature thus currently has a gap regarding the role of impulse buying in shopping well-being or ill-being (Ekici *et al.*, 2018).

Impulse buying is strongly promoted by pleasure and excitement (Verplanken and Herabadi, 2001) but “is not free from cognitive processing” (Shen and Khalifa, 2012, p. 400). Thus, it can be better explained by examining both cognitive and affective processes. As utilitarian value (cognitive benefits) and hedonic value (affective benefits) drive consumer purchases (Babin *et al.*, 1994), they are potential impulse buying determinants. Accordingly, the duality approach, considering both cognition and affect mental systems, has a high potential for determining the associations between shopping values and impulse buying.

The recent impulse buying research has been focused on personality traits such as sensation seeking, impulse buying tendency and self-identity (Iyer *et al.*, 2019) or the Big Five (Miao *et al.*, 2019). Among these, self-control drives consumer buying behavior (Yim, 2017) and is

validated as a determinant (Lo *et al.*, 2016) or mediator (Iyer *et al.*, 2019) of impulse buying. The moderating role of self-control is implied in the reflective-impulsive model (Hofmann *et al.*, 2009); however, to our knowledge, it is rarely adopted as a moderator in empirical impulse buying research.

In addition, existing studies on impulse buying only adopt either the offline environment (Pornpitakpan *et al.*, 2017; Pradhan *et al.*, 2018) or the online environment (Chen *et al.*, 2020; Lo *et al.*, 2016), resulting in a lack of research comparing impulse buying in these two shopping contexts. Comparing impulse buying behavior in both offline and online settings contributes to a wider or deeper understanding of this buying motive (Aragoncillo and Orus, 2018).

To bridge the identified research gaps, this study adopts the duality approach to: (1) investigate the impact of cognitive and affective impulse buying on shopping well-being; (2) investigate the cognitive and affective processes from shopping values to impulse buying; (3) examine the moderating effect of self-control on shopping values and impulse buying; and (4) compare the studied associations between offline and online shopping contexts. Our empirical findings support most of the hypotheses, contributing to the literature in four main ways. First, the study provides a better understanding of the role of both cognitive and affective impulse buying in enhancing consumers' shopping well-being. Second, this study extends the impulse buying literature by utilizing the duality approach. Third, self-control is validated as a significant moderator, highlighting the influence of consumers' personality on shopping. Finally, this study compares the examined associations between offline and online shopping contexts.

Literature review

The duality approach

In the extant literature, the duality approach has been widely adopted as a theoretical framework for studying consumer behavior (e.g. Babin *et al.*, 1994; Johnson and Grayson, 2005; Kesari and Atulkar, 2016). These two parallel processes are distinctive in terms of individuals' cognitive consciousness (Evans, 2008). Specifically, the first process is “conscious, slow, and deliberative” whereas the second is “unconscious, rapid, automatic, and high capacity” (Evans, 2008, p. 256). The duality approach, thus, includes both the cognitive and affective systems of human beings that contribute to a better understanding of consumer impulse behavior and well-being (Iyer *et al.*, 2019; Ozen and Engizek, 2014; Verplanken and Herabadi, 2001).

Besides, “consumers purchase goods and services and perform consumption behaviors for two basic reasons: (1) consummatory affective (hedonic) gratification (from sensory attributes), and (2) instrumental, utilitarian reasons.” (Batra and Ahtola, 1990, p.159). Meanwhile, impulse buying is also related to both cognitive and affective processes (see Chan *et al.*, 2017 for a recent review). Furthermore, the reflective-impulsive model (Hofmann *et al.*, 2009) validates the influences of reflective and impulsive processes on behavior that is moderated by dispositional factors (e.g. self-control and working memory capacity). These findings make the duality approach a promising theoretical foundation for studying impulse buying and shopping well-being.

Subjective and shopping well-being

Subjective well-being can be defined as an individual's overall satisfaction with life, reflecting his/her positive evaluations regarding various aspects of it (Diener *et al.*, 1985). Subjective well-being relates to and can be built by an individual's state of well-being in several

domains of life, such as social life, leisure and recreation, family life, work life, and health and safety, among others (Sirgy *et al.*, 2011). Shopping is a “necessary and an inevitable activity” (Ekici *et al.*, 2018, p. 335) in several such domains. Consumer researchers have shown great interest in discovering the impact of shopping on consumers’ quality of life (Ekici *et al.*, 2018; Ni and Ishii, 2019).

