

Compulsive Buying Behavior: Antecedents, Consequences and Prevalence in Shopping Mall Consumers of an Emerging Economy

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Abstract

The purpose of this research is to investigate the relationship of compulsive buying with its antecedents and consequences and estimates the prevalence of compulsive buying behavior among shopping mall visitors of Pakistan. Data was collected from 895 systematically selected fashion-clothing consumers from shopping malls through mall intercept method. Structural equation modeling (SEM) with maximum likelihood estimation (MLE) was applied via AMOS to test the hypothesis. Stress and self-esteem were the most robust antecedents of compulsive buying behavior. Results indicate that compulsive buyers tend to feel positive after buying and tend to hide their purchases. 26.1 % of shopping mall consumers were classified as compulsive buyers. Significantly higher percentage of women was found to be compulsive as compared to men. Psychologists, therapists and financial counselors may use universal classification scheme developed in this study to identify and devise intervention strategies and recommend financial management or psychological treatment to consumers accordingly. This study revised compulsive buying index (Revised-CBI) that provides higher reliability, validity and applicability to the emerging economies. This study devised a universal classification scheme of compulsive buyers (normal, recreational, borderline, compulsive and addictive), unlike previous dichotomous classification. This study also provides the first estimate of compulsive buying prevalence in Pakistan.

Keywords: compulsive buying behavior, addictive buyers, positive feeling, hiding behavior, revised - compulsive buying index, materialism, negative feeling, prevalence.

1. Introduction

In today's consumer society, shopping is an essential part of not only our daily life but also our economy (Mukhopadhyay & Johar, 2009). Shopping is no longer an act of merely purchasing goods instead it has become a form of entertainment or a rewarding behavior (Maraz et al., 2015). In contemporary societies, shopping has become a habit and this habit, when abused by a small but considerable segment of individuals, may lead

to a detrimental psychiatric problem known as compulsive buying behavior (Black et al., 2012). Compulsive buying behavior (CBB) is defined by repetitive and uncontrollable buying that becomes a primary response to negative feelings (Ridgway et al., 2008; Faber & O'Guinn, 1992). CBB has severe harmful personal, social and financial consequences for an individual (Black et al., 2012).

CBB, as we know it today, is considered a western phenomenon because findings from developed western countries are the bases of mass knowledge (Shoham et al., 2015). In spite of the differences between developed western economies and emerging nonwestern economies, there is a little known about this phenomenon in emerging countries (Horváth et al., 2013). The negligible amount of knowledge from emerging countries may present a distorted understanding of CBB. Emerging economies witnessed a swift change in the process of retail marketplace recently in the form of an increase in number of shopping malls/centers (Achtziger et al., 2015; Horváth et al., 2013). The advent of shopping malls has increased the value of hedonic shopping which in turn may become a cause of increased prevalence rates of CBB in these countries (Maraz et al., 2016; Horváth & Adigüzel, 2018). The probability of CBB incidence is much higher in shopping mall settings as compared to any other (Weinstein et al., 2016). Few researches explored the phenomenon in compulsive buying, that too in western countries. Largely, CBB remains understudied in shopping malls of emerging economies (Horváth et al., 2013). Though recent evidence suggests that it is becoming a problem in non-western emerging economies (Unger & Raab, 2015; Horváth & Adigüzel, 2018) as almost 80% of consumers in the world, live these economies, but the knowledge about CBB, its antecedents and its consequences in emerging economies is scarce.

To understand CBB in emerging economies, the underlying development mechanism of this problem behavior is necessary to be examined in such countries (He et al., 2018). Despite the detrimental consequences, CBB is on the rise (Ditmar, 2000). The understanding of the factors that contribute in CBB and resultant consequences may provide a comprehensive view of this problem behavior in emerging economies (He et al., 2018; Horváth & Adigüzel, 2018; Horváth et al., 2013).

In the development of CBB, psychological factors along with socio-cultural factors play an essential role. For instance, compulsive buyer experience negative psychological states such as anxiety, depression, stress and lower self-esteem (Black et al., 2012). They find themselves in a bad mood and they buy compulsively as a coping strategy (Ridgway et al., 2008). They are usually materialistic as they are not concerned with the items rather the activity of purchasing and acquisition of the item (Aboujaoude, 2010). After purchasing something, they feel high temporarily and they fear that people would be horrified if they knew about their reckless purchases. Consequently, they hide their purchases from people they know. To date, no study explicitly examines neither the relative contributions of these antecedents in development of CBB or the resultant consequences in shopping mall visitors of an emerging economy.

Therefore, the objectives of this research are 1) to empirically examine the precursors and consequences of CBB in shopping malls of Pakistan and see if the precursors and consequences identified in western economies can be transferred to nonwestern economies and 2) to estimate the prevalence of CBB in shopping malls of Pakistan. The

study makes contributions to the current understanding of CBB by 1) extending the extinct literature on CBB by examining the underlying mechanism to this problem behavior, 2) evaluating the relationship of CBB with its antecedents and consequences in shopping malls and 3) by providing an estimate as to how much of the shopping mall consumers are compulsive in an emerging economy. This study, to our knowledge, is first to test the relationship between CBB and its psychological and socio-cultural triggers and consequences in not only shopping mall settings but also in nonwestern emerging economy. Additionally, this study is also unarguably the first to estimate the prevalence of CBB in shopping mall visitors of an emerging economy.

This study would provide researchers, practitioners with the understanding of which factors are most significant in the development of this problem behavior along with the consequences that a consumer may have to face. This would enable psychologists, psychiatrists and councilors to devise remedial measures against CBB. Furthermore, the prevalence estimates of CBB would shed light on the true existence of this behavior among the shopping mall visitors of emerging economy.

