Deliberate Self-Indulgence vs. Involuntary Loss of Self-Control: Towards a Robust Cross-Cultural Consumer Impulsiveness Scale

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ABSTRACT

There is neither a consensus about the dimensionality of the consumer impulsiveness construct, nor sufficient evidence about the validity and cross-cultural measurement equivalence of its various scales. We address these gaps by using cross-cultural differences in control orientations as the conceptual foundation for a more robust consumer impulsiveness scale. Specifically, we demonstrate that unlike individualistic consumers, collectivistic consumers distinguish between deliberate self-indulgence and involuntary loss of self-control, as reflected in the three-factor structure (prudence, self-indulgence, and self-control) for the collectivists and a two-factor structure (prudence and hedonism) for the individualists. We also discuss some implications and limitations of this research.

Keywords: consumer impulsiveness, cross-cultural, hedonism, measurement equivalence, prudence, self-control, self-indulgence

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INTRODUCTION

Consumer impulsiveness is a widespread phenomenon in Western countries and it continues to attract significant attention from consumer researchers (Dholakia et al., 2006; Vohs and Faber, 2007; Sengupta and Zhou, 2007). Prior research conceptualizes it as a relatively stable consumer trait and uses different names for it, such as buying impulsiveness (Rook and Fisher, 1995), consumer impulsiveness (Puri, 1996), impulse buying tendency (Weun, Jones, and Beatty, 1998; Verplanken and Herabadi, 2001) and consumer buying impulsivity (Youn and Faber, 2002).

At first, it was conceptualized simply as a uni-dimensional (buying impulsiveness) or two-dimensional (consumer impulsiveness) construct, however recent research argues that these one- and two- dimensional structures may not adequately capture all the facets of this complex construct and have developed a more complex three-dimensional structure (Youn and Faber, 2002). However, there is no empirical support for this three-dimensional structure and hence there is still no consensus on the exact structure or nature of this important construct.

Of late, researchers have investigated consumer impulsiveness in China (Zhou and Wong, 2003), Vietnam (Nguyen et al., 2003), Australia, Hong Kong, Singapore, and Malaysia (Kacen and Lee 2002). However, they used scales developed in the US, and hence, either could not establish measurement equivalence across different cultures (e.g., Kacen and Lee, 2002) or did not attempt it at all (e.g., Nguyen et al., 2003). Thus, it is still unclear if consumer impulsiveness has the same meaning across different cultures, and if the scales developed with consumers in the Western cultures are valid and reliable in other cultures.

In this research, we address the above gaps by first exploring the literature on cross-cultural differences in the control orientations to explain the differences in the meaning of impulsiveness among consumers from different cultures. Prior research shows that people in collectivistic cultures are more adaptive to situational cues and more variable in their trait-relevant behavior compared to people in individualistic cultures, thus evolving a greater belief in the contextuality of behavior (Church, 2000). Hence, we argue that compared to Westerners (individualists), Asians (collectivists) are more likely to accept their responsibility for losing self-control only in those situations in which they indulged themselves deliberately compared to those in which they simply could not control themselves due to some external influences.

Based on the above, we reconceptualize consumer impulsiveness as a three-dimensional construct for collectivists versus a two-dimensional structure for individualists. Next, we describe our conceptual framework developed to explore cross-cultural differences in the dimensional structure of the consumer impulsiveness trait. We follow this with a description of several studies used to evaluate several existing consumer impulsiveness scales and develop a new, more robust scale for use across different cultures. Finally, we also discuss some limitations and directions for future research.

CONCEPTUAL FRAMEWORK

In this section, we first review the performance of existing consumer impulsiveness scales in different cultures to highlight some important conceptual and empirical concerns. Next, we review the literature exploring cross-cultural differences in control orientations to build our argument that individuals from collectivistic cultures require a three-factor structure for the consumer impulsiveness trait to represent its cognitive (prudence), affective (self-indulgence),

and behavioral components (self-control), compared to a two-factor structure consisting of cognitive (prudence) and affective (hedonism) components for those from Western cultures.

Performance of Consumer Impulsiveness Scales in Western Countries

Prior research uses several scales to operationalize the consumer trait associated with impulse buying behavior, albeit with mixed results (See Table 1 for a summary). Generally, the uni-dimensional conceptualizations of consumer impulsiveness were reliable but it was not clear if these represented this complex psychological construct adequately. The different names used for this construct such as buying impulsiveness, consumer impulsiveness, impulse buying trait and consumer buying impulsivity only added to the confusion.