In this research stream, shopping well-being is a facet of individuals’ overall subjective well-being or quality of life (El Hedhli *et al.*, 2013). It is defined as “the degree to which consumers experience hedonic enjoyment and satisfaction of self-expressive needs through their shopping activities” (Lee *et al.*, 2014, p. 28). Ekici *et al.* (2018) characterize shopping well-being as the positive contribution of shopping to shoppers’ quality of life. This study adopts the definition of Ekici *et al.* (2018) and considers shopping well-being as a component or facet of subjective well-being.

Shopping well-being is determined by several factors, including the shopping mall’s functionality, convenience, safety, leisure, atmospherics, self-identification (El Hedhli *et al.*, 2013), utilitarian value and hedonic value (El Hedhli *et al.*, 2016). However, to our knowledge, the impacts of impulse buying on shopping well-being have been rarely investigated.

Impulse buying

Impulse buying is a buying style that is “mostly associated with an unplanned and sudden purchase, which is initiated on the spot, accompanied by a powerful urge and feelings of pleasure and excitement” (Verplanken and Herabadi, 2001, p. S71-S71). Prior researchers view impulse buying as rooted in an individual’s personality, represented by impulse buying tendency (e.g. Verplanken and Herabadi, 2001; Zafar *et al.*, 2019; Zafar *et al.*, 2020a). Specifically, impulse buying tendency is a stable personality-based construct that includes both cognitive and affective

aspects (Verplanken and Herabadi (2001). Scholars widely agree on the affect-based characteristic of impulse buying (Chan *et al.*, 2017; Pornpitakpan *et al.*, 2017), though impulse buying is not free from individual deliberation and cognitive processes (Rook and Fisher, 1995; Shen and Khalifa, 2012; Xiao and Nicholson, 2013). This study adopts the definition and measure of impulse buying tendency developed by Verplanken and Herabadi (2001).

The extant literature on impulse buying has several key gaps. First, as previously noted, it is unclear whether the consequences of impulse buying are positive or negative. Shoppers who buy impulsively can experience not only “financial problems, post-purchase dissatisfaction, and lower self-esteem” (Boonchoo and Thoumrungroje, 2017, p. 5) but also novelty, surprise, self-indulgence and satisfaction (Xiao and Nicholson, 2013). Second, existing empirical studies rarely compare impulse buying in the offline and online shopping contexts although these two shopping environments have advantageous features that facilitate impulse buying. In-store marketing activities (e.g. attractive displays, promotions) are determinants of impulse buying (see Iyer *et al.*, 2019 for a recent review), whereas ease of access, lower social pressure and excitement in the online shopping environment (see Chan *et al.*, 2017; Akram *et al.*, 2018 for impulse buying reviews) drive shoppers to buy impulsively.

Shopping values

The reason behind why people shop can be more thoroughly explained by both the utility and experiential benefits of purchases (Varshneya *et al.*, 2017). The core idea is that in shopping, consumers are not only motivated by desire to maximize utility, but also by their emotional desires. Similarly, consumption activities relate to two main types of value (utilitarian and hedonic) serving as shopping’s rewards that “maintain a basic underlying presence across consumption phenomena” (Babin *et al.*, 1994, p. 644). Utilitarian value serves as the cognitive

benefit of shopping because it represents the “work” aspect. Hedonic value, considered as the “fun” side of shopping, reflects “shopping's potential entertainment and emotional worth” (Babin *et al.*, 1994, p. 645–646). This study adopts both utilitarian and hedonic values to examine the dual associations between shopping value and impulse buying.

Self-control

Self-control, considered a personality trait (Sela *et al.*, 2017), is defined as “conscious efforts to alter behavior, especially restraining impulses and resisting temptations” (Baumeister, 2002, p. 129). Self-control is one of the key factors driving an individual’s conversion from what he/she “wants” to what he/she “should” (Sela *et al.*, 2017); thus, the decision is well-fitted to external constraints or long-term orientations instead of personal desires or temporary interests.

In the shopping context, self-control reflects shoppers’ capacity to resist arrestable urges that result in impulse purchases (Iyer *et al.*, 2019). Self-control also helps consumers keep their planned buying list unchanged (Yim, 2017). It can be inferred that buyers with low self-control are more likely to purchase impulsively, whereas those with high-self-control manage their purchases well. The predictive and mediating roles of self-control have been validated in several studies (Iyer *et al.*, 2019; Lo *et al.*, 2016). However, to the best of our knowledge, there is a lack of empirical evidence in the impulse buying literature regarding the moderating effect between shopping values and impulse buying.

Conceptual model and hypotheses development

Adopting the duality approach, this study proposes that shopping values significantly predict impulse buying via the dual process (cognitive and affective), which, in turn, determines

shopping well-being. In addition, the dual relationship between shopping values and impulse buying may vary depending upon self-control. The proposed associations are illustrated in Figure 1.