2. Literature Review

2.1. Compulsive Buying Behavior

Compulsive buying behavior is defined as a consumer's tendency to be preoccupied with buying that is revealed through repetitive buying and a lack of impulse control over buying (Ridgway et al., 2008). Compulsive buying behavior incorporates both dimension of impulse control disorder (ICD) and obsessive-compulsive disorder (OCD) (Ridgway et al., 2008). Compulsive buying has severe harmful personal (stress, depression, anxiety, lower self-esteem, guilt), social (criticism, shame, hiding behavior, family arguments, criminal problems, legal problems) and financial (debts, inability to meet payments) consequences (Black et al., 2012). Recent global economic crisis is partly attributed to compulsive buying (Sharma et al., 2014; Gardarsdottir & Dittmar, 2012; Schneider & Kirchgassner, 2009). Compulsive buying is attributed to needless, uncontrollable and excessive shopping and this phenomenon is facilitated because of the introduction of shopping malls in emerging economies (Achtziger et al., 2015; Horváth et al., 2013). This excessive purchasing may sound attractive to retailers at first, but this behavior will eventually be harmful to revenues as compulsive buyers usually return purchases or spread negative word of mouth (Kukar-Kinney et al., 2016). To understand this behavior is also imperative for policymakers as CBB severely affects the wellbeing of not only the affected individual but also society as a whole (He et al., 2018). In this research, we identify and explore the antecedents and consequences of compulsive buying in shopping malls of Pakistan.

2.2. Depression

According to DSM-V, Depression is a common and serious medical illness that negatively affects how you feel, think and how you act. Depression causes feelings of sadness and a loss of interest in activities once enjoyed. It can lead to a variety of emotional and physical problems such as compulsive disorders. Numerous researches have studied the links between depression and compulsive buying behavior. McElroy et al. (1994) found that compulsive buying episodes usually occurred in mild to moderately depressive states. In a study conducted on 119 depressive individuals, Lejoyeux et al. (1997) found that 32% of them were compulsive buyers. Other researchers also found a

positive association between depression and compulsive buying (Mueller et al., 2010; Black et al., 2012; Otero- Lopez and Villardefrancos, 2014). In a recent study, He et al. (2018) found a positive association of depression with CBB in China. Therefore, we assume that

- **H₁:** Depression has a positive relationship with CBB

2.3. Anxiety

Anxiety is an internal state of distress and agitation. Anxiety disorders include panic disorder, generalised anxiety disorder, and obsessive-compulsive disorder, social anxiety disorder, and specific phobias. These anxiety disorders usually coexist with other psychiatric states mainly major depressive disorder (Bittner et al., 2004). Anxiety is one of the most studied determinants of compulsive buying behavior (Faber & Christenson, 1996; Davenport et al., 2012; Williams & Grisham, 2012; Otero-López & Villardefrancos, 2013). Compulsive buying is a quick remedy for anxiety because it pushes the consumer to reduce tension by provoking a spontaneous action (Robert & Jones, 2001). Weinstein et al. (2015) found that trait anxiety and CBB had a positive association. We believe that consumers in a shopping mall are likely to act compulsively because they want to escape tension. Escape from anxiety is the primary motive for compulsive buyers and compulsive buyers use shopping and buying as a means to escape anxiety. Shopping malls provide consumers with a conducive environment to escape anxiety. In a recent study, anxiety was found to be positively related to CBB (He et al., 2018). Therefore, we assume that

- **H₂:** Anxiety has a positive influence on CBB

2.4. Stress

Stress is defined as any uncomfortable emotional experience accompanied by predictable biochemical, physiological and behavioral changes (Baum, 1990). In their study, Valence et al. (1988) proposed that compulsive buyers engage in this behavior to reduce their stress. Stress acts as a trigger where compulsive buyers get an emotional need to reduce their tension by buying things. DeSarbo and Edwards (1996) referred to this as internal compulsive buying. Baker et al. (2016) also found a positive relationship between stress and compulsive buying behavior. Recently, in China, He et al. (2018) found a positive association between anxiety and CBB. Therefore, we assume that

- **H₃:** Stress has a positive influence on CBB

2.5. Self-Esteem

Self-esteem is defined by as an individual set of thoughts and feelings about his or her worth and importance (Rosenberg, 1965; Orth et al., 2012). It refers to how a person perceives himself and his worth. One of the psychological factors that induce compulsive buying is low self-esteem (Scherhorn et al., 1990). Compulsive buyers try to enhance or uplift their self-esteem through buying items and if these attempts to enhance self-esteem are successful, their compulsive buying behavior becomes reinforced (Hanley, 1992). Prior literature on self-esteem and compulsive buying behavior indicates that compulsive buyers use purchasing of goods to move towards an ideal self and as a way of self-expression (Kukar- Kinney et al., 2012). This makes low self-esteem as one

of the fundamental motivations for compulsive buying (Dittmar, 2007; Kukar-Kinney et al., 2012). Compulsive buying is associated with lower levels of self-esteem (He et al., 2018; Yurchisin & Johnson, 2004, Moon et al., 2015 a). Therefore, we assume that

- **H₄:** Self-esteem has a negative influence on CBB

2.6. *Materialism*

Materialism, the adherence to acquisition and possession (Tatzel, 2002.), is a human motivation which is vastly studied in psychology and marketing (Kasser & Ahuvia, 2002) as well as in economics (Charles et al., 2009). Mowen (2000) proposes it to be one of the eight elemental traits together with the Big Five, the need for arousal, and physical needs.

Materialism is defined as the convictions of an individual that worldly possessions are the principal aim of life and a crucial course to identity, joy and prosperity (Richins, 2004). Materialists make their possessions the focal point of their lives and consider these possessions and the acquisition of new possessions indispensable to their well-being. Materialism is the predisposition to attain ideal self by purchasing certain groups of products that aid in balancing the differences between an individual's actual and ideal self (Dittmar, 2005). Since compulsive buyers rarely use the products, they are more interested in buying the products (Ridgeway et al., 2008). Product possession is the ultimate aim for compulsive buyers that make them fundamentally materialistic (Moschis, 2017). Empirical evidence suggests that materialism is related positively compulsive buying as consumers extract happiness out of gaining possession of material goods (Harnish et al., 2018; He et al., 2018; Grougiou et al., 2015; Donnelly et al., 2013; Yurchisin & Johnson 2004; Islam et al., 2018). Therefore, we assume that

- **H₅:** Materialism has a positive influence on CBB

2.7. *Negative Feelings*

Negative feelings are included in the previous definitions of compulsive buying. For example, Faber & O'Guinn (1992) defined compulsive buying, as chronic, repetitive purchasing that becomes a primary response to negative events or feelings. Compulsive buyers usually engaged in compulsive buying behavior when they experienced negative emotions such as having a bad day or feeling depressed (Ridgeway et al., 2008). Compulsive buyers purchase items to escape from negative emotions. Compulsive buying behavior usually occurs in the context of negative feelings (Billieux et al., 2008). Other researches also support the notion that compulsive buyers use their buying behavior to enhance their negative mood (He et al., 2018; Harnish et al., 2018). Therefore, we deem it appropriate to assume that