< Insert Table 1 about here >

Others have used uni-dimensional trait scales associated with impulse buying behavior due to their simplicity, but many had problems establishing uni-dimensionality of some of these scales. Beatty and Ferrell (1998) used Weun et al.'s (1998) impulse buying tendency (IBT) scale in their study with mall-shoppers in the US but, during data analysis they had to delete two out of the original five items to get a good fit for their measurement model. Similarly, Hausman (2000) had to modify two of the original nine items in Rook and Fisher's (1995) buying impulsiveness scale (BIS) in her study with a convenience sample of consumers in the US. In her next study with US consumers, she had to remove one of these modified items and an item from the original BIS because of low item-total correlations. Thus, she ended up using a shortened seven-item scale instead of the original nine-item scale (Hausman, 2000).

On the other hand, Omar and Kent (2001) used a modified version of Rook and Fisher's (1995) BIS in their study of airport users in UK and found it to be uni-dimensional and highly reliable ($\alpha = .89$). Similarly, Shiv and Fedorikhin (1999) used an abridged version of the

hedonism sub-scale of Puri's (1996) CIS in their experimental study with student subjects, calling it impulsivity and found it to be reasonably reliable (α = .77). Youn and Faber (2000) reported similar results based on their study with undergraduate students in the US (α = .89). Dholakia (2000) also used the original nine-item BIS (Rook and Fisher, 1995) and found it highly reliable (α = .89) first with undergraduate students and then with web-surfers, both in the US.

In view of these mixed results with uni-dimensional scales and concerns about their validity, some researchers conceptualized consumer impulsiveness as a two or three-factor construct and tried to demonstrate its complex underlying psychological structure empirically. However, these efforts also led to mixed results. Puri (1996) conceptualized it as consumer impulsiveness, a two-dimensional construct with prudence (cognitive) and hedonism (affective) as its two dimensions. She pre-tested two versions of this scale and administered the final version with twelve items in three phases to masters students from the US and India, and found a good fit for the two-factor model although her exploratory factor analysis revealed three factors with eigenvalues greater than or equal to one. These three factors seemed to represent three different dimensions, cognitive (self-control or prudence) with seven items, affective (hedonism or temptation) with four items and behavioral (carelessness) with a single item. However, she preferred to use her two-dimensional conceptualization to further develop and test her new scale.

Youn and Faber (2002) conceptualized it as consumer buying impulsivity (CBI), a multi-dimensional construct with three higher-order dimensions (behavioral, affective and cognitive) and eight lower-order components. The behavioral dimension had two components, rapidity and reactivity, the affective dimension had three components; irresistible urge to buy, susceptibility to emotional states and emotional conflict, and the cognitive dimension had three components as

well; little cognitive deliberation, unplanned buying and disregard of the future. However, during the process of purifying the scale from 140 to 24 items in a series of empirical studies with undergraduate students they found some unexpected results.

First, the behavioral (rapidity and reactivity) component did not emerge as a separate component for the US respondents used in their study. Instead it was merged with the affective (irresistible urge to buy) component so their measurement model was reduced to two higher order factors with six lower order sub-factors. Youn and Faber (2002) explained this finding by suggesting that buying urge, by nature, accompanies the physiological aspect of the action-oriented or kinetic characteristics and hence, we cannot consider its behavioral and affective elements separately from each other. However, we argue that it may be due to cross-cultural differences in the meanings attached to a complex construct such as consumer impulsiveness.

Specifically, consumers in collectivistic cultures such as China and Vietnam control their impulses and emotions because of their focus on their social goals, whereas consumers in individualistic cultures like in the US are more impulsive because they believe in their individual rights to define their goals and make their decisions independently (Kacen and Lee, 2002; Nguyen et al., 2003). Based on this, we propose that the American respondents in Youn and Faber (2002) may not have discriminated between the behavioral and affective elements because of their individualistic values, resulting in the merging of these two factors.

Performance of Impulse Buying Trait Scales in Non-Western Countries

Kacen and Lee (2002) used the nine-item BIS (Rook and Fisher, 1995) in their preliminary study with 706 students in four countries, two individualistic (Australia and United States) and two collectivistic (Singapore and Malaysia). Although they observed high reliability (α = .79 to .92) for this scale in the four countries in their sample, the factor structures across

different countries were not consistent. Specifically, they found a single factor for their sample from the individualist countries (as reported in prior studies) but two factors for the collectivistic countries. Moreover, factor analysis across the four sub-groups led to the reduction of the original scale into a four-item sub-scale consistent across the four countries.