1.

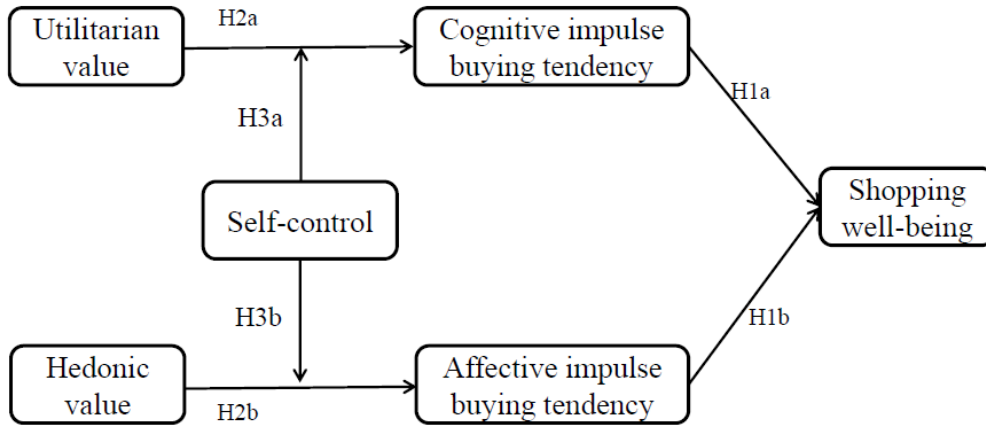


Figure 1. Research model

Impulse buying is considered a beneficial way of shopping (Chan *et al.*, 2017; Pornpitakpan *et al.*, 2017) because it provides feelings of self-indulgence, positivity and satisfaction for shoppers (Xiao and Nicholson, 2013). Rook and Fisher (1995) indicate that only 20% of the participants in their study reported negative evaluations after impulsive buying. Further, consumers who have a high impulse buying tendency experience more arousal or pleasure (George and Yaoyuneyong, 2010). Therefore, the dual process indicates that impulse buying positively predicts shopping well-being.

The impact of cognitive and affective impulse buying on shopping well-being may vary due to the shopping context (offline vs. online). Compared to offline shopping, online shopping is more efficient for shoppers because of various functional benefits, such as convenience, cost-effectiveness and the time saved (Nielsen, 2014). Cognitive impulse buying leads to more online

impulse purchases (Verplanken and Herabadi, 2001) because the products purchased still function advantageously. Further, in the conventional shopping context, retailers and shoppers can directly interact and easily build social relationships; thus, offline shoppers are more emotionally influenced by providers (Chang *et al.*, 2011). The impacts of cognitive and affective impulse buying on shopping well-being across shopping contexts are hypothesized as follows:

H1a. Cognitive impulse buying is positively associated with shopping well-being in both offline and online shopping contexts.

H1b. Affective impulse buying is positively associated with shopping well-being in both offline and online shopping contexts.

H1c. The impact of cognitive impulse buying on shopping well-being is stronger online than it is in the offline shopping context.

H1d. The impact of affective impulse buying on shopping well-being is stronger offline than it is in the online shopping context.

Utilitarian and hedonic values drive consumer shopping behavior (Babin *et al.*, 1994), implying their potential influence on impulse buying. Underlined by the duality approach, cognitive impulse buying and affective impulse buying are considered the consequences of utilitarian value and hedonic value, respectively. Although impulse buying is characterized by few rational deliberations (Verplanken and Herabadi, 2001), it can benefit consumers by providing convenience, product utility, or lower price. These utilitarian benefits make consumers more comfortable with impulse purchases. For instance, Chan *et al.* (2017) show the positive influence of cognitive reactions on impulse buying although they are mainly based on and result in hedonic benefits to shoppers, such as excitement or joy, pleasure, or positive arousal (Chan *et*

al., 2017; Xiao and Nicholson, 2013), which, in turn, drive consumers to buy more impulsively (Ozen and Engizek, 2014).

Online shopping is characterized by utilitarian benefits, such as convenience, cost-effectiveness and time saving (Nielsen, 2014). Online shopping is also impersonal (Zhou and Tian, 2010), reflecting a lack of physical interaction between buyers and providers. In contrast, offline shopping is characterized by the richness of personal communication and interactions, and is thus more affective (Chang *et al.*, 2011). Therefore, one may expect that utilitarian value is more powerful in influencing cognitive impulse buying in the online shopping context, whereas hedonic value has a stronger impact on affective impulse buying in the offline shopping context.

