



## Causes and Consequences of Compulsive Buying Behavior: The Moderator Effects of Gender and Generation

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### Abstract

Compulsive buying has received attention from academicians in several countries. Past empirical studies (i.e. of Achziger et al., 2015; Donnelly et al., 2013; Gupta, 2013; Moon & Attiq, 2018) emphasized on some personality factors, (i.e. materialism, self-esteem, and self-control) that influence compulsive buying behavior. The present study fills this gap by: 1) incorporating delay-gratification as another important trait factor affecting compulsive buying behavior, 2) simultaneously examining the influence of personality traits on compulsive buying behavior and its effects on credit card usage and credit card debts, and 3) observing variations of study results among different groups of gender and generation (Gen X, Gen Y, & Baby Boomers). Data are collected from 550 shoppers who hold credit cards at the 11 shopping malls in Bangkok. Results from Structural Equation Model indicated that 1) materialism has a positive influence on compulsive buying behavior, while self-control, self-esteem, and delay-gratification have negative influences on compulsive buying behavior, 2) there is a positive influence of compulsive buying behavior on credit card usage and credit card debts, 3) in examining the moderating role of gender and generation on the relationships among the personality traits, compulsive buying behavior, and financial behaviors, the multigroup analysis has revealed that gender has a moderating effect on the relationship between self-control and compulsive buying behavior only while, 4) generation (Gen Y versus Baby Boomers) has moderating effects on the relationships of materialism and delay-gratification on compulsive buying behavior, and the relationships between compulsive buying behavior and credit card debts.

**Keywords:** Causes and Consequences, Compulsive Buying Behavior, Credit Card Debts, Credit Card Usage, Gender, Generation, Structural Equation Model (SEM)

### Introduction

Compulsive buying behavior describes mental health conditions such as a hasty attempt to buy with excessive urgency that is usually uncontrollable even though the buyer is conscious of its psychological, social and financial consequences (Müller et al., 2015). Due to some psychological factors, compulsive buying behavior is directly connected to credit card behaviors and consequently credit card debts. Essentially, by paying through credit card, the act of purchasing becomes more pleasurable, which fulfills the consumer's physical and mental needs, provides satisfaction and comfort (Millan & Howard, 2007), allows the expression of individual identity (Dittmar et al., 2004), gains acceptable social status (Han et al., 2010), and controls individual feelings (Dittmar et al., 2007). But compulsive purchase habits lead to debt booms, anxiety disorder, abusive relationships, and most fundamentally, certain family issues (O'Guinn & Faber, 1989; Ridgway et al., 2008).

Currently, buying compulsivity is a widespread phenomenon (Neuner et al., 2005). About 2–8% of Americans were classified as compulsive buyers, in which 80–95% was female (Black, 1996). In Germany, buying compulsivity had dramatically increased during 1991 and 2001 (Neuner et al., 2005). Within the Emerging Asia countries, the study of Guo and Cai (2011) had indicated that Thai adolescents had slightly higher compulsive buying behavior tendency than Chinese adolescents, and approximately 25% was categorized as compulsive buyers. In Australia (Phau & Woo, 2008), America (Roberts & Jones, 2001), and Malaysia (Omar et al., 2014),



the outcomes have proved that the strong relationship between compulsive buying behavior and credit card usage exists. As a matter of fact, consumer culture can vary hugely from country to country and hence cultural differences have shaped the way compulsive buying behavior is evolved and thrived among consumers of diverse social groups (Neuner et al., 2005). Therefore, there is a need to investigate the factors influencing compulsive buying behavior and the relationships of compulsive buying behavior on credit card usage and credit card debts in Thailand. In Thailand, credit card market had substantially grown these years; despite the COVID-19 outbreak and thereafter the 14.8% decline in credit card spending, the average annual growth of 5.7% is anticipated (Krungsri Research Team, 2020). Based on the Statista's Key Market Indicators (KMI), the penetration rate of credit card in Thailand continues to rise with the forecast to increase by 6.9% in total between 2023 and 2028 (Degenhard, 2023). According to the Bank of Thailand, Thailand's household debt was among the highest in Emerging Asia, and hence tackling high household debt stemmed from credit card and personal loans was ranked among the top priority. This became ever more threatening that many households ran up debts on multiple credit cards. At country level, if Thai household debt grow on an average of 2% annually, Thailand household debt will rise to 15.4 trillion Baht or 79.1% of GDP by 2025 (CTN News, 2021).

The objectives of this present study can be presented in three different aspects. Firstly, the author intends to examine the antecedents and consequences of compulsive buying behavior on the credit card behavior of Bangkok people in order to provide a deeper understanding of the differences between those from developing countries and developed countries. Secondly, with respect to the important role of delay-gratification in the context of delaying shopping but not commonly found in past literatures, this current study fills existing gap by examining altogether the four personality factors that act differently in a more comprehensive way to determine compulsive buying behavior. It contends that high degree of materialism, but low self-esteem can induce compulsive buying behavior while alternatively self-control and delay-gratification seem to halt compulsive buying behavior. Essentially, this present study intends to shed light whether compulsive buying behavior has demonstrated certain level of influence on credit card usage and credit card debts, and if so, the magnitude of such influence and the antecedents that influence it. Finally and most importantly, this study offers new knowledge as to better understand the moderating effects of gender and generation.