Interestingly, when Kacen and Lee (2002) used Weun et al.'s (1998) five-item IBT scale in their main study, despite finding a single factor structure and reasonably high reliability (α = .68 to .88) in each country sample, they had to modify even this scale by dropping one item, to achieve equivalence across cultures. Moreover, they found the scale reliabilities to be significantly lower for the collectivistic countries compared to the individualistic countries. Based on these findings, Kacen and Lee (2002) suggest that buying impulsiveness trait may have a different meaning and hence, significantly different dimensions across different cultures.

On the other hand, Nguyen et al. (2003) simply used a seven-item modified version (translated into Vietnamese) of Rook and Fisher's (1995) buying impulsiveness scale and found it highly reliable (α = .86) in their study with 358 Vietnamese consumers. Unlike Kacen and Lee (2002), these researchers did not consider measurement equivalence and simply assumed their scale to be a valid measure of buying impulsiveness trait in their Vietnamese participants.

From the above discussion, it seems that prior research neither validates the existing scales for consumer impulsiveness in other cultures nor makes efforts to conceptualize this trait in a more culturally relevant manner. We propose that the respondent from collectivistic cultures in Kacen and Lee (2002) probably distinguished between the "involuntary loss of self-control" and "deliberate self-indulgence" aspects of consumer impulsiveness because they were more collectivistic and hence, more likely to be concerned about how their behavior may be perceived by others. For these respondents it seems as if – besides a common cognitive component –

consumer impulsiveness has two more facets; one consisting of items which are within their control (extravagance, enjoyment and pleasure) and another with those which are not within their control (impulsivity, carelessness and temptation). On the other hand, for the individualists there was no such distinction and they seemed to club both these forms of behavior under a common hedonism component, as shown by Puri (1996) as well.

This line of thinking is also reflected in recent research contrasting self-control with a precommitment to indulgence (Kivetz and Simonson, 2002) and justification effects on consumer choice between hedonic and utilitarian goods (Okada, 2005). These researchers also suggest that consumers sometimes exercise the opposite form of self-control, forcing themselves to indulge in an avoidance of default forms of spending on necessities and savings. Hence, some consumers may consider deliberate self-indulgence as distinctly different and normatively more negative compared to something like an involuntary loss of self-control, whereas others may not make this distinction. We explore this idea further in the next section, which focuses on the vast body of research on cross-cultural differences in control orientation.

Cross-cultural Differences in Control Orientations

Individualistic people tend to hold an exaggerated sense of control or mastery, and this illusion of control is well-documented and prevalent in North America, where the belief in personal control over chance events has been demonstrated consistently (Yamaguchi et al., 2005; Presson and Benassi, 1996). On the other hand, East Asians tend to be less confident of their personal ability to control the environment (Heine, Kitayama, and Lehman, 2001; Heine and Lehman, 1995; Heine et al., 1999). Asian Americans and Asians in Asia (including Chinese, Indian, Japanese, and Koreans) also report lower levels of perceived personal control compared to Non-Asians (Sastry and Ross, 1998). In fact, high levels of perceived control may even be a

norm violation for the Asians and cause psychological distress. Therefore, we suggest that compared to Asians, North-Americans are more likely to attribute their self-control failures (e.g. impulsive behaviors) to themselves because of their greater perceived control. Asians, on the other hand, are more likely to attribute their self-control failures to diverse situational factors such as the presence or absence of others, external stimuli (advertising, sales promotion) etc.

People in collectivistic cultures are also shown to be more adaptive to situational cues and more variable in their trait-relevant behavior compared to people in individualistic cultures, thus evolving a greater belief in the contextuality of behavior (Church, 2000). Markus and Kitayama (1991) also suggest that individuals with interdependent self-construals are concerned about behaving appropriately and adapting their behavior to fit in. This trend is also reflected in greater cross-situational variability in trait self-descriptions (Suh, 2002), lower self-concept clarity (Campbell et al., 1996), and higher self-monitoring scores (Gudykunst, Yang, and Nishida, 1987) among individuals in collectivistic cultures compared to those from individualistic cultures. We argue that collectivists are likely to be more aware of their behavior in different situations compared to individualists, thus being able to draw a distinction between situations in which they could control themselves but did not and others in which they simply could not control themselves.