Consequently, the dual associations between shopping values and impulse buying across shopping contexts are hypothesized as follows:

- H2a.* Utilitarian value is positively associated with cognitive impulse buying in both offline and online shopping contexts.
- H2b.* Hedonic value is positively associated with affective impulse buying in both offline and online shopping contexts.
- H2c.* The impact of utilitarian value on cognitive impulse buying is stronger online than it is in the offline shopping context.
- H2d.* The impact of hedonic value on affective impulse buying is stronger offline than it is in the online shopping context.

Self-control is a personality trait driving an individual to convert from what he/she “wants” to what he/she “should” (Sela *et al.*, 2017). Therefore, shoppers with high self-control keep their planned buying list unchanged (Yim, 2017) and resist their impulsive buying urges

(Iyer *et al.*, 2019). Self-control failure, by contrast, drives shoppers to buy discounted products impulsively and even consider expensive products as inexpensive, resulting in impulse purchases (Lo *et al.*, 2016; Vohs and Faber, 2007).

It can be inferred that shopping values subjectively determine impulse buying based on how well consumers control their buying desire. High self-control ability can mitigate the impact of shopping values on impulse buying because shoppers are more rational in buying. On the other hand, consumers with low self-control are more likely to buy impulsively to gain more utilitarian and hedonic benefits. For instance, sales promotion and website design (e.g. navigation and visual appeal) weaken self-control and, thus, increase the possibility of impulse buying (Lo *et al.*, 2016). Consequently, this study proposes that the dual associations between shopping values and impulse buying are subject to variation under the moderating effect of consumer self-control in the offline and online shopping contexts, as follows:

H3a. Self-control negatively moderates the relationship between utilitarian value and cognitive impulse buying in both offline and online shopping contexts.

H3b. Self-control negatively moderates the relationship between hedonic value and affective impulse buying in both offline and online shopping contexts.

Research method

Research context and sample

The characteristics of shoppers in Vietnam have been described as “shop often, buy little” (McDonald *et al.*, 2000, p. 53), which is derived from “a genuine joy of shopping” and “a lack of planning” (McDonald *et al.*, 2000, p. 53). This reflects the nature of the impulse buying behavior of Vietnamese consumers. In Vietnam, Ho Chi Minh City (HCMC) is the leading city in terms of

the 2019 Business-to-Consumer (B2C) transaction index (Vietnam E-business Index, 2019). Thus, consumers in HCMC actively engage in online purchasing, making them appropriate participants for studying impulse buying in both offline and online shopping contexts.

Adopting a convenience sampling method, a self-administered survey was conducted to collect data from two groups of consumers: offline and online shoppers in HCMC. The survey questionnaires were translated into Vietnamese and, after a pretest to ensure understandability, were distributed conveniently to the participants. The questionnaires included the same statements but targeted either offline shopping or online shopping by asking the participants to first specify an e-tailer or a supermarket they most frequently purchased from within the last three months. A target sample size of 300 was established for each consumer group. For the offline shopper group, 278 of 300 distributed questionnaires were returned; for the online shopper group, 272 of 300 distributed questionnaires were returned. The elimination of incomplete and missing responses resulted in a sample size of 266 offline and 263 online shoppers. The characteristics of the online and offline consumer groups are listed in Table I.

Sample characteristics

The offline group consisted of 60.50% female and 39.50% male shoppers, who were mostly between 26 and 39 years of age (accounting for 63.90%). Most of these consumers made purchases from retailers once or twice per month (44%) and earned a monthly income of approximately VND 5 million to VND 10 million (45.50%).

The sample of online consumers was mainly female (54.00%) aged 26 to 39 years (65.80%). Most of them made online purchases once or twice per month (66.2%) and earned a monthly income of around VND 5 million to VND 10 million (47.10%).

Table I. Participant profile

<i>Profile</i>	<i>Offline</i>		<i>Online</i>		<i>Total</i>	
	<i>Frequency</i>	<i>Percentage</i>	<i>Frequency</i>	<i>Percentage</i>	<i>Frequency</i>	<i>Percentage</i>
<i>Gender</i>						
Male	105	39.5	121	46	226	42.7
Female	161	60.5	142	54	303	57.3
<i>Age</i>						
25 or under	86	32.3	83	31.6	169	31.9
26 - 39	170	63.9	173	65.8	343	64.8
40 or above	10	3.8	7	2.7	17	3.2
<i>Shopping frequency (per month)</i>						
1 or 2	117	44.0	174	66.2	291	55.0
3 or 4	101	38.0	77	29.3	178	33.6
More than 4	48	18.0	12	4.5	60	11.4
<i>Income (per month)</i>						
Under VND 5m	7	2.6	17	6.5	24	4.5
VND 5m - under VND 10m	121	45.5	124	47.1	245	46.3
VND 10m - under VND 15m	93	35.0	79	30.0	172	32.5
VND 15m or above	45	16.9	43	16.4	88	16.7
<i>Education</i>						
High school	8	3.0	23	8.7	31	5.9
College	40	15.0	45	17.1	85	16.1
University and graduate	218	82.0	195	74.2	413	77.9