- **H₆:** Negative feelings have a positive influence on CBB

2.8. *Positive Feelings*

Addictions usually have been associated with the need to attain positive gratifications (Jacobs, 1989). In compulsive buying, these positive gratifications may mean positive feelings and enhanced mood. Some studies reported that compulsive buyers usually experience positive emotions immediately after their buying binges, but these emotions are quickly replaced by negative emotions (Christenson et al., 1994; Faber & O'Guinn, 1992). Positive feelings experienced after compulsive buying may act as reinforcement for compulsive buying behavior. Compulsive buyers experience more of these positive feelings because they tend to experience negative feelings more deeply (Faber &

Christenson, 1996). In fact, the only time some compulsive buyers can escape from their negative feelings is when they buy things. Mc Elroy (1994) noted that about 70% of compulsive buyers in his study described their emotions immediately after buying as a high out of control, intoxicated and elated. However, these positive emotions are shortly replaced with negative feelings like guilt and remorse. Ridgway et al. (2008) found a positive relationship between positive feelings and compulsive buying. After buying compulsively, compulsive buyers extract gratification from buying process and they feel good by gaining the possession of the things, they bought (He et al., 2018). Therefore, we assume that

- **H₇**: CBB has a positive influence on positive feelings

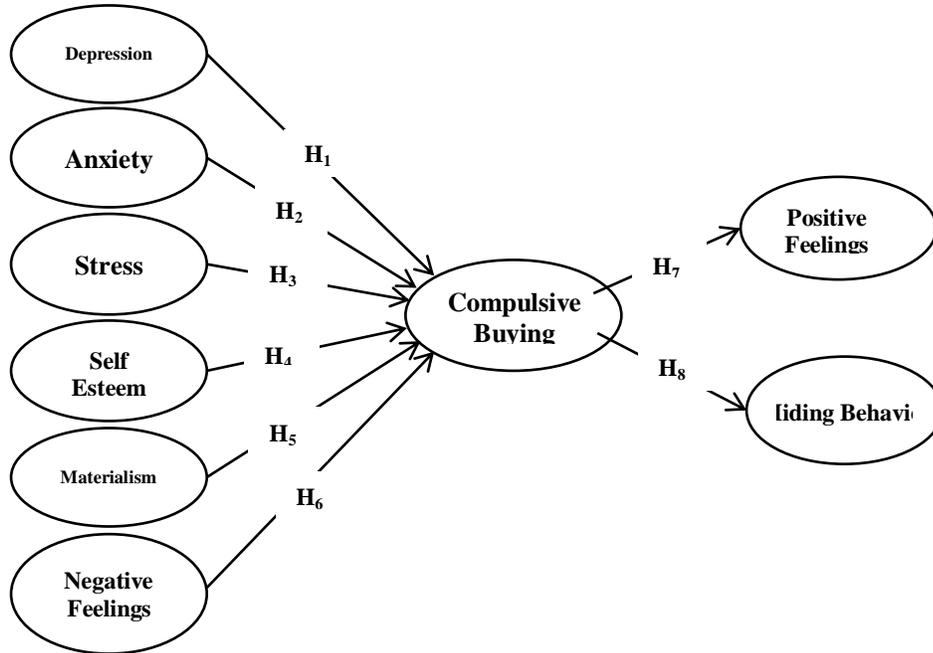


Figure 1: Research Model

2.9. Hiding Behavior

Compulsive buyers feel shame, guilt and remorse shortly after a buying binge (O’Guinn & Faber, 1989) and tend to hide their purchases from others because they do not want others to know about their spending habits (Ridgway et al., 2008). The primary focus of compulsive buyers is the buying process rather than the items bought and because of lack of interest in purchased items, they either hide them or give them away as gifts (Lejoyeux, 2010). Some authors have proposed that because of the negative consequences of compulsive buying, they often end up in conflicts with friends and family (De Sarbo & Edwards, 1996). The friends and family start distrusting them and try to control their erratic behavior. Compulsive buyers start feeling alienated, socially isolated and rejected. Thus, to avoid conflicts and confrontation with friends and family,

compulsive buyers engage in hiding behavior (Weinstein et al., 2016). In a recent study in another emerging economy (China), consumers tend to hide their compulsive purchasing from others (He et al., 2018). Therefore, we assume that

- **H₈**: CBB has a positive relationship with hiding behavior

3. Methodology

3.1. Sample

Our population consists of shopping mall visitors. The probability of compulsive buying incident is higher in a shopping mall setting as compared to any other setting as 89% of compulsive buying episodes occur in shopping malls or stores (Mitchell et al., 2006; Weinstein et al., 2016; Maraz et al., 2015). Therefore, we consider shopping mall visitors to be the best population. The sample consists of 895 systematically selected fashion-clothing consumers from shopping malls of different cities in Pakistan. Compulsive buyers like to wear new fashionable clothes to feel good about them and clothes are the most bought items (94% and 73% in 2 studies) of compulsive buyers (Kukar-Kinney et al., 2012; Weinstein et al., 2016).

3.2. Measures

3.2.1. Revised-Compulsive Buying Index

Compulsive Buying Index (CBI: Ridgway et al., 2008) is six items two-dimensional scale that measures the elements of compulsivity and impulsivity of compulsive buying behavior. Cross-cultural validity of scales measuring CBB has gathered a lot of attention recently and researchers are consistently emphasising the need to adjust the differences that may arise due to invalidated scales (He et al., 2018; Weinstein et al., 2016; Maraz et al., 2015). Therefore, to account for the conceptual, methodological, procedural and cultural difference in CBI (Maraz et al., 2015), we made a few technical changes in original CBI.

First, we included three items (item 3, 7 and 8) that Ridgway et al. (2008) excluded during CFA (See for details: Ridgway et al., 2008). Second, we employed a five-point level of agreement Likert scale that ranged from 1= strongly disagree to 5=strongly agree. Third, we modified two items (items 4 and 5 in original CBI) so that they may be measured on the level of agreement. Fourth, we translated the original CBI into Urdu. Three English and Urdu language experts translated and then back-translated the questions. Three consumer behavior experts then evaluated the items for context. In the end, two experts (authors) approved the final version.