Cultural influences also have an important influence in shaping an individual's coping patterns, based on one's cultural background and values that determine what coping patterns are appropriate and valued in any given society. For example, individuals from Asian cultures are shown to prefer secondary control coping (change their feelings and thoughts to adjust to the objective environment) compared to primary control coping (change the existing environment to fit the individual's needs) preferred by individuals from Western cultures (Lam and Zane, 2004).

Similar differences are observed in the choice of control strategies wherein East Asian are shown to prefer internally targeted strategies (self-control, waiting, and passive acceptance) compared to externally targeted strategies (confrontation, self-enhancing interpretation) preferred by European Canadians (Tweed, White, and Lehman, 2004).

Individuals in Asian cultures maintain both independent and interdependent sense of self (Markus and Kitayama, 1991) yet they are able to suppress their independent self in certain situations, putting aside their own preferences in order to act appropriately (Triandis, 1999, 1995). Hence, Asians (collectivists) are more likely to accept their responsibility for losing self-control only in those situations where they did it deliberately compared to those situations where they simply could not control themselves due to some external influences. Based on this, next we reconceptualize consumer impulsiveness as a three-dimensional construct for collectivists versus a two-dimensional structure for individualists.

Revisiting Consumer Impulsiveness

First, we use the term "Consumer Impulsiveness" (Puri, 1996) to describe the trait associated with impulsive behaviors rather than the terms used by other researchers such as buying impulsiveness (Rook and Fisher, 1995), impulse buying tendency (Weun, Jones, and Beatty, 1998; Verplanken and Herabadi, 2001) or consumer buying impulsivity (Youn and Faber, 2002). This is because most of the other conceptualizations focus primarily on one behavior (impulse buying) associated with the consumer impulsiveness trait and not so much on its affective and cognitive aspects, thus failing to capture the complex nuances of this construct. On the other hand, consumer impulsiveness seems to capture the broadness of this construct and can be useful in exploring impulsive consumer behaviors in general and not just impulse buying.

Moreover, we conceptualize consumer impulsiveness as a three-dimensional construct with distinct cognitive, affective, and behavioral elements similar to yet simpler than the complex multi-dimensional structure proposed by Youn and Faber (2002). In the process, we extend its two-dimensional conceptualization by Puri (1996) and make it more meaningful. Specifically, we retain the prudence component (cognitive) but divide the hedonism component into self-indulgence (affective) and self-control (behavioral) to capture the difference between these two aspects that only the collectivistic consumers demonstrate. Hence, we expect a three-factor structure for the consumer impulsiveness trait (prudence, self-indulgence and self-control) for collectivists and a two-factor structure (prudence and hedonism) for individualists.

Next, we describe a series of empirical studies conducted to develop and test the new consumer impulsiveness scale with samples of undergraduate students in a large Singapore university. We chose Singapore because, despite being a consumerist society, prior research classifies it as a collectivistic culture and uses it in several cross-cultural studies (e.g., O'Cass and Lim, 2003; Kacen and Lee, 2002). We used undergraduate students in all our studies to minimize the impact of diverse socio-economic characteristics of a broader adult shopper population and to control various confounding individual and situational variables that plague survey-based cross-cultural studies with convenience samples (Hult et al., 2008).

STUDY 1: SCALE DEVELOPMENT

As a first step, we reviewed consumer behavior and psychology literature to generate an initial pool of items. Next, four independent judges (Three PhD students and one faculty member) reviewed all the items and rated each item using a 3-point scale (1 = Not at all representative, 2 = somewhat representative and 3 = completely representative) on the extent to which it represented at least one of the dimensions of consumer impulsiveness as defined earlier,

i.e. prudence, self-indulgence and self-control. We added the scores assigned by all the judges to each item to arrive at a sum-score. As recommended by Hardesty and Bearden (2004), we only retained items with a sum-score of at least eight (i.e., which all the four judges considered at least somewhat representative on an average). Thus, using well-established practices in the scale development process we reduced the scale to 18 items with six items for each of the three dimensions (Nunnally and Bernstein, 1994; Churchill, 1979; Anderson and Gerbing, 1988). Next, we further refined these 18 items to develop a new consumer impulsiveness scale.

Sample and Procedure

We used a sample of undergraduate students (N=200) at a major Singaporean university similar to earlier preliminary studies to assess the initial pool of 18 items. The sample consisted of 114 females (57%) and 86 males (43%), most of them between the age of 21 and 25 (92%). Using a 7-point Likert-type response format (1 = strongly disagree, 7 = strongly agree), we administered the 18-item scale to this sample at the beginning of a fresh semester. We used English language for the questionnaire as it is the medium of education in Singapore and although 75% of the Singaporean population consists of ethnic Chinese, most people use English to communicate with each other in their day-to-day lives, especially the university students.