Note: N = 529 (Offline 266, Online 263)

Measurement

The survey questionnaire measured six constructs: utilitarian value, hedonic value, cognitive impulse buying, affective impulse buying, shopping well-being and self-control. The scales measuring utilitarian and hedonic values were borrowed from Voss *et al.* (2003) and included six items for each value. Four items measuring cognitive impulse buying and four more measuring affective impulse buying were borrowed from the scale developed by Verplanken and Herabadi (2001). Shopping well-being was operationalized using five items borrowed from Ekici *et al.* (2018). Five items were adopted from Tangney *et al.* (2004) to measure self-control. Table II lists all the survey items.

Table II. Survey items, respective constructs, and relevant references

<i>Construct items</i>	<i>References</i>
<i>Hedonic value (HV)</i>	
1 Dull/exciting	
2 Not delightful/delightful	
3 Enjoyable/unenjoyable	Voss <i>et al.</i> (2003)
4 Not playful/playful	
5 Amusing/not amusing	
6 Not sensuous/sensuous	
<i>Utilitarian value (UV)</i>	
1 Effective/ineffective	
2 Helpful/unhelpful	
3 Functional/not functional	Voss <i>et al.</i> (2003)
4 Handy/not handy	
5 Problem solving/not problem solving	
6 Reliable/notreliable	
<i>Cognitive impulse buying (CI)</i>	
1 I usually think carefully before I buy something (R)	Verplanken and Herabadi (2001)
2 It is not my style to just buy thing (R)	
3 I am used to buy thing on the spot	
4 I often buy things without thinking	
<i>Affective impulse buying (AI)</i>	
1 I sometimes cannot suppress of wanting to buy something	Verplanken and Herabadi (2001)
2 If I see something new, I want to buy it	
3 I am a bit reckless in buying things	
4 I sometimes buy things because I like buying thing, rather than because I need them	
<i>Shopping wellbeing (SW)</i>	
1 Thinking about shopping, I feel that my shopping contributes significantly to my own personal well-being.	
2 Thinking about shopping, my quality of life would diminish significantly if I don't shop.	Ekici <i>et al.</i> (2018)
3 Thinking about shopping, I feel that shopping makes me happy.	
4 Thinking about shopping, I feel that shopping contributes significantly to my quality of life overall.	
5 The quality of life of my family would diminish significantly if I don't shop.	
<i>Self control (SC)</i>	
1 I am good at resisting temptation.	
2 People would say that I have iron self- discipline.	Tangney <i>et al.</i> (2004)
3 I have trouble concentrating.	
4 I often act without thinking through all the alternatives.	
5 I am lazy.	

This study used both a 7-point Likert scale and a 7-point semantic differential scale. The 7-point Likert scale was used to measure cognitive impulse buying, affective impulse buying, shopping well-being and self-control, whereas utilitarian value and hedonic value were measured using the 7-point semantic differential scale. This was aimed at reducing the potential agreement bias, with the items measured by different scaling methods randomly positioned in the questionnaire.

Data analysis and results

Measurement validation

This study employed confirmatory factor analysis (CFA) to validate the measurement instruments. Specifically, the performed saturated model indicated good indices: $\chi^2(322) = 684.27$ ($p = 0.000$), GFI = 0.92, CFI = 0.96, TLI = 0.95, and RMSEA = 0.05. Compared to the thresholds ($\chi^2/df \leq 3$; GFI, CFI, NFI, and TLI > 0.90 ; and RMSEA < 0.08) suggested by Hu and Bentler (1998), Hair *et al.* (2010), and Kline (2011), the saturated model was well fitted to the data. Two items measuring affective impulse buying and self-control were deleted because of their low factor loadings ($\lambda < 0.50$). All CFA factor loadings of the other items were above 0.5, and statistically significant ($\lambda \geq 0.54$; $p < 0.001$), indicating that all constructs possessed unidimensionality and convergent validity (Steenkamp and van Trijp, 1991). In addition, the discriminant validity test (Table III) yielded satisfactory results because the correlation estimates of any pair of constructs were lower than the average variance extracted for each construct (Fornell and Larcker, 1981).