We then administered CBI to 1255 systematically selected university students in Pakistan. We performed an exploratory factor analysis (EFA) on nine items that yielded one-factor four items solution for CBI explaining more than 60% of the cumulative variance (Beavers et al., 2013). These four items were then subjected to confirmatory factor analysis (CFA) for establishing construct reliability and validity. This four items Revised-CBI exhibited excellent reliability and validity statistics ($\alpha = 0.73$, CR = 0.79, AVE = 0.58) and was used for further administration in this study.

3.2.2. Other Measures

As correlates of CBB, we adopted nine items materialistic value scale (Richins, 2004), anchored at 1 = strongly disagree and 5 = strongly agree, 10 items self-esteem scale

(Rosenberg, 1965), anchored from 1 = strongly disagree to 4 =strongly agree. The DASS-21 measures Depression, Anxiety and Stress each with seven items (Lovibond & Lovibond, 1995). A severity scale of four points (at 0= didn't apply to me at all and 3= Applied to me very much or most of the time .) measures the extent to which each state is experienced over the past week. We measured negative feelings, hiding behavior and positive feelings with three item each developed by Ridgway et al. (2008) on a seven-point Likert scale anchored at 1= strongly disagree and 7 strongly disagree. We translated all scales into Urdu following the same procedure outlined for Revised-CBI previously.

3.3. Data Collection

We collected data from several shopping malls across the country keeping in mind that the shopping mall must have clothing related assortment (Local and International brand representation) and healthy customer flow. Seven groups of 4 to 7 students collected the data from respective shopping malls during normal operating hours. Students were provided with necessary data collection training and were given extra course credit for this activity. Data was collected through mall intercept method from consumers who were in or near clothing related spaces in shopping malls. Upon contact, the students asked the consumers to participate in the study after explaining the objectives of the study. We asked respondents questions related to latent variables along with major demographics characteristics that included gender age income and buying frequency.

Overall, we contacted 15190 individuals and only 7237 agreed to participate in the study, out of which 5122 were excluded because they did not meet the study criteria. The criteria for selection was 1) participant must be of 18 years or above and 2) must have purchased any clothing-related item on his/her current shopping trip. Out of the remaining 2115 participants, only 1012 completed and returned the survey. After removing responses that contained missing demographic information and unengaged responses, we were left with 895 valid, usable surveys. Participation in the survey was voluntary and respondents did not receive any kind of financial compensation.

3.4. Data Analysis Procedures

We used SPSS 23 and Amos 23 for data analysis and for testing the proposed hypothesis; we employed structural equation modeling (SEM).

3.5. Universal Classification Scheme

Furthermore, to adjust the methodological differences, we devised a new universal classification scheme to categorise consumers. Classifying consumers into either compulsive or non-compulsive may over or underestimate the true prevalence of CBB. This is because CBB may exist on multiple varying levels in an individual (Edwards, 1993). Therefore, we developed a new classification scheme to identify compulsive buyers based on the consumer's level of compulsiveness. Psychoanalytic object relation theory (Albanese, 1988), considers CBB an addictive behavior and draws a parallel between personality characteristics of consumers on a continuum. This continuum classifies consumers into five categories based on their level of compulsiveness. We classified consumers on a continuum that ranges across the categories; normal/ non compulsive consumer (Mean_{Revised-CBI} = 1; consumer, buying mainly out of necessity), recreational consumer (Mean_{Revised-CBI} = 1.01-1.99; consumer who use buying

occasionally to relieve stress), borderline compulsive consumers (Mean Revised-CBI = 2-2.99; somewhere in between compulsive and recreational buying tendencies), compulsive consumers (Mean Revised-CBI = 3-3.99; buy mostly to relieve anxiety) and addictive consumers (Mean Revised-CBI = 4-5; extreme buyers who suffer dysfunctions in life due to their buying). Since compulsive buying is believed to be a behavioral addiction (e.g. Maraz, Griffiths & Demetrovics, 2016), we consider this classification more valid and relevant.

4. Results and Analysis

Before moving on to data analysis, we screened data for any misapplications. First, we removed cases with excessive missing values (Missing values $\geq 10\%$) and imputed missing data points (for missing values $< 10\%$) via mean substitution method (Cousineau & Chartier, 2010; Gallagher et al. 2017). Then we replaced aberrant values with mean substitution method. We identified univariate outliers with z-scores and multivariate outliers with Mahalanobis distance at $p < 0.05$ and treated them with mean substitution method (Byrne, 2016). For assumptions of normality, we assessed skewness (± 1) and kurtosis (± 3) (Tabachnick & Fidell, 2007). The result indicated that data was normally distributed as the values for skewness and kurtosis were within recommended thresholds. We tested multicollinearity between Independent variables with variable inflation factor (VIF < 10) and tolerance level > 0.1 (Hair et al., 2013). Results indicate that multicollinearity is not an issue among the independent variables described in table 1.

Table 1: Multicollinearity Statistics

Sr.No	Variable	Tolerance Level	Variable Inflation Factor
1	Self Esteem	0.23	4.21
2	Materialism	0.46	2.13
3	Anxiety	0.58	1.70
4	Depression	0.50	1.97
5	Stress	0.39	2.52

Dependent Variable: Negative Feelings

Several researchers liken compulsive buying to be a sensitive issue and dark side consumer variable (Ridgeway, 2008; Moon et al., 2017); responses are subject to method biasness. To diagnose and control method biasness, we employed procedural and analytical remedies (Podsakoff et al., 2012). In procedural remedies, data was collected from shopping malls of different cities, respondents were ensured of confidentiality of data, and the data related to independent variables was collected before shopping, and questions related to dependent variables were asked after shopping. In analytical remedies, Harman’s single factor analysis (Variance Explained $< 50\%$) and common latent factor analysis (CLF $< 50\%$) were conducted after CFA. Harman’s single factor analysis results show that the first extracted factor only explained 16.5% variance. Whereas, CLF analysis revealed that a common factor explained 3 % shared variance. Base on the Findings of Harman single factor analysis and CLF analysis, we concluded that CMB does not potentially affect the data.

4.1. Sample Demographics

In our sample (N = 895), 41 % of shopping mall consumers were males and 79% were of age between 18 to 28 years. This confirmed the young generation’s high tendency toward

shopping. They had average monthly income not more than PKR 30000 (66%) and reported buying once a month 72%, weekly (18%) and daily (10%).