Data Analysis

We used exploratory factor analysis and item-to-total correlations to assess all the items, omitting items with factor loadings below .40 and/or item-to-total correlations below .50 as recommended by Nunnally (1978). This resulted in the elimination of six items, two from each dimension of the original 18-item scale. The remaining 12 items loaded on three factors as expected, explaining 65% variance in the data (40%, 16%, and 9%) with four items loading

significantly on each of the three factors, named prudence, self-indulgence, and self-control. Next, we treated each set of four items as sub-scales and performed reliability tests on these as well as the full 12-item scale. All the scales showed reasonably high reliability (Cronbach's α = .757 to .822). Moreover, we calculated the average scores for each sub-scale and found them normally distributed with adequate variance. Table 2 shows a summary of results including all the items, factor loadings, variance explained, and reliabilities.

< Insert Table 2 about here >

STUDY 2: SCALE VALIDATION

The purpose of this study was to confirm the three-dimensional structure of the new consumer impulsiveness scale and to establish its discriminant, convergent and nomological validity. Therefore, in addition to the new consumer impulsiveness scale, we administered several other scales including the personal uncertainty scale (Clampitt, Williams, and Korenak, 2000), self-monitoring: "ability to modify self-presentation" sub-scale (Lennox and Wolfe, 1984), and change seeking index: CSI - short form (Steenkamp and Baumgartner, 1995) as shown in Table 3.

< Insert Table 3 about here >

Sample and Procedure

We administered all the trait scales to 200 undergraduate business students at a major university in Singapore in a single session at the beginning of a new semester as a part of the registration process for participating in some studies later in the semester. We did not reveal the actual purpose of this survey and objectives of various studies at this stage, to minimize any demand characteristics. This sample was similar in age and gender composition to the first study.

We administered all the scales with a seven-point Likert-type response format in a single, counterbalanced questionnaire to avoid any order bias. For discriminant and convergent validity, we expected the items pertaining to each of these scales and the three expected components of consumer impulsiveness trait to load significantly on separate components (> .60), with no large cross-factor loadings (> .40). In addition to this, we expected the average scores of consumer impulsiveness and its three components to correlate with the scores of the other three constructs in a pre-specified manner based on prior research.

Consumer impulsiveness is positively correlated with change-seeking at the trait level because of their similar socio-psychological origins (Sharma and Sivakumaran, 2004). In this research, besides overall consumer impulsiveness we expected its self-indulgence component to correlate positively with change seeking because they represent similar sensation-seeking tendencies. However, prudence and self-control represent the opposite (sensation-curbing) tendencies and hence, we expect these constructs to negatively correlate with change seeking.

Individuals with higher level of tolerance for uncertainly are more likely to indulge in energizing, exciting and stimulating experiences, similar to highly impulsive individuals (Clampitt, Williams, and Korenak, 2000). Hence, we expect the individual scores on personal uncertainty to correlate positively with overall consumer impulsiveness and self-indulgence scores, and negatively correlated with self-control and prudence scores.

Self-monitoring is defined as the tendency to modify or adapt one's behavior in response to others' presence or behavior (Becherer and Richard, 1978). High self-monitors are willing to adapt their behavior to enact clearly defined roles appropriate to different situations whereas low self-monitors are less willing to put on a show to please those around them, preferring instead to be true to their own attitudes and values across different situations. Since, there is no direct

relationship between self-monitoring and consumer impulsiveness or any of its three components; we expected them to be uncorrelated with each other.

Convergent and Discriminant Validity

First, we performed confirmatory factor analysis on all the scales using maximum likelihood estimation procedure with AMOS 6.0, to assess the construct validity of the new scale. As expected, a six-factor structure was found with all the items loaded highly (> .60) on their original scale as expected, with no major cross-factor loadings (> .40). All the t-values were very high with the smallest value being 8.65, suggesting high significance of all the factor loadings, as shown in Table 4. The composite reliability estimates were also high ranging from .77 to .92 for all the scales including the three sub-scales of consumer impulsiveness. Moreover, none of the confidence interval of the correlation coefficients for each pair of scales (phi estimates) included 1.0, thus providing adequate support for the convergent and discriminant validity of the new scale (Anderson and Gerbing, 1988; Steenkamp and Van Trijp, 1991).