Table III. Means, standard deviations, composite reliability, Pearson's correlations and validities

Construct	Mean	SD	CR	1	2	3	4	5	6
1. Hedonic value	4.73	1.39	0.93	0.68					
2. Utilitarian value	4.92	1.55	0.86	0.58 (0.34)	0.52				
3. Cognitive impulse buying	3.12	1.76	0.82	0.19 (0.04)	0.09 (0.01)	0.53			
4. Affective impulse buying	4.00	1.73	0.68	0.25 (0.06)	0.13 (0.02)	0.67 (0.45)	0.42		
5. Shopping well-being	4.51	1.61	0.92	0.30 (0.09)	0.22 (0.05)	0.36 (0.13)	0.46 (0.21)	0.70	
6. Self-control	5.06	1.29	0.78	0.07 (0.00)	0.03 (0.00)	-0.15 (0.02)	-0.21 (0.04)	0.06 (0.00)	0.47

Notes: Values on the diagonal are average variance extracted AVEs; values in brackets are the square of corresponding correlation.

Common method bias

Common method bias potentially occurs in studies using a self-report, in which participants answer all questions at the same time (Podsakoff *et al.*, 2003). Thus, this study adopted several remedies to control and assess this issue. First, either a Likert or a semantic differential scale was adopted to measure the studied constructs that were placed randomly in the questionnaire in order to minimize potential bias. Second, a Harman test (Podsakoff *et al.*, 2003) was also conducted that resulted in poor fit indices, indicating that the CFA single factor model was not well fit to the data: $\chi^2(350) = 5028.11$ ($p = 0.000$), GFI = 0.49, CFI = 0.42, TLI = 0.37 and RMSEA = 0.16, in comparison to the indexes of the CFA trait model. Third, a marker variable (habit, measured by three items adopted from Hsu *et al.*, 2015) that was theoretically unrelated to the studied constructs was included in the questionnaire. The marker analysis showed that the difference in correlation estimates of the constructs before and after the appearance of the marker variable was 0.004 (Malhotra *et al.*, 2006). Thus, the marker did not account for correlations between the studied constructs (Lindell and Whitney, 2001). A t-test analysis was also conducted to compare the correlation coefficients of the constructs between the model with the marker and the model without the marker. The results indicated that the

correlations between the two models were not statistically different ($p = 0.936$). Thus, even when a common method bias existed, this was not a serious problem in this study.

Hypotheses testing

This study incorporated the moderator (i.e., self-control) in the theoretical model, following Cortina et al. (2001). Specifically, this study employed one indicator for the interaction between each shopping value (i.e., utilitarian value and hedonic value) and self-control. Utilitarian value, hedonic value and self-control were unidimensional constructs. The composite value of these constructs was calculated by averaging the corresponding items (Gerbing and Anderson, 1988). Note that the mean-deviated value was used for the interaction to avoid multicollinearity (Cronbach, 1987).

The results of the SEM analysis (Table IV) showed that the model possessed satisfactory fit indexes: $\chi^2(286) = 905.27$ ($p = 0.000$), $\text{CMIN/DF} = 2.59$, $\text{GFI} = 0.89$, $\text{CFI} = 0.95$, $\text{TLI} = 0.94$ and $\text{RMSEA} = 0.06$. In addition, H1a ($p < 0.000$) and H1b ($p = 0.000$) were statistically significant, supporting the positive association between impulse buying and shopping well-being. H2a ($p = 0.011$) and H2b ($p < 0.000$) were also supported, reflecting the positive influence of utilitarian value and hedonic value on cognitive impulse buying and affective impulse buying, respectively. The results also supported both H3a ($p = 0.006$) and H3b ($p = 0.045$), validating the moderating effects of self-control on the dual associations between shopping values and impulse buying.

Table IV. Structural equation model results

<i>Hypotheses</i>	<i>Structural paths</i>	<i>B</i>	<i>SE</i>	β	<i>t-value</i>	<i>p-value</i>	<i>Results</i>
H1a	Cognitive impulse buying => Shopping well-being	0.194	0.047	0.199	4.094	***	Supported
H1b	Affective impulse buying => Shopping well-being	0.432	0.069	0.373	6.300	***	Supported
H2a	Utilitarian value => Cognitive impulse buying	0.157	0.062	0.131	2.533	0.011*	Supported
H2b	Hedonic value => Affective impulse buying	0.285	0.053	0.309	5.336	***	Supported
H3a	Utilitarian value x Self-control => Cognitive impulse buying	-0.056	0.02	-0.234	-2.75	0.006*	Supported
H3b	Hedonic value x Self-control => Affective impulse buying	-0.038	0.019	-0.179	-2.001	0.045*	Supported