4.2. Structural Equation Modeling

For structural equation modeling, we used a two-step procedure outlined by Anderson and Gerbing (1988). To assess reliability and validity of the scales, we first tested measurement model and then we tested structural model for propped hypothesis.

4.2.1. Measurement Model Analysis

In specification search, we conducted confirmatory factor analysis (CFA) with robust Maximum Likelihood Estimation (MLE) (Hair et al, 2013; Kline, 2015) on nine latent and 53 observed variables. Initial run of CFA provided a satisfactory fit for the data (CMIN/Df= 5.24, GFI= 0.85, AGFI= 0.97, CFI=0.95, IFI= 0.92, NFI= 0.91, TLI= 0.88, RMSEA= 0.06, PClose = 0. 007). Further, we assessed modification indices (MI < 10) and removed items with low standardized factor loadings (FL < 0.6), low squared multiple correlations (SMCs < 0.2) and high standardized residual covariance (SRC < 2.58) for from the model. Respecified model fitness (CMIN/Df= 1.05, GFI= 0.95, AGFI= 0.95, CFI=0.99, IFI= 0.99, NFI= 0.95, TLI= 0.99, RMSEA= 0.008, PClose= 1. 00) indicated an excellent fit to the data (see Kline, 2015). Table 2 provides the results of measurement model. Furthermore, as a part of measurement model analysis, we used reliability, convergent validity, and discriminant validity to examine the strength of measures of constructs used in the proposed model (Fornell & Larcker, 1987).

Table 2: Measurement Model Result

Variables	Factor Loadings	Standard Error	t-values	SMCs	Mean	Standard Deviation
Anxiety					2.96	0.61
ANX1	0.62	0.06	16.20	0.38		
ANX2	0.63	0.06	16.47	0.40		
ANX7	0.61			0.38		
Depression					1.74	0.56
DEP1	0.65	0.05	18.16	0.42		
DEP3	0.68			0.46		
DEP4	0.67	0.05	18.78	0.45		
DEP5	0.69	0.05	19.39	0.48		
DEP6	0.65	0.05	18.30	0.42		
Hiding Behavior					4.47	0.89
HBEV1	0.90	0.02	43.89	0.80		
HBEV2	0.93			0.87		
HBEV3	0.92	0.02	46.49	0.84		
Materialism					1.85	0.63
MED1	0.68	0.05	19.43	0.46		
MED2	0.71	0.05	20.24	0.50		
MED3	0.69	0.05	19.74	0.48		
MED4	0.70	0.05	19.94	0.49		
MED5	0.69	0.05	19.82	0.48		

Compulsive Buying Behavior

Variables	Factor Loadings	Standard Error	t-values	SMCs	Mean	Standard Deviation
MED6	0.68	0.05	19.39	0.46		
MED7	0.73			0.53		
MED8	0.67	0.05	19.04	0.44		
MED9	0.68	0.05	19.40	0.46		
Negative Feelings					2.25	0.72
NEG1	0.75	0.05	21.69	0.57		
NEG2	0.71			0.50		
NEG3	0.72	0.05	20.64	0.51		
Positive Feelings					3.77	0.70
PST1	0.70	0.05	20.20	0.50		
PST2	0.71			0.50		
PST3	0.72	0.05	20.64	0.52		
Revised - Compulsive Buying Index					1.92	0.62
R-CBI1	0.60	0.07	12.49	0.32		
R-CBI 2	0.60			0.36		
R-CBI 3	0.69	0.08	14.10	0.47		
R-CBI 4	0.61	0.08	13.19	0.37		
Self Esteem					1.86	0.56
SEST1	0.73	0.05	22.18	0.54		
SEST10	0.73	0.05	22.11	0.53		
SEST2	0.75	0.05	22.59	0.56		
SEST3	0.75	0.05	22.89	0.57		
SEST4	0.73	0.04	22.04	0.53		
SEST5	0.73	0.05	22.21	0.54		
SEST6	0.73	0.05	22.14	0.54		
SEST7	0.74			0.54		
SEST8	0.73	0.05	22.03	0.53		
SEST9	0.75	0.05	21.65	0.51		
Stress					4.09	0.80
STR1	0.77	0.04	24.72	0.60		
STR2	0.78	0.04	24.93	0.60		
STR5	0.74	0.04	23.59	0.55		
STR6	0.75	0.04	23.71	0.56		
STR7	0.77			0.59		

SMCs = Squared Multiple Correlations

We examined Cronbach's alpha and composite reliability (CR) for construct reliability. Cronbach's alpha ≥ 0.70 (Hair et al., 2013) and CR ≥ 0.70 (Fornell & Larcker, 1987) are considered as a minimum threshold for assessing the reliability of a construct.

Table 3: Reliability, Validity and Correlation Statistics

S. No	Variables	α	CR	AVE	1	2	3	4	5	6	7	8	9	10	11	12
1	Gender	-	--		1											
2	Age	-	-	-	-0.02	1										
3	Income	-	-	-	-0.06	0.42 ^{**}	1									
4	R-CBI	0.71	0.71	0.58	0.08 [*]	0.03	-0.07	0.76								
5	Depression	0.80	0.80	0.65	-0.05	0.05	-0.06	0.48^{**}	0.80							
6	Negative Feelings	0.77	0.77	0.53	-0.00	-0.04	0.06	0.40^{**}	-0.59 ^{**}	0.72						
7	Materialism	0.89	0.89	0.68	0.00	-0.10 ^{**}	-0.01	0.07^{**}	-0.28 ^{**}	0.30 ^{**}	0.82					
8	Anxiety	0.70	0.65	0.58	-0.00	-.007	-0.08 [*]	0.44^{**}	0.58 ^{**}	-0.45 ^{**}	-0.30 ^{**}	0.76				
9	Stress	0.87	0.87	0.78	-0.03	0.06	-0.07	0.50^{**}	0.63 ^{**}	-0.60 ^{**}	-0.30 ^{**}	0.55 ^{**}	0.89			
10	Self Esteem	0.92	0.92	0.74	0.05	-0.05	0.09 ^{**}	-0.52^{**}	-0.66 ^{**}	0.58 ^{**}	0.25 ^{**}	-0.60 ^{**}	-0.64 ^{**}	0.85		
11	Positive Feelings	0.75	0.75	0.60	0.03	0.02	-0.11 ^{**}	0.41^{**}	0.55 ^{**}	-0.43 ^{**}	-0.28 ^{**}	0.57 ^{**}	0.66 ^{**}	-0.57 ^{**}	0.78	
12	Hiding behavior	0.94	0.94	0.84	-0.07	0.06	-0.05	0.40^{**}	0.63 ^{**}	-0.53 ^{**}	-0.18 ^{**}	0.59 ^{**}	0.65 ^{**}	-0.61 ^{**}	0.54 ^{**}	0.91