## **Literature Review and Hypotheses**

### **Correlations between Materialism, Self-Control, Self-Esteem, and Delay-Gratification**

Past literature consistently reports that materialism is generally a strategy used by people in coping with low self-esteem, contingent upon how people differently define themselves in relation with others (Zhang & Hawk, 2019). Closely related to materialism, self-esteem is inversely correlated with materialistic values, buying high-end or expensive brands, or valuing of material possessions and prestigious brands (Richins & Dawson, 1992). Based on past longitudinal study results, self-esteem could negatively predict the magnitude of materialistic values (Wang et al., 2022; Zhang & Hawk, 2019). Most notably, people with high self-esteem tend to possess stronger self-control (Michaels & Norton, 2015). Ding et al. (2022) suggested negative correlations existed between adolescents' smartphone addiction and self-esteem, self-control, and social support. However, the argument is made that people with high social status are likely to be oriented to future concerns, be good at control self and rationalize their buying decision as to save money for now and be able to delay gratification, yet they may potentially maintain their perception of high social status in the form of protecting their image and hence buying

compulsively (Wang & Tsai, 2017). In addition, self-control is reported as a personality trait required for being able to delay gratification, and positively related to delay-gratification (Duckworth et al., 2013). To the best of the author's knowledge, the empirical study of these four personality traits (materialism, self-control, self-esteem, and delay-gratification) in predicting compulsive buying behavior of Thai consumers is still limited, and hence this study is intended to shed light in this aspect.

### **Theories Related to Compulsive Buying Behavior**

Faber and O'Guinn (1992) developed screening tool and measurement scale that classified compulsive shoppers among a population. They conducted in-depth interviews with self-reported compulsive buying questionnaires and found that such constructs as self-esteem, materialism, and credit card usage were relevant to compulsive shoppers. Accordingly, the trait theory serves as the notable theoretical framework that explains the antecedents of the compulsive buying behavior in this study; materialism, self-control, self-esteem, and delay-gratification. Additionally, the weapons effect theory explains the phenomenon of the compulsive buying behavior that leads to financial behaviors (credit card usage and credit card debts).

#### **Trait Theory**

In psychological science, trait theory studies personality of human and rests on the idea that people's personality traits are characterized differently based on their primary trait dimensions. Each individual possesses different set of personality traits which gradually are formed into habits that are unchanged over time (Kassin, 2003). For instance, self-esteem (Judge & Bono, 2001) as well as self-control (Frieze & Hofmann, 2009) are often featured as lasting personality traits. Lack of either self-esteem or self-control trait can lead to compulsive buying behavior.

#### **The Weapons Effect Theory**

In social psychology, the weapons effect describes a controversial theory which postulates that the presence of weapons likely to stimulate violence and aggression (Berkowitz & Lepage, 1967). Past empirical evidence points to psychological effects that credit cards promote spending by facilitating quick payment transactions through credit card limit instead of paying in cash (Roberts & Jones, 2001); buyers eventually get into the habit of high-priced shopping (Deshpande & Krishnan, 1980).

#### **Materialism and Compulsive Buying Behavior**

Past literatures have supported that there are correlations between materialism and compulsive buying behavior (DeSerbo & Edwards, 1996). For women, there is a tendency for them to become more shopaholic than men (Schlosser et al., 1994). Consistently, past studies have revealed that compared with non-compulsive buyers, there is a high chance for compulsive shoppers to be materialists (Mowen & Spears, 1999). Therefore, the relationship between materialism and compulsive buying behavior is expected to be positive. As such, the first hypothesis can be hypothesized as follow:

**H1:** Materialism has positively influenced compulsive buying behavior.

#### **Self-Control and Compulsive Buying Behavior**

Compulsive shoppers have commonly expressed that their shopping activities add much thrill and great excitement, and hence they have described their extreme excitement as extraordinary, hurry, or beyond control (Faber, 2000; Faber & Christenson, 1996; McElroy et al., 1995). Seriously, compulsive buyers find that they cannot overcome their urge to buy (Faber, 2004), and therefore the lack of self-control can elevate the symptoms of compulsive buying behavior (Roberts & Manolis, 2012). Even so, shortly after buying, compulsive buyers experience strong feelings of guilt (Faber & Vohs, 2011). This negative condition brings about the symptoms of



depression and low self-esteem. Based on the previous studies, self-control is expected to have a negative impact on compulsive buying behavior. Thus, the second hypothesis is hypothesized as follow:

**H2:** Self-control has negatively influenced compulsive buying behavior.

#### **Self-Esteem and Compulsive Buying Behavior**

Compulsive shoppers are inclined to have greater sense of negative self-awareness as well as low self-esteem (d'Astous, 1990; Hanley & Wilhelm, 1992). They tend to be fanciful, highly depressed and anxious, and are obsessed, compared to non-compulsive buyers (Scherhorn et al., 1990; Shoham & Brenčič, 2003). As the symbolic self-completion theory applies, when people confront with craving for what they want to appear and the reality of who they are, these unmet needs will make them feel inferior and hence result in lower self-esteem. Hence, the third hypothesis is proposed as follow:

**H3:** Self-esteem has negatively influenced compulsive buying behavior.

#### **Delay-Gratification and Compulsive Buying Behavior**

People's capability and talent to defer fulfilment is related to increasing age (Lemmon & Moore, 2007; Atance & Jackson, 2009). Hence, people who are easily influenced by external forces are more likely to be incapable to postpone gratification and suffer from a severe compulsivity disorder (Dawd, 2017). As delay-gratification can negatively influence compulsive buying behavior, it is reasonable to note that compulsive shoppers lack of delay-gratification skill, while non-compulsive buyers are keen to stop buying habit by practicing delay-gratification. Although there is currently no empirical research evidence that can support this assumption, this present study proposed to hypothesize the fourth hypothesis as follow:

**H4:** Delay-gratification has negatively influenced compulsive buying behavior.

#### **Compulsive Buying Behavior and Credit Card Usage and Credit Card Debts**

Money matters to compulsive buyers and is symbolized as social status and image of power. As such, compulsive buyers form the level of authority they want to appear by holding credit cards (Phau & Woo, 2008). Since credit card holders are offered privileges to make their life easier and more enjoyable to have freedom to pay on credit, it is quite likely that compulsive buyers choose to hold a wide range of credit cards (O'Guinn & Faber, 1989) to shop more in order to give them a sense of intense gratification (Khare, 2013). To a serious extent, compulsive buying disorder may lead to credit card misuse (Joireman et al., 2010), and such careless use of credit card can badly pile up credit card debts (Omar et al., 2014). As such, the fifth and sixth hypotheses are proposed as follows:

**H5:** Compulsive buying behavior has positively influenced credit card usage.

**H6:** Compulsive buying behavior has positively influenced credit card debts.

#### **The Moderating Effect of Gender on the Relationships between Four Traits and Compulsive Buying Behavior**

With regard to the gender, women were generally more compulsive (Dittmar, 2005; Faber & O'Guinn, 1992). Specifically, women attempt to handle their emotional attacks by means of harnessing their buying compulsivity in order to create positive moods and reduce their daily stress level (Coley & Burgess, 2003). In order to investigate the moderating effect of gender, this study has positioned that gender could potentially moderate the effect of the four personality traits (materialism, self-control, self-esteem, and delay-gratification) on compulsive buying behavior, and consequently on financial behaviors (credit card usage and credit card debts). Hence, the seventh to twelfth hypotheses are proposed as follows:



**H7:** The relationship between materialism and compulsive buying behavior is moderated by gender (Male and Female).

**H8:** The relationship between self-control and compulsive buying behavior is moderated by gender (Male and Female).

**H9:** The relationship between self-esteem and compulsive buying behavior is moderated by gender (Male and Female).

**H10:** The relationship between delay-gratification and compulsive buying behavior is moderated by gender (Male and Female).

**H11:** The relationship between compulsive buying behavior and credit card usage is moderated by gender (Male and Female).

**H12:** The relationship between compulsive buying behavior and credit card debt is moderated by gender (Male and Female).

**The Moderating Effect of Generation on the Relationships between Four Traits and Compulsive Buying Behavior**

According to the Strauss-Howe generational theory, Baby Boomers were born between 1946-1964 with dramatic increases in birth rates after World War II, and hence they represent a significantly large demographic group (Strauss & Howe, 1991). In the year of this study, this generational cohort should be ranged between 57 and 75 years old. This generation is classified as workaholic people who possess many personality traits such as acquiring idealistic visions, becoming loyal customer base, valuing money, striving for personal achievement, honoring positions and social statuses, and holding the top management positions (Kreitner & Kinicki, 2010). The Generation X usually refers to those born between 1965 and 1980, and ranged between 41 and 56 years old. This generation is classified as self-reliant people who have many personality traits such as adaptable, cynical, distrust of authority, resourceful, entrepreneurial, and most noticeable technology savvy (Kreitner & Kinicki, 2010). Millennials were born between 1981 and 1996 (Dimock, 2019), and ranged between 25 and 40 years old. In addition, many analysts have labeled this generation as Gen Y or Xennials (American Marketing Association, 2022) who have many personality traits including thinking positively, being public-spirited, balancing work life, multitasking, and promoting team's efforts (Kreitner & Kinicki, 2010). Age was proved as a determinant factor of consumer acceptance and purchase intent (Khare et al., 2012). Therefore, in this study, a series of hypotheses from the thirteenth to the thirtieth are also proposed as follows:

**H13:** The relationship between materialism and compulsive buying behavior is moderated by generation (Gen Y and Gen X).

**H14:** The relationship between self-control and compulsive buying behavior is moderated by generation (Gen Y and Gen X).

**H15:** The relationship between self-esteem and compulsive buying behavior is moderated by generation (Gen Y and Gen X).

**H16:** The relationship between delay-gratification and compulsive buying behavior is moderated by generation (Gen Y and Gen X).

**H17:** The relationship between compulsive buying behavior and credit card usage is moderated by generation (Gen Y and Gen X).

**H18:** The relationship between compulsive buying behavior and credit card debt is moderated by generation (Gen Y and Gen X).





**H19:** The relationship between materialism and compulsive buying behavior is moderated by generation (Gen Y and Baby Boomers).

**H20:** The relationship between self-control and compulsive buying behavior is moderated by generation (Gen Y and Baby Boomers).

**H21:** The relationship between self-esteem and compulsive buying behavior is moderated by generation (Gen Y and Baby Boomers).

**H22:** The relationship between delay-gratification and compulsive buying behavior is moderated by generation (Gen Y and Baby Boomers).