< Insert Table 4 about here >

Next, we tested three alternative measurement models (i.e., with one, two and three factors) to examine the dimensionality of the new scale. As expected, the three-factor model provided a superior fit, as shown in Table 5. Chi-square value of the three-factor model was significantly lower than the other models. Moreover, all the other fit indices were also significantly higher for the three-factor model (RMSEA = .042, AGFI = .89, NFI = .93). All the t-values were quite high for this model with the smallest value being 8.95, showing the high significance of the factor loadings. The composite reliability estimates were also very high, ranging from .77 to .88 for the three sub-scales and the average variance extracted for each dimension was greater than the squared correlation among the three dimensions and .50, which

indicates the independence of the dimensions, thus providing evidence of convergent validity (Fornell and Larker, 1981). Hence, prudence, self-indulgence, and self-control make three reliable and valid dimensions of consumer impulsiveness for the Singaporean sample.

< Insert Table 5 about here >

Nomological Validity

We assessed the nomological validity of the new scale by examining the phi (Φ) estimates and examining whether the scores on the new consumer impulsiveness scale and its three sub-scales behaved as expected in relation to the other measured constructs. As shown in Table 6, the pattern of most correlations was as expected. Consumer impulsiveness correlated positively with change seeking ($r = .22$, $p < .05$) and personal uncertainty ($r = .24$, $p < .01$) but not with self-monitoring ($r = -.05$, $p > .05$). All three components of consumer impulsiveness were only moderately correlated with each other ($r = -.21$ to $.41$, $p < .01$). These findings seem to confirm that consumer impulsiveness has three correlated but independent dimensions, which represent different aspects of this complex psychological construct.

< Insert Table 6 about here >

Self-indulgence correlated positively with change seeking ($r = .27$, $p < .05$) and personal uncertainty ($r = .39$, $p < .01$). The other two components (self-control and prudence) correlated negatively with change seeking ($r = -.29$, $p < .01$ and $-.11$, $p < .05$) and personal uncertainty ($r = -.18$, $p < .05$ and $-.25$, $p < .01$). Self-monitoring was found not significantly correlated with any of the components of consumer impulsiveness, self-control ($r = .07$, $p > .05$), self-indulgence ($r = .01$, $p > .05$) and prudence ($r = -.05$, $p > .05$). These results provide evidence for the nomological validity of the new consumer impulsiveness scale.

STUDY 3: CROSS-CULTURAL VALIDATION

This study was conducted to test the cross-cultural measurement equivalence of the new scale (Steenkamp and Baumgartner, 1998), and to find out if a two-dimensional structure would hold for a US sample (Individualist), to demonstrate the hypothesized cross-cultural difference in the consumer impulsiveness construct. Therefore, in this study we collected data at a large university in Chicago Metropolitan area in the United States in addition to the one in Singapore.

Sample and Procedure

We surveyed 300 undergraduate student respondents, 150 each in Singapore and Chicago Metropolitan area (USA) with a similar age and gender profile as the previous two studies. We again administered a trait questionnaire including consumer impulsiveness in a separate session at the beginning of a new semester. Since, we wanted to explore the influence of culture on consumer impulsiveness trait, we included the 16-item Lee and Brislin's (1998) IND-COL scale adapted from Singelis (1994) and Triandis (1995), with a seven-point Likert-type response format (Refer Table 7). Prior research uses this scale to operationalize cultural differences at individual level in studies of impulsive behaviors (Kacen and Lee, 2002; Nguyen et al., 2003).

< Insert Table 7 about here >

Data Analysis and Results

Testing for cross-cultural measurement invariance using AMOS entails a multi-step process (Steenkamp and Baumgartner, 1998). As the first step, we tested for configural invariance of the three-factor model between the Singaporean and the US samples. Configural invariance requires the specified model with zero loadings on non-target factors to fit the data

well in both the countries, all salient factor loadings to be significantly and substantially different from zero, and the correlations between the factors to be significantly below unity.

To test for configural invariance of the new three-dimensional consumer impulsiveness scale across the two groups from Singapore and United States, we performed multi-group confirmatory factor analysis on the data using maximum likelihood estimation (MLE) procedure with AMOS 6.0. Table 8 shows the goodness-of-fit statistics related to this two-group constrained model along with those from all the other models.