α = Cronbach's alpha, CR = Composite Reliability, AVE = Average Variance Extracted. R-CBI = Revised-Compulsive Buying Index, Bold and Italics in the diagonal are square root of AVE

To assess the reliability of the constructs, we examined Cronbach's alpha (α), composite reliability (CR) and average variance extracted (AVE). Cronbach's alpha ≥ 0.70 (Nunnally & Bernstein, 1994) CR ≥ 0.70 (Hair et al., 2013) and AVE ≥ 0.5 (Fornell & Larcker, 1981) is considered as a minimum threshold for assessment of internal consistency and reliability. The values of Cronbach's alpha, CR and AVE displayed in table 3 for all latent constructs exceeds the required minimum criteria thus indicating that all construct are reliable.

Likewise, we assessed convergent and discriminant/divergent validity to establish the validity of constructs. For, convergent validity, we used average variance extracted and factor loadings. AVE ≥ 0.5 for all the constructs in the measurement model is evidence of convergent validity (Fornell & Larcker, 1987). Significant factor loadings (FL ≥ 0.6) of items in the measurement model on their respective latent variables is also an indication of scale's convergence. Significant factor loadings (Table 2) and AVE values higher than 0.5 (table 3) for all constructs provide the evidence of construct validity. Furthermore, according to Kline, (2015) construct are said to be convergent when CR \geq AVE ≥ 0.5 . Comparison of CR and AVE in table 3 provides further evidence of convergent validity.

Finally, we assessed discriminant validity of the constructs using various guidelines recommended by researchers. Excellent fit statistics reported for confirmatory factor analysis indicated the first evidence of discriminant validity. Second, high factor loadings of all items on their respective latent constructs also indicated discriminant validity (Tabachnick & Fidell, 2007). Third, the discriminant validity is evident from low correlation ($r = 0.7$) between all latent constructs (Hair et al., 2013) presented in Table 4. Fourth, high values of the square root of average variance when compared to inter-construct correlations also proved the discriminant validity of model (Fornell & Larcker, 1987). Square roots of average variance extracted are provided in diagonals of Table 3. Furthermore, we examined correlation confidence intervals between the two construct. Results indicated that correlation confidence interval values between all constructs did

not include the value “1” that demonstrate the distinctive nature of latent constructs thus confirming the discriminant validity (Moon et al., 2017).

4.2.2. Structural Model and Hypothesis Testing

We tested assumed relationships of antecedents and consequences of compulsive buying in the structural model. Model fit results (CMIN/Df= 1.47, GFI= 0.90, AGFI= 0.90, CFI=0.97, IFI= 0.97, NFI= 0.92, TLI= 0.97, RMSEA= 0.02, PClose = 0.100) indicated a satisfactory fit for structural model. Antecedents of compulsive buying explained 97% ($R^2 = 0.97$, $p < 0.01$) variance, whereas 26% ($R^2 = 0.26$, $p < 0.01$) in hiding behavior and 86% ($R^2 = 0.86$, $p < 0.01$) in positive feelings was explained by the model. Model R^2 results indicate that in a shopping mall, antecedents of compulsive buying taken in this study are powerful motivators for consumers to shop compulsively and they feel positive at least for a moment resultantly. They also tend to hide their purchases during these shopping trips. Results of the structural model supported all hypotheses.

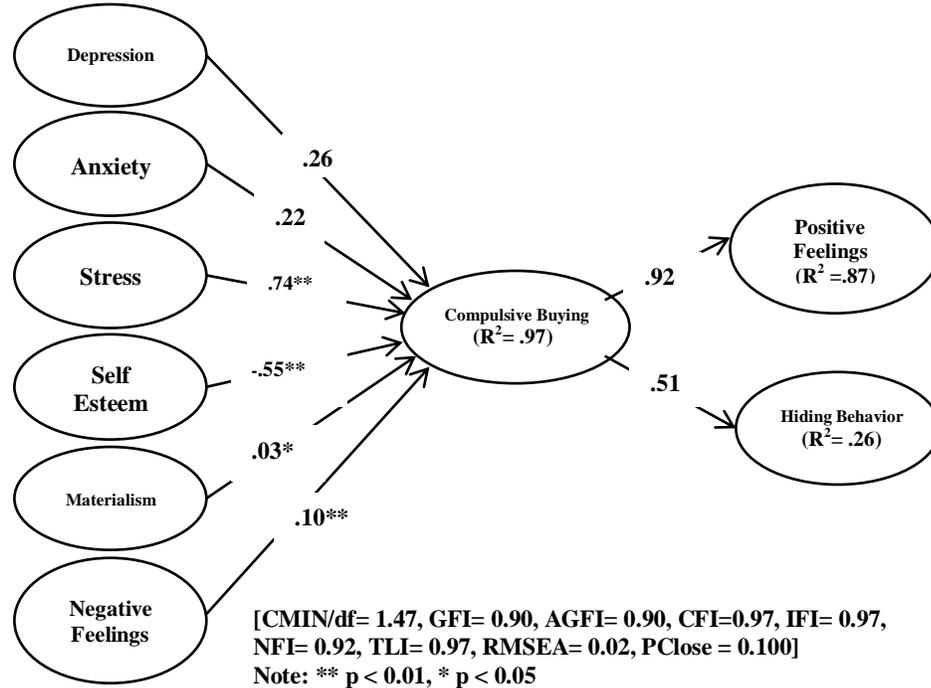


Figure 2: Structural Model

In structural analysis, depression anxiety and stress positively influenced compulsive buying ($\beta_{\text{Depression}} = 0.26$, $p < 0.01$; $\beta_{\text{Anxiety}} = 0.22$, $p < 0.01$; $\beta_{\text{Stress}} = 0.74$, $p < 0.01$) supporting H₁, H₂ and H₃. Self-esteem had a significant negative influence on compulsive buying ($\beta_{\text{Self Esteem}} = -0.55$, $p < 0.01$) supporting H₄. Materialism had a significant positive influence on compulsive buying ($\beta_{\text{Materialism}} = 0.03$, $p = 0.03$) and negative feelings positively influenced compulsive buying ($\beta_{\text{Negative Feelings}} = 0.10$, $p < 0.01$). Results supported H₅ and H₆. Results of the study showed that compulsive buying has a significant effect on hiding behavior and positive feelings that supported H₇ and H₈. The

result of the study indicated that stress is the strongest antecedent of compulsive buying and compulsive buying provides consumers with huge positive feelings because of shopping in a mall.