**H23:** The relationship between compulsive buying behavior and credit card usage is moderated by generation (Gen Y and Baby Boomers).

**H24:** The relationship between compulsive buying behavior and credit card debts is moderated by generation (Gen Y and Baby Boomers).

**H25:** The relationship between materialism and compulsive buying behavior is moderated by generation (Gen X and Baby Boomers).

**H26:** The relationship between self-control and compulsive buying behavior is moderated by generation (Gen X and Baby Boomers).

**H27:** The relationship between self-esteem and compulsive buying behavior is moderated by generation (Gen X and Baby Boomers).

**H28:** The relationship between delay gratification and compulsive buying behavior is moderated by generation (Gen X and Baby Boomers).

**H29:** The relationship between compulsive buying behavior and credit card usage is moderated by generation (Gen X and Baby Boomers).

**H30:** The relationship between compulsive buying behavior and credit card debts is moderated by generation (Gen X and Baby Boomers).

### Research Model

Based on past research outcomes, this present study posits that the principle of cause and effect of compulsivity helps explain the behavior of compulsive buyers. To a certain extent, the magnitude of buying compulsivity is determined by the personality factors, and then leads to the negative consequences of financial behaviors. Mainly in the comparative studies of compulsive buying behavior, it is widely suggested that individual personality factors such as materialism, self-control, self-esteem, and delay-gratification matter in the occurrence of compulsive buying behavior. In this present investigation, the aim is to propose a more robust conceptual model that represents a more holistic approach to the analysis of how each of the four personality traits impacts compulsive buying behavior, and furthermore the consequential effects of compulsive buying behavior on financial behaviors (credit card usage and credit card debts). That said, it seems reasonable to present a more integrated research model, as shown in Figure 1, for a simultaneous test of the relationships between the four personality traits and compulsive buying behavior as well as the relationships between compulsive buying behavior and the two financial behaviors. In addition, the moderator factors of gender and generation are taken into the analysis scope of this study.

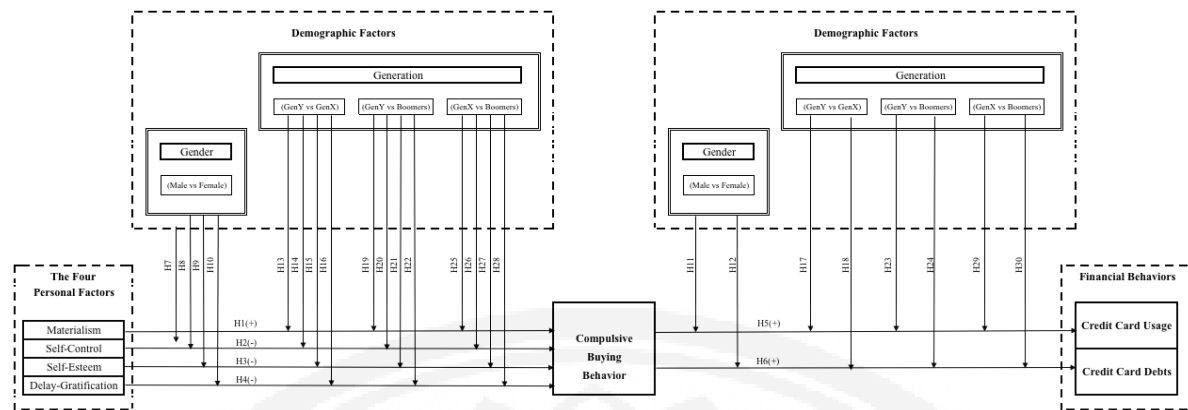


Figure 1 Research Model.

## Research Methodology

### Respondents and Sample Size

As this present research intends to analyze the influence and impact of compulsive buying behavior on credit card usage and credit card debts, the qualified respondents are Bangkok consumers who hold credit cards to use for shopping and spending. This study employs the SEM technique for the research analysis and its suggested optimal sample size. Following the recommendations made from numerous research experts, the proposed sample size meets the acceptable criteria to have the minimum acceptable samples calculated from the number of observed variables. To elaborate on this, the range of 5 to 10 cases is multiplied by the total number of observed variables (Bentler & Chou, 1987). In addition, 500 samples are recommended to collect as the minimum sample size for the complex model (Hair et al., 2010). For this present study, the research model is proposed with 81 measurement variables, and therefore the suggested number of total sample size ranges between 405 and 810 cases. Therefore, this study has collected 550 samples in total.

### Sampling Procedures

This present study devises a probability sampling method to collect the target number of samples in the 11 survey sites close to Bangkok city areas, complex shopping malls, and big department stores. As a province, Bangkok has the largest percentage and hence a good representation to the overall Thailand population; Bangkok consists of 5.48 million people, which is 8.30% of the total 66.04 million Thai people (The Bureau of Registration Administration, 2023). The selected survey locations contain many shops, restaurants, and service outlets where consumers spend their time buying and using their credit cards. During the interview process, the interviewers started their scripts to initially probe the target samples with a few questions to ensure that each respondent was qualified to meet the criteria of being Bangkokian and shopper who was using credit cards.