Notes: *p < 0.05; ***p < 0.001

To compare the proposed relationships in the offline and online shopping contexts, this study employed multigroup analysis with structural equation modeling and separate data sets for each shopping context. By releasing the structural model path by path and then comparing the χ^2 of the constrained model to the χ^2 of the unconstrained model, this study tested the hypotheses on the moderation effect of the shopping context statistically. The results showed that the impact of cognitive impulse buying on shopping well-being in the offline and online contexts was statistically different ($p = 0.017$), supporting H1c. Specifically, cognitive impulse buying influences shopping well-being more strongly in the online shopping context (0.312 vs. 0.051). However, the association between affective impulse buying and shopping well-being did not show significant differences in the two shopping contexts ($p = 0.607$). Similarly, the influences of utilitarian value on cognitive impulse buying and hedonic value on affective impulse buying in the offline and online shopping contexts were not significantly different ($p = 0.607$ and $p = 0.272$ respectively). Thus, the results did not support H1d, H2c and H2d. The details of the multigroup analysis are presented in Table V.

Table V. Offline vs Online differences

<i>Effect of</i>	<i>On</i>	<i>Offline</i>	<i>Online</i>	<i>P value</i>	<i>Is</i>	<i>Hypotheses</i>
		<i>unstandardized (standardized) estimates</i>	<i>unstandardized (standardized) estimates</i>		<i>difference significant ?</i>	
Cognitive impulse buying	Shopping well-being	0.051 (0.055)	0.312 (0.309)	0.017*	yes	H1c (supported)
Affective impulse buying	Shopping well-being	0.468 (0.492)	0.388 (0.272)	0.607 ^{ns}	No	H1d (not supported)
Utilitarian value	Cognitive impulse buying	0.085 (0.071)	0.216 (0.205)	0.272 ^{ns}	No	H2c (not supported)
Hedonic value	Affective impulse buying	0.400 (0.389)	0.202 (0.225)	0.071 ^{ns}	No	H2d (not supported)

Notes: ns, non-significant. *p < 0.05.

Discussion and implications

The findings show that both cognitive and affective impulse buying are positively associated with shopping well-being. This is contradictory to Silvera *et al.* (2008), which showed that the cognitive facet of impulse buying was negatively associated with subjective well-being, while affective impulse buying and subjective well-being were unrelated. Note that existing studies mainly consider impulse buying as an affect-based behavior, ignoring its cognitive aspect (Chan *et al.*, 2017; Pornpitakpan *et al.*, 2017) and dominantly adopt the stimulus-organism-response (SOR) to study impulse buying (Chan *et al.*, 2017). Therefore, this research contributes to the existing literature by validating both the affective and cognitive processes of impulse buying and introducing an appropriate approach for studying impulse buying tendencies - the duality framework. In addition, self-control is a significant factor moderating the dual associations between shopping values and impulse buying. While self-control's predictive and mediating roles have been widely examined (Iyer *et al.*, 2019; Lo *et al.*, 2016), this study underlines the significance of self-control traits in understanding impulse buying tendency.

Finally, the impact of cognitive impulse buying on shopping well-being is stronger in the online shopping context than in the offline shopping context. This result differs from previous studies that generally suggest that online shopping is less impulsive than offline shopping

(Aragoncillo and Orus, 2018). Although physical interactions in conventional shopping can effectively influence shopping enjoyment, the online environment also makes shopping enjoyable. For instance, website displays affect consumers' pleasure and arousal (Chen *et al.*, 2020), and parasocial relationships with digital celebrities can drive online impulse buying (Zafar *et al.*, 2020b). In addition, while online shopping is more convenient, cost-effective and timesaving (Nielsen, 2014), in-store shopping allows shoppers to practically test product functions. These advantages of each shopping context may result in insignificant differences in the remaining associations between offline and online shopping contexts. While most impulse buying studies adopt either the offline (Pornpitakpan *et al.*, 2017; Pradhan *et al.*, 2018) or the online shopping context (Chen *et al.*, 2020; Lo *et al.*, 2016), this research is among the first to compare offline and online impulse buying. These findings serve as the basis for theoretical and practical implications.

Theoretical implications

First, existing studies show controversial consequences of impulse buying that are either negative (Boonchoo and Thoumrungroje, 2017) or positive (Chan *et al.*, 2017; Xiao and Nicholson, 2013). Further, Ni and Ishii (2019) call for further exploration of the influence of shopping on subjective well-being. As a result, this study contributes to the existing literature by supporting the positive consequences of impulse buying and validating the positive contribution of shopping.