As seen in Table 8, the three-factor model did not have a good fit with a two-group confirmatory factor analysis, with chi-square value of 770.10 at 107 *df* ($p < .05$) and fairly low values of all the fit indices (RMSEA = .292, AGFI = .35, CFI = .49 and NFI = .38). A closer look at the output showed that the factor loadings for the Singaporean sample were large and significant ($p < .05$) for all the three-factors, whereas for the US sample the factor loadings were not significant for two of the self-indulgence items (S1 & S4) and one of the self-control items (C4). From these findings, it is clear that our new consumer impulsive scale did not achieve configural equivalence across the two different groups. Hence, we decided to test the two-factor model next using a similar two-group confirmatory factor analysis.

< Insert Table 8 about here >

Once again, the findings showed that the two-factor model did not have a good fit for both the groups either, with chi-square value of 903.06 at 109 *df* ($p < .05$) and very poor values of all the fit indices (RMSEA = .314, AGFI = .29, CFI = .39 and NFI = .31), even worse than the three-factor model. A test of significance for the chi-square difference showed that the fit of the two-factor model was significantly worse than the three-factor model. A closer look at the output showed that the factor loadings for the US sample were large and significant ($p < .05$) for both

the factors, whereas for the Singaporean sample the factor loadings were not significant for two self-indulgence items (S2 & S3) and two self-control items (C1 & C4). Finally, we also tested a one-factor model and did not find it to have a good fit as evident in the poor values of all the fit-indices (RMSEA = .278, AGFI = .23, CFI = .22 and NFI = .20).

From these findings, it is clear that neither one nor two or three-factor structure was configurally equivalent across the two groups. Therefore, we did not test for any remaining types of measurement equivalence, namely metric, scalar, factor covariance and error variance invariance (Steenkamp and Baumgartner, 1998). Instead, we decided to validate which factor structure provided the best fit to the data from each sample independently. Therefore, we next tested both two- and three-factor models for the two samples separately.

We found the three-factor measurement model to be a better fit for the Singaporean sample (RMSEA = .010, AGFI = .89, CFI = .92 and NFI = .93) and the two-factor model provided a better fit for the US sample (RMSEA = .016, AGFI = .86, CFI = .92 and NFI = .93). The differences in χ^2 values for the two models for both the samples were also tested and found significant, as reported in Table 5. These findings provide evidence for our hypothesized difference in the factor structures between the collectivists (Singapore) and individualists (US).

Next, we also tested if a similar pattern of factor structures would exist for the individualists (two factors) and collectivists (three factors). For this we pooled the data from both the samples and divided into individualists (N = 233) and collectivists (N = 167) based on the median-split of their scores on the individualism/collectivism sub-scales (Lee and Brislin, 1998). The average score on the individualism sub-scale were significantly higher for individualists than collectivists (M=5.32 vs. 3.81, $p < .001$) and the score on the collectivism sub-scale significantly higher for collectivists than individualists (M=5.14 vs. 3.49, $p < .001$).

We tested both two- and three-factor models with these two groups (individualists and collectivists) and as expected the three-factor measurement model was found to be a better fit for the collectivists (RMSEA = .018, AGFI = .87, CFI = .92 and NFI = .92) and the two-factor model for the individualists (RMSEA = .021, AGFI = .85, CFI = .90 and NFI = .92). The differences in χ^2 values were also significant for these models as shown in Table 8. Therefore, we found significant differences in the factor structures of consumer impulsiveness trait under at the country as well as individual levels, as expected.

Finally, we used Anderson and Gerbing's (1988) approach to test the convergent and discriminant validity of the new scale with both the samples. We demonstrate convergent validity by significant values of each indicator's loadings on its hypothesized factor (greater than twice its standard error). Similarly, we demonstrate discriminant validity for the three factors by constraining the estimated correlation parameter among them to 1.0 and then performing a chi-square difference test on the values obtained in the constrained and unconstrained models. The χ^2 value for the unconstrained model is significantly lower than the constrained model; thus, the different factors do not correlate perfectly. Table 9 shows the factor loadings for both samples.

< Insert Table 9 about here >

DISCUSSION AND CONTRIBUTION

Our research makes a significant contribution by addressing many important gaps in study of impulsive behaviors by exploring the cross-cultural differences in the consumer trait associated with impulsive behaviors. Using a series of studies with Singaporean (collectivist) and US (individualist) respondents, we demonstrate that the consumer impulsiveness trait does indeed have a different meaning for these two sets of respondents. Consumers from collectivistic cultures differentiate between the deliberate and involuntary aspects of their impulsive behavior

and tendencies, whereas those from individualistic societies are unable or unwilling to make this distinction and for them both these elements merge under a single hedonistic dimension.