### Research Instruments/Questionnaire

The questionnaire is designed to collect key demographic data such as gender, age, number of credit card held, and monthly personal income. Overall, the 7 measurement scales are adopted from past literatures, and the 5-point Likert scale is consistently used in all items to rate the respondents' degree of disagreement to agreement. In the pretest process, the questionnaire instrument was back translated and sent to three field professional and experts for reviewing the clarity and correctness of both English and Thai versions (Saunders et al., 2016), prior to sending out to 40 shoppers in Bangkok who holds one or more credit cards. A summary of scale reliability, source, and statistical data and measurement accuracy is provided in Table 1 below.

**Table 1** Summary of Scale Reliability

Construct Name	Source	Items	Cronbach Alpha	Mean	SD
Compulsive Buying Behavior	Edwards Compulsive Buying Scale (Edwards, 1993)	13	0.782	2.425	0.558
Credit Card Usage	Credit Card Use Scale (Roberts & Jones, 2001)	12	0.838	2.772	0.571
Credit Card Debts	Self-Report Measure of Over-indebtedness (Gathergood, 2012)	5	0.730	3.629	0.482
Materialism	Materialism Scale (Richins & Dawson, 1992)	18	0.815	4.010	0.510
Self-Control	Brief Self-Control Scale (Tangney et al., 2004)	13	0.826	3.735	0.635
Self-Esteem	Rosenberg Self-Esteem Scale (Rosenberg, 1965)	10	0.744	1.825	0.530
Delay-Gratification	Delaying Gratification Inventory (Hoerger et al., 2011)	10	0.790	1.275	0.906

## Research Results

### Descriptive Analysis for Respondents

The key demographics of 522 good samples have been categorized in the Table 2 below.

**Table 2** Demographic Profile of Respondents

Variable	Categories	Frequency	Percent	Variable	Categories	Frequency	Percent
<b>Gender</b>	Male	261	50.0	<b>Generation</b>	Gen Y	182	34.9
	Female	261	50.0		Gen X	171	32.8
					Baby Boomers	169	32.4
<b>Number of Credit Card Held</b>	1 Card	158	30.3	<b>Income Per Month</b>	25,000 Baht or Below	142	27.2
	2 Cards	200	38.3		25,001–50,000 Baht	277	53.1
	3 Cards	100	19.2		50,001–100,000 Baht	70	13.4
	4 or More Cards	64	12.3		100,001–200,000 Baht	24	4.6
					Above 200,000 Baht	9	1.7

### Exploratory Factor Analysis

Based on the Exploratory Factor Analysis (EFA) results of the seven factors (materialism, self-control, self-esteem, delay-gratification, compulsive buying behavior, credit card usage, credit card debts), the KMO values ranging between 0.750 and 0.894 are ranked as generally accepted within the three satisfactory levels (middling, meritorious, and marvelous levels). Besides, each of the Bartlett's tests of sphericity values is favorably accepted at the significance level of 0.01; this confirms that the sampling size is deemed adequate to the study. Finally, this present study reports that the factor loadings of each variable scoring between 0.514 and 0.861 (greater than 0.50) are considered acceptable. This complimentarily supports that the proposed factors load in acceptable significance level and therefore are practical for use in research analysis (Hair et al., 2010).

### Confirmatory Factor Analysis

After performing the Confirmatory Factor Analysis (CFA), the outcomes have shown the absolute fit indices for the measurement model as  $\chi^2$  (DF7 = 1094) = 3786.587,  $P < 0.01$ , CMIN/DF = 3.461; all values are considered within the acceptable range; RMSEA = 0.069 indicates a moderate fit; GFI = 0.754 is close to the cut-off point at 0.8. Considering the incremental fit indices when TLI = 0.811, CFI = 0.777, and IFI = 0.809, the values in the range from 0.777 to 0.811 are close to and above the cut-off point at 0.8. As shown in Table



3 below, this present research work has achieved its goal to evaluate the measurement model validity, and thus concluded a moderate fit of the proposed model.

**Table 3** The Comparison of Fit Indices of the Measurement Model of the Proposed Model Against the Suggested Points

CFA	Absolute Fit Measure			Incremental Fit Measure		
	CMIN/DF	RMSEA	GFI	TLI	CFI	IFI
Suggested Points	< 5	0.05 – 0.08	> 0.8	> 0.8	> 0.8	> 0.8
Proposed Model	3.461	0.069	0.754	0.811	0.777	0.809