Table 4: Structural Model Results

Hypothesis	Structural Paths		Estimate	S.E.	t-Value	p-Value	
H ₁	Depression	→	Compulsive Buying	0.26	0.03	5.28	.000
H ₂	Anxiety	→	Compulsive Buying	0.22	0.02	4.43	.000
H ₃	Stress	→	Compulsive Buying	0.74	0.04	6.89	.000
H ₄	Self Esteem	→	Compulsive Buying	-0.55	0.04	-6.67	.000
H ₅	Materialism	→	Compulsive Buying	0.03	0.01	2.77	.037
H ₆	Negative Feelings	→	Compulsive Buying	0.10	0.01	2.69	.007
H ₇	Compulsive Buying	→	Positive Feelings	0.92	0.25	6.60	.000
H ₈	Compulsive Buying	→	Hiding Behavior	0.51	0.21	6.53	.000

4.3. Prevalence Estimates

Using a continuum that draws a parallel between compulsive and addictive buying, we categorised consumer on five varying levels of compulsiveness from the mean scores of the respondents obtained from Revised-CBI. Revised-CBI successfully classified 5.3% (N=48) consumers as normal buyers, 22.5 % (N=201) consumers as recreational buyers, 41.4 % (N=370) consumers as borderline compulsive buyers, 26.1% (N=234) consumers as compulsive and 4.7 % (N=42) consumers as addictive buyers in shopping mall consumers. Women make the majority of the borderline compulsive (60%), compulsive (66%) and addictive buyers (69%).

These estimates for compulsive buying are higher than the pooled average prevalence reported in western countries (Weinstein et al., 2016; Maraz et al., 2016; Maraz et al., 2015). This indicates the fact that consumers in shopping malls setting are prone to compulsive buying. These higher compulsive buying estimates also illustrate that the number of consumers in emerging countries are compulsive as compared to the developed economies. This is an interesting finding because traditionally compulsive buying is associated with the higher income segments of society (Black et al., 2012).

Using the universal classification scheme, we also successfully identified a considerable number of addictive consumers (4.7%). These consumers are at the extreme level of compulsiveness and usually require immediate help. These consumers are unattended in previous dichotomous classification schemes, which run a major risk of underestimation of the intensity of compulsive buying in the general population (Weinstein et al., 2016). The newly developed classification scheme also identified borderline compulsive consumers (41.4%), who are on the verge of becoming compulsive buyers (Edwards, 1993). These consumers use shopping extensively as a means of recreation, which eventually turns into a habit. This large percentage of borderline compulsive consumers may drive themselves into chaos if not intervened in time. In line with the findings from the previous researches conducted in developed economies, women exhibited greater levels of compulsiveness in all compulsive buying classifications (Weinstein et al., 2016; Maraz et al., 2015).

Table 5: Prevalence Estimates in Shopping Malls

	Levels of Compulsiveness	Mean Scores	Male		Female		Total	
			N = 447		N = 448		N = 895	
			N	%	N	%	N	%
1	Normal	1	23	47	25	53	48	5.3
2	Recreational	1.1-1.99	79	39	122	61	201	22.5
3	Borderline	2-2.99	148	40	222	60	370	41.4
4	Compulsive	3-3.99	78	34	154	66	234	26.1
5	Addictive	4-5	13	31	29	69	42	4.7

5. Discussion

The purpose of this study was to understand the underlying development mechanism of compulsive buying tendencies of consumers by empirically investigating the psychological and socio-cultural precursors and consequences of compulsive buying behavior in a shopping mall setting. Compulsive buying antecedents explained a significant amount of variance in compulsive buying (Model $R^2 = 0.97$) indicating that psychological and socio-cultural determinants are the very strong motivators for consumers to buy compulsively in a shopping mall environment (Yurchisin & Johnson 2004; Ksendzova & Howell, 2015; Ridgway et al., 2008; Billieux et al., 2008; Kukar-Kinney et al., 2012). Furthermore, compulsive buyers feel positive, at least for a short period, after buying clothing related products from a shopping mall (Ridgway et al., 2008; Weinstein et al., 2016). They also tend to hide their purchases during these shopping trips because of the fact that compulsive buyers are afraid that people would criticise them for their excessive and needless shopping (Lejoyeux, 2010; De Sarbo & Edwards, 1996).

Results indicated that stress is the most potent trigger of compulsive buying compared with any other psychological antecedent. People relieve their stress through excessive compulsive purchasing in a shopping mall as shopping malls provide them conducive environment (Baker et al., 2016; He et al., 2018; Maraz et al., 2015). Self-esteem also proved to be an active contributor in the development of compulsive buying. Consumers with lower self-esteem showed greater tendencies to buy compulsively. Compulsive purchases provide them with an opportunity to buy things that they think would enhance their self-image (Robins & Widaman, 2012; Kukar-Kinney et al., 2012). Materialism is significantly associated with compulsive buying. In line with previous findings, results suggested that materialistic consumers are more likely to exhibit compulsive buying tendencies (Harnish et al., 2018). Materialistic consumers are more interested in obtaining a product rather than using it. Compulsive buyers also rarely use the bought items, therefore; materialism significantly contributes in the development of compulsive buying behavior in a shopping mall (Grougiou et al., 2015; Donnelly, Ksendzova & Howell, 2013). Consumers, who experience negative moods such as depression, anxiety and stress showed greater vulnerability to compulsive buying. They used compulsive buying as a means to alleviate their negative feelings in shopping malls (Ridgway et al., 2008; Billieux et al., 2008). Out of gender, income and age, only gender significantly

associated with compulsive buying, complimenting the previous findings where women are more likely to be compulsive buyers (Otero-López & Villardefrancos, 2013). As far as the antecedents and consequences of CBB are concerned, we did not notice any significant deviation from previous findings.