Second, this study indicates that utilitarian value enhances cognitive impulse buying and hedonic value positively affects affective impulse buying. This result highlights the dual process of impulse buying from shopping values, proving that impulse buying is both affect-based and

cognition-based. Scant evidence is available on how cognitive processes influence impulse buying, as most existing studies focus on the affect-based characteristics of impulse buying (Chan *et al.*, 2017; Pornpitakpan *et al.*, 2017). This finding also validates the appropriateness of the duality approach in studying impulse buying behavior. While the SOR framework is dominantly adopted (see Chan *et al.*, 2017 for a recent review), this study introduces a new highly potential theoretical foundation for studying impulse buying.

Third, the influence of shopping values on impulse buying via dual processes was found to be negatively moderated by self-control. Existing impulse buying studies only examine the predicting or mediating role of the self-control trait (Baumeister, 2002; Iyer *et al.*, 2019; Lo *et al.*, 2016), ignoring its moderating effect. This study is among the first impulse buying studies that validates the moderating effect of self-control, highlighting the significant role of self-control as a general personality trait (Tangney *et al.*, 2004) in impulse buying research.

Fourth, by comparing offline and online shopping contexts, this research has demonstrated key differences and similarities among the studied associations. Specifically, the association between cognitive impulse buying and shopping well-being is stronger in the online shopping context than in the offline shopping context (0.31 vs 0.06). None of the other studied associations were significantly different across these shopping contexts. Note that existing studies have generally studied impulse buying in either the offline (Pornpitakpan *et al.*, 2017; Pradhan *et al.*, 2018) or the online shopping context (Lo *et al.*, 2016; Chen *et al.*, 2020). Therefore, these results point to a new path for future research on impulse buying in different shopping environments.

Practical implications

For practitioners, the results show that providing more utilitarian and hedonic values helps to increase impulsive purchases. Thus, both in-store retailers and e-tailers should provide more utilitarian value (e.g. convenience, safety, cost, and time saving) and/or experiential benefits (e.g. entertaining, comfortable, and esthetically pleasing atmosphere) to influence consumers to make unplanned purchases. This is somewhat consistent with the managerial implications of some studies conducted in developed countries (Yi and Jai, 2020; Cornish, 2020), which indicate that retailers should provide value for money (Cornish, 2020) and an enjoyable purchasing experience (Yi and Jai, 2020).

In addition, the shopping well-being of online shoppers is more influenced by cognitive impulse buying than that of in-store consumers. Therefore, leveraging the cognitive impulse buying of online shoppers by increasing utilitarian value can significantly enhance the positive contributions of their purchases. Specifically, e-commerce managers should build the clear layout of their products and offer a variety of selection on websites that help save consumers' search costs. For instance, a well-designed retailing website can enhance online purchase experience (Lee and Lee, 2019). Similarly, in the context of Taiwan, adding more website functions (e.g. recommender systems) is recommended for facilitating online impulsive purchases (Chen *et al.*, 2020). It is hoped that consumers engaging in those activities may not be concerned about the time to carry out the task. In other words, they immerse themselves in such a pleasing online shopping atmosphere, resulting in shoppers' well-being.

Finally, the relationship between shopping values and impulse buying is negatively moderated by self-control. Therefore, retailers or e-tailers can provide solutions to mitigate its negative moderating effect. For instance, displaying related products on the same shelves or

building good recommender functions of retailing websites (introduce related products appropriately) can be a great way to encourage impulsive buying (Chen *et al.*, 2020).

Conclusions, limitations and future research directions

This study fills some key gaps in the existing literature by validating the positive contribution of shopping to subjective well-being inferred by the positive consequences of impulse buying. In addition, by adopting the duality approach, this study proves that impulse buying is determined by shopping values both cognitively and affectively. This finding validates the dual process of impulse buying and proves the appropriateness of the duality approach in studying this shopping motive. The moderating effects of self-control on shopping values—impulse buying linkages—are also evident. Finally, some key differences and similarities in the relationships among shopping values, impulse buying, and shopping well-being between shopping contexts (offline vs. online) are clarified. Consequently, this study represents a novel work on consumer behavior.

A limitation of this study is that it only partially examines the impact of shopping and subjective well-being, which is based on investigating impulse buying and shopping well-being associations. There are potentially other shopping motives besides impulse buying that future research should adopt to address the research issue more thoroughly. This study also provides additional evidence for the positive consequences of impulse buying. Future research on this topic should adopt a meta-analysis method to provide a more conclusive answer. Furthermore, although the survey approach is appropriate, it cannot explain the causal relationship between shopping values and impulse buying. Therefore, future research can adopt other methods (e.g. experiments) to better examine the causalities between shopping values and impulse buying.

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