Table 4 presents the hypothesized sign, standardized estimated, Critical Ratio (C.R.), p-values, and the Squared Multiple Correlations (SMC) for the hypothesized direct path model. From the six coefficients in relation to the paths that link the exogenous as well as the endogenous factors of the model, four are reported as significant at the C.R. ( $> \pm 1.96$ ,  $P < 0.01$ ), and two are insignificant as detailed below. Materialism has a positively significant effect on CB ( $p < 0.01$ , C.R. = 11.321) at standardized regression weight = 0.690. The relationship between materialism and compulsive buying behavior is found positive. Hence, hypothesis H1 is supported. As such, it is logical to conclude that the more people value on objects, the more people exert high degree of their compulsive buying behavior. Self-control has a negatively significant effect on compulsive buying behavior ( $p < 0.01$ , C.R. = -6.723) at standardized regression weight = -0.135. Similarly, hypothesis H2 is supported. Therefore, it is justified to interpret that the more people can control themselves, the less people exert high degree of their compulsive buying behavior. Self-esteem has a negatively significant effect on compulsive buying behavior ( $p < 0.01$ , C.R. = -3.430) at standardized regression weight = -0.115. Consistent with the effect of self-control, hypothesis H3 is supported. Hence, it is reasonable to interpret that the more people have self-esteem, the less people exert high degree of their compulsive buying behavior. Delay-gratification has a negatively significant influence on compulsive buying behavior ( $p < 0.01$ , C.R. = -2.870) at standardized regression weight = -0.312. Therefore, hypothesis H4 is supported. Based on this outcome, the more people are able to delay gratification, the less people demonstrate high degree of their compulsive buying behavior. Compulsive buying behavior shows a positively significant influence on credit card usage ( $p < 0.01$ , C.R. = 10.787) at standardized regression weight = 0.596. Then, hypothesis H5 is supported. Hence, it sounds logical to conclude that compulsive buyers have probable reasons to use credit card in a more frequent manner. Compulsive buying behavior shows a positively significant influence on credit card debts ( $p < 0.01$ , C.R. = 7.336) at standardized regression weight = 0.431. Therefore, hypothesis H6 is supported, and it implies that the compulsive buyers are likely to run up huge credit card debts. In summary, based on the results obtained, this study has come to a conclusion that materialism has a positively impact on compulsive buying behavior. On the other hand, self-control, self-esteem, and delay-gratification are found to have negatively impacts on compulsive buying behavior, whereas compulsive buying behavior has the positively impacts on both credit card usage and credit card debts. In view of the SMC, it can be interpreted that 60.5% of the variance found in compulsive buying behavior is represented by the unveiled joint influence of materialism, self-control, self-esteem, and delay-gratification, 35.5% of the variance reported in credit card usage is represented by the influence of compulsive buying behavior, as well as 18.5% of the variance discovered in credit card debts is represented by the influence of compulsive buying behavior.

**Table 4** Proposed Hypotheses and Assessment of SEM Analysis between IDVs and DVs

Hypotheses	IDV	DV	Hypothesized Sign	Standardized Estimated	C.R.	P	Support
H1	MT	CB	+	0.690	11.321	***	Yes
H2	SC	CB	-	-0.135	-6.723	***	Yes
H3	SE	CB	-	-0.115	-3.430	***	Yes
H4	DG	CB	-	-0.312	-2.870	***	Yes
H5	CB	CU	+	0.596	10.787	***	Yes
H6	CB	CD	+	0.431	7.336	***	Yes
<b>Squared Multiple Correlation</b>							
<b>CB</b>				0.605			
<b>CU</b>				0.355			
<b>CD</b>				0.185			

Notes: \*\*\* p-value < 0.01

**Abbreviations:** IDV = Independent Variable, DV = Dependent Variable, MT = Materialism, SC = Self-Control, SE = Self-Esteem, DG = Delay-Gratification, CB = Compulsive Buying Behavior, CU = Credit Card Usage, CD = Credit Card Debts

The C.R. test of gender difference among regression weights is performed. Based on the pairwise comparison, the C.R. is derived from the variant-group model according to the equally assigned path coefficients of the invariant group model, and hence it is noncomparable. The results show that five pairwise comparisons in the path coefficients considering the C.R. between male and female are insignificant at C.R. = 0.722, 1.942, 0.382, -0.409, and 0.581 ( $p > 0.05$ ) respectively. Therefore, it indicates that gender difference does not have the moderating effects on the relationships among the three IDVs (MT, SE, and DG) and CB as well as on the relationships of CB to CU and CD. Somehow, one pairwise comparison in the path coefficients considering the C.R. between male and female is significant at C.R. = -3.547 ( $p < 0.01$ ), so it indicates that gender difference has a moderating effect on the relationship between SC and CB.

For generational difference (Gen Y versus Gen X), three out of the six pairwise comparisons in the “path coefficients” considering the C.R. between Gen Y and Gen X are significant. Therefore, it indicates that generational differences have exhibited the moderating effects on the relationships of SC and SE to CB, and also the relationship between CB and CU with significantly different between Gen Y and Gen X at C.R. = -4.957 ( $p < 0.01$ ), 3.476 ( $p < 0.01$ ), and 2.181 ( $p < 0.05$ ) respectively. Whereas, other three of the six pairwise comparisons in path coefficients between Gen Y and Gen X is insignificant, and the outcomes indicates that the “moderating effect of generation” which exists in the relationships of MT and DG to CB as well as between CB and CD are insignificant ( $p > 0.05$ ) at C.R. = -1.680, 0.441, and -0.036 respectively.

For generational difference (Gen Y versus Baby Boomers), three of the six pairwise comparisons in the “path coefficients” considering the C.R. between Gen Y and Baby Boomers are significant. Therefore, it indicates that generational differences have shown the moderating effects on the relationships of MT and DG to CB, as well as on the relationship between CB and CD with significant differences between Gen Y and Baby Boomers at “C.R. = -3.273 ( $p < 0.01$ ), 2.532 ( $p < 0.05$ ), and -2.682 ( $p < 0.01$ )” respectively. However, the other three of the six pairwise comparisons in path coefficients between Gen Y and Baby Boomers are insignificantly different; the moderating effects of generation on the relationships of SC and SE on CB, and the relationship between CB and CU are insignificant at C.R. = 1.784, -0.201, and 1.020 ( $p > 0.05$ ) respectively.