We also estimated the prevalence rate of compulsive buying behavior in shopping mall consumers in pursuit of the second objective of the study. We devised a new categorisation scheme that classifies consumers on a continuum base on the level of compulsiveness. This classification scheme does not only identify consumers who are compulsive but also identifies consumers who are on the verge of becoming compulsive buyers and are shopping addicts. Unlike previous dichotomous classification schemes, this scheme broadens our understanding of the levels of consumer's compulsiveness. Since compulsive buying is believed to be a behavioral addiction (Maraz et al., 2016; Maraz et al., 2015; Rose & Dhandayudham, 2014; Demetrovics & Griffiths, 2012; Davenport et al., 2012; Lo & Harvey, 2012), we consider this classification more valid and relevant. Shopping mall consumers showed rather higher prevalence estimates (Revised-CBI=26%). The findings are consistent with previous findings where consumers in shopping mall exhibited greater average compulsive tendencies (Weinstein et al., 2016; Maraz et al., 2016; Maraz et al., 2015). Results suggest that a larger proportion of the shopping mall consumers is at the danger of becoming compulsive (borderline compulsive buyers = 41.4%) which is an alarming situation. Results of the study also indicated that 4.7 % of consumers are shopping addicts. In line with previous findings (Weinstein et al., 2016), more women were identified as borderline, compulsive and addictive shoppers in this study. These estimates, though the first, are alarming for a country where consumer culture is a relatively new phenomenon.

6. Implications

6.1. Academic

In this study, we revised the compulsive buying scale (Revised-CBI) by accounting for methodological, cultural and demographic differences. The Revised-CBI provides greater reliability, validity and applicability to the emerging economies. We used psychological object-relations theory to group individuals into a spectrum ranging from normal, recreational, borderline, compulsive and addictive buyers (Albanese, 1988). The development of classification scheme that includes varying categories of compulsive buyers, unlike previous dichotomous classification of compulsive buyers into compulsive or non-compulsive, is a major contribution in the literature that adds important insights in the theory of CBB. This will add to and refine current understanding of compulsive buying as an addictive behavior and the incidence of compulsive buying in the shopping malls.

6.2. Practical

Compulsive buying is negative and harmful behavior with damaging consequences for an individual such as depression, tension, low self-esteem, anxiety, financial difficulties and disturbed personal relationships. (Moon et al., 2015a). On a larger scale, compulsive buying may result in unemployment, higher interest rates, higher bankruptcies, less family support and excessive use of natural resources. With such grave consequences, this behavior attracts various practitioners such as therapist and psychologist, financial

councilors, educationists and policymakers and they may use Revised-CBI to identify borderline compulsive buyers, compulsive buyers and addictive buyers.

A greater understanding of antecedents and consequences of compulsive buying allows psychologists and therapists to devise intervention strategies for affected individuals. Due to the common causes of addictive behaviors such as alcohol addiction, and compulsive buying, psychologist and therapist may develop treatment plans for affected individuals according to their level of compulsiveness. Therapists can treat the underlying causes for this behavior after screening affected individuals. Most importantly, the therapist must identify and warn borderline compulsive buyers of their compulsive tendencies. Awareness about causes and consequences of compulsive behavior is an important preventive strategy. College educators may play an essential role in spreading awareness about this disorder. Financial councilors may use the classification scheme developed in this study to identify compulsive buyers and recommend financial management or psychological treatment to consumers accordingly.

From a public policy standpoint, the findings of this study have significant implications. First, policymakers should take into account continuously mounting numbers of compulsive consumers in shopping malls. Evidence suggests that marketing tactics significantly contribute to the development of compulsive tendencies, and these tactics are highly visible in shopping malls (Moon et al., 2015b). These marketing tactics coupled with growing trends of readily available credit cards from banks, lure consumers into alleviating their tensions, anxiety, and stress and fulfill their self-esteem needs through compulsive purchases. If these trends continue, a major proportion of the population is at the danger of becoming compulsive buyers, as indicated by the high percentage of borderline compulsive consumers (41%). Therefore, policymakers should tighten the regulations for readily available credit to consumers and take steps to help those already suffering from this disorder. To do that, policymakers may take measures to create awareness about the causes and consequences of this problem behavior. They may also introduce help programs for consumers already suffering from this disorder. They should also introduce healthy activities that reduce anxiety, depression and stress as they are major triggers of compulsive buying.

7. Conclusion

To understand compulsive buying behavior in emerging economy, this study empirically investigated the antecedents and consequences of compulsive buying behavior in a shopping mall sample. Stress and self-esteem were major triggers for compulsive buyers and the consumers who purchase compulsively feel an emotional lift right after shopping. A new, more relevant and comprehensive classification scheme was developed in this study, which enables researchers to identify and differentiate between consumers according to their level of compulsiveness. Lastly, the underlying development mechanism of compulsive buying is the same in emerging nonwestern economies as that of in western developed economies, but the prevalence rates of compulsive buying are relatively higher.

7.1 Limitations and Future Recommendations

Despite its noteworthy contributions, this study has some inherent limitations. The population of this study was shopping mall visitors. To get a holistic picture of compulsive buying, other segments of the population such as students, internet shoppers

and more specifically general consumers may be investigated in future researches. This study only examined the consumers who purchased clothing related products from shopping malls. Future researches may include other product categories such as consumer electronics, car accessories, antiques, cosmetics, jewelry, clothes, shoes, purses, nick knacks, collectibles each, furniture, greeting cards, consumer appliances, books and gifts. Counterfeiting is a major concern in emerging economies such as Pakistan. Interestingly, motivations for counterfeiting and CBB overlap to a great extent (Moon et al., 2018). It would be interesting to know that how both these negative behaviors associate with each other.

Neither this study nor previous ones, investigated the phenomenon of compulsive buying behavior in the services sector. It would be interesting to know the characteristics and incidence of this problem behavior in consumer services such as beauty salons and message centers. This study only investigated the psychological and socio-culture influences of compulsive buying behavior. Future researches may include other influences such as personality related triggers. This study revised an existing scale of compulsive buying behavior and developed universal classification criteria to identify consumer's compulsive tendencies on a continuum. Future researches should adopt the scale for further validation and employ this classification scheme to get a broader view of compulsive buying behavior.

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