For generational difference (Gen X versus Baby Boomers), two of the six pairwise comparisons in the path coefficients concerning the C.R. between Gen X and Baby Boomers are reported as significant. Therefore,

it indicates that generational differences have revealed the moderating effects on the relationships of SC and SE to CB with significant differences existed between Gen X and Baby Boomers [at C.R. = 2.470 ( $p < 0.05$ ) and = -2.762 ( $p < 0.01$ ) respectively]. While other four of the six pairwise comparisons in path coefficients between Gen X and Baby Boomers are insignificant, the outcomes point out that the moderating effects of generation on the relationships of MT and DG on CB, as well as the relationships between CB and financial behaviors (CU and CD) are insignificant [at C.R. = -1.329, -0.594, 0.391, and 0.978 ( $p > 0.05$ ) respectively].

## Discussion and Conclusions

### Research Findings

#### Direct Effects Among Personality Traits, Compulsive Buying Behavior, and Financial Behaviors

Firstly, these study results serve to explain how the four personality factors (materialism, self-control, self-esteem, and delay-gratification) relate to the compulsive buying behavior of Bangkok consumers as well as how well these personality factors can predict the level of compulsive buying behavior. As expected, the results have revealed that all independent variables (materialism, self-control, self-esteem, and delay-gratification) have demonstrated significant direct relationships with compulsive buying behavior; whereas materialism has positively influenced compulsive buying behavior, but self-control, self-esteem, and delay-gratification have negatively influenced compulsive buying behavior. This implies that the more Bangkok consumers live with a materialistic lifestyle and thus suffer from materialism, the more they are buying-obsessed. Alternatively, the more Bangkok consumers are highly confident in their own self-worth and values, the higher the degree of self-respect, self-esteem, self-control, and delay-gratification they embody, which curtail the occurrence of buying compulsivity. Refer to the standard regression weights analysis, it can be illustrated that materialistic consumers in Bangkok incline to own high degree of compulsive buying behavior. Alternatively, compulsive buying behavior is less and lesser demonstrated in those consumers with high-degree self-esteem, self-control, and delay-gratification consumers respectively. As such, these findings support hypotheses H1, H2, H3, and H4. Secondly, this present study describes how the compulsive buying behavior relates to credit card usage and credit card debts and explores the consequences of compulsive buying behavior that potentially triggers the mismanagement of credit card usage and credit card debts eventually. The outcomes confirm that compulsive buying behavior is significantly related to credit card usage and credit card debts. Therefore, it can be explained that the higher degree of buying compulsivity among Bangkok consumers, the more frequent they use credit cards, and these conditions can lead to the more exposure that they incur credit card debts. As such, these outcomes provide positive support to hypotheses H5 and H6 accordingly. In the standardized regression weights analysis, it can be described that the high degree of buying compulsivity has positive effects on credit card usage and credit card debts, with the greater effect found in credit card usage compared to that of credit card debts. In a nutshell, this comprehensive study has shown that compulsive buying behavior is significantly and positively related with credit card usage and credit card debts.

As expected, the study outcomes derived from hypotheses first to sixth are consistent to most of the past empirical findings. From the perspective of trait theory, personality traits may influence compulsive buying behavior in a positive or negative manner, and personality traits of each individual tend to be stable and not changing constantly (Hawkins et al., 2007). Materialistic people are likely to experience high degree of buying compulsivity (Donnelly et al., 2016; Pham et al., 2012). The greater severe compulsive buying disorder is highly associated with low self-control and inability to delay gratification (Black, 2022). Greater compulsivity potentially



causes personal distress and debts, legal problems, and family conflict (McElroy et al., 1995). While self-control imposes a negative effect on finance management and personal debts, compulsive buying positively leads to credit card misuse and debts (Achtziger et al., 2015). Gender has much influence on compulsive buying and 80–95% of women are reported to expose to higher risks of becoming compulsive buyers compared to men (Lejoyeux et al., 1997). The early age of compulsive buying tends to be early 20s with the mean age of 30 years (Koran et al., 2006), which seems to be classified in the Gen Y group. Interestingly, past research found mixed results in which self-esteem did and in some cases did not show any significant impacts on compulsive buying behavior (Howard, 2016; Moon & Attiq, 2018). From the consumer standpoint, weapons effect theory amplifies the exchange relationships between compulsive buyers and financial behaviors (credit card usage and credit card debts). According to the weapons effect theory, it can be inferred that the presence of credit cards as weapons can arouse aggressive behaviors such as causing excessive spendings. As the significantly positive relationships between compulsive buying behavior and financial behaviors (credit card usage and credit card debts) is found in this study, it implies that those credit card holders being classified as high-degree compulsive buyers are inclined to own and use more credit cards than low-degree compulsive buyers.

Thus, it is logical that consumers with different levels of the four personality factors and classified in different demographic categories (gender and generation) may not express in the same way about their compulsive buying behavior, and accordingly this results in different effects on the magnitude of their credit card usage and credit card debts. The positive-effect trait (materialism) and negative-effect traits (self-control, self-esteem, and delay-gratification) were found to influence compulsive buying behavior in this study. Inversely, compulsive buying behavior may also create a negative impact on credit card usage and credit card debts. This study reaffirms from the trait theory standpoint that materialism boosts up effect on buying compulsivity, while low self-control, low self-esteem, and weak delay-gratification cause negative impacts on compulsive buying behavior. As a consequence, compulsive buying behavior can seriously affect credit card usage and credit card debts in the context of Thai consumers.

#### **The Moderator Role of Gender and Generation to the Relationships Among Personality Traits, Compulsive Buying Behavior, and Financial Behaviors**

More literature has revealed that women have higher tendencies to become compulsive buyers and hence possess lower self-control than men (Lejoyeux et al., 1997). In this study, gender difference (male versus female) has not demonstrated any significant moderating effects of materialism, self-esteem, and delay-gratification on compulsive buying behavior. However, gender difference has shown a significant moderating effect between self-control and compulsive buying behavior only. This study reaffirms that men seem to possess more self-control and less likely to become compulsive buyers compared to women. As such, for specific marketing campaigns, marketers should realize that women can exert lower level of self-control as to become more responsive to make repetitive buying decisions and hence eventually have higher probability to become compulsive buyers.

Interestingly, the findings of the present study indicate that not all relationships between compulsive buying behavior and financial behaviors (credit card usage and credit card debts) are moderated in the same manner by demographics (gender and generation). This evidence also suggests that compulsive shoppers with different genders or generations use and owe their credit cards in different ways. Alternatively, it can be explained that the impact of compulsive buying behavior on financial behaviors (credit card usage and credit card debts) is the same for

both genders (male and female), while Gen X–compulsive buyers have more impact on credit card usage than Gen Y. In addition, Baby Boomer–compulsive buyers have a greater impact on credit card debts than Gen Y.

As to further elaborate, Gen X–compulsive buyers seem to have a higher tendency to use credit cards than Gen Y–compulsive buyers, as well as Baby Boomer–compulsive buyers seem to have a higher tendency to owe credit cards than Gen Y–compulsive buyers. Interestingly, some relationships between the compulsive buying behavior and financial behaviors are not moderated by gender and generation, for instance, the moderating effect of gender on the relationships between compulsive buying behavior and financial behaviors (credit card usage and credit card debts), the moderating effect of generation (Gen Y versus Baby Boomers; Gen X versus Baby Boomers) on the relationship between compulsive buying behavior and credit card usage, and also the moderating effect of generation (Gen Y versus Gen X; Gen X versus Baby Boomers) on the relationship between compulsive buying behavior and credit card debts. Based on these findings, it can be interpreted that Gen X–compulsive buyers have more tendency to use credit cards than Gen Y–compulsive buyers, and Baby Boomer–compulsive buyers seem to have and owe more credit cards than Gen Y–compulsive buyers. However, the gender and generational differences of these compulsive buyers (Gen Y versus Baby Boomers; Gen X versus Baby Boomers) do not affect their credit card use. Likewise, the gender and generational differences of these compulsive buyers (Gen Y versus Gen X; Gen X versus Baby Boomers) do not affect their credit card debts as well.

#### **Managerial Implications**

Firstly, the new knowledge gained from this study can also help policymakers to devise better commercial policies, such that marketers and retailers are mutually responsible for being responsive to tailor their marketing practices in such a way that compulsive buyers shall rather be encouraged to counter with the risk of overspending. Secondly, this present study suggests therapists to help compulsive buyers with low self-esteem to realize their self-value and believe that his or her behavior is purposeful and valuable in order to level up their self-esteem and reduce the level of compulsive buying symptoms. Furthermore, specialists may suggest a particularly useful technique for patients to suppress unwanted compulsive buying habits by stopping the use of credit card but carrying limited amount of cash only, as to avoid the case of credit card usage abuse for their excessive shopping activities. Finally, the research results showing a significantly positive relationship between materialism and compulsive buying behavior suggests that the extent of involvement of government agencies in providing education and training in morale and ethics to marketers and compulsive buyers is essential to promote a true mood of happiness and self-respect within family, instead of craving for material possessions. Teaching meditation and practicing mind and soul can boost up higher degree of self-control and delay-gratification, as to inhibit compulsive buying symptoms.

#### **Limitations and Suggestions for Further Research**

Perhaps future research can accommodate a larger size of samples so that the bigger sample representation shall become more robust and hence enhance the accuracy and reliability of these research outcomes. Besides, future research may gather samples from specific industries or professions, such that cross-referencing studies of consumers among different industries can be interpreted in a more meaningful way. Moreover, future studies can potentially cover larger number of locations of samples in order to share greater representation and improve the degree of generalization in the context of Bangkok consumers. To a broader extent, the same research model and hypotheses proposed in this present study can be replicated for future longitudinal studies as to evaluate trends and variations of these research outcomes. Finally, future studies can further test these proposed hypotheses with similar big cities in other Eastern countries, apart from Thailand. As Eastern cultures are different from Western's,





additional future research in the context of Eastern countries can enhance our understanding as to compare results of Thailand and other Eastern countries, as well as with past research outcomes from Western countries.

### Conclusions

Notwithstanding the inherently significant constraints and limitations of this present study, the findings, contextualized within the framework of Bangkok consumers, underlined the importance of how the research outcomes can be appropriately applied in academia and in business by upholding ethical principles and sense of social responsibility. Marketing practitioners should be encouraged to be cautious of the flip side of commercializing their marketing strategies through their advertisements, which could potentially cause serious issues in compulsive buying. Rather, policy makers and marketers should be more creative in formulating demarketing strategies in order to sway consumers in making unintelligent buying decisions. To this end, future research works on compulsive buying should be continuously performed in order to extend its breadth to include other important factors that contribute to the greater understanding of consumers' buying behaviors.

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