These findings explain many unexpected findings and missing links in the existing research on cultural differences in the consume impulsiveness trait including the problems in using scales developed in the US with respondents in other countries to measure the consumer impulsiveness construct appropriately and adequately (Kacen and Lee, 2002; Nguyen et al., 2003). Culture is shown to influence several other important aspects of consumer behavior such as complaint behavior (Liu and McClure, 2001), materialism (Ger and Belk, 1996), country-of-origin (Gurhan-Canli and Maheswaran, 2000) and consumer ethnocentrism (Durvasula, Andrews, and Netemeyer, 1997). Our research extends the knowledge in this fast-growing area of cross-cultural consumer research by showing that culture does have an effect on the meaning of impulsive behaviors (e.g. impulse buying) and attracts further attention from consumer researchers especially in countries and cultures outside the United States.

Moreover, we show that our results are also applicable at an individual level, i.e. consumers with a more collectivistic (interdependent) self-concept are able to distinguish between their deliberate self-indulgence and involuntary loss of self-control whereas it does not seem to matter for those with a more individualistic (independent) self-concept. Hence, we provide a theory-based explanation for the different meanings assigned to impulsive behaviors (e.g. impulse buying) by consumers within the same culture. In other words, we show that the cultural orientation of an individual influences the psychological structure underlying their impulsive trait. Our findings may also explain why the American respondents in Youn and Faber (2002) did not distinguish between the affective and behavioral aspects of their impulsiveness.

We address another long-standing gap in literature, which is the absence of a robust and comprehensive scale to measure consumer impulsiveness trait. A thorough review and assessment of all the existing scales in this area revealed many areas for improvement such as unclear dimensionality and factor structures, and lack of measurement equivalence across different cultures. Hence, we develop a new 12-item three-dimensional scale to measure the different aspects of the consumer impulsiveness trait and test it in Singapore and the US.

Although the new scale draws heavily on the considerable efforts made by prior researchers, it also extends the current literature in this area in many ways. First, this scale shows a three-dimensional structure for collectivistic consumers and a two-dimensional structure for individualistic consumers. Hence, it significantly improves Puri's (1996) two-dimensional consumer impulsiveness scale by including the third dimension (behavioral) observed by her empirically but not addressed subsequently in her scale development efforts. Specifically, we show that the collectivistic consumers draw a distinction between deliberate self-indulgence and involuntary loss of self-control, the two aspects of their hedonistic behavior whereas there is no such distinction for the individualistic consumers. This may make it easy to use this scale across different cultures without any problem of measurement equivalence.

Second, despite its more complex three-dimensional structure similar to Youn and Faber' (2002) consumer buying impulsivity scale, the new scale with only 12 items is relatively simpler compared to their 24-item scale with two higher- and six lower-order components. This should make it easy to validate with different samples in various types of studies into hedonistic or impulsive consumer behaviors. We hope this research will pave the way towards a consensus on the definition and operationalization of this construct across different cultures in future research and benefit the academic researchers as well as marketing practitioners around the world.

LIMITATIONS AND FUTURE RESEARCH

According to Kacen and Lee (2002), their research "uncovers another area where scales developed in the United States are not valid for use in other countries, highlighting the difficulty in cross-cultural research. The results indicate that there may in fact be more than one dimension to the buying impulsiveness trait. Moreover, the use of sub-scales could be problematic in capturing all the aspects of the impulsiveness trait. Hence, further research needs to be conducted to provide nomological validity of the trait impulsiveness sub-scales."

Our research is a step in this direction. We hope that research in countries outside the US will include our new consumer impulsiveness scale and assess its cross-cultural validity. In this research, we use undergraduate students in all our studies to control for between group variance, however it would be useful to test the scale using samples from different consumer populations (e.g., non-student adult shoppers), and other research methodologies. Future research may also include different relevant constructs beyond the ones used in this research to further examine the new scale's convergent, discriminant, nomological, and predictive validity.

Future research may also improve the new scale by broadening the conceptual scope of the consumer impulsiveness trait by adding its other aspects such as sensation-seeking tendency, which relates with trait impulsivity (Zuckerman, 2000) and exploratory consumer behaviors (Baumgartner and Steenkamp, 1996). We found consumer impulsiveness and its self-indulgence component positively correlated with change seeking, suggesting a strong association between these tendencies. This may well be another area worth exploring in future research.

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Table 1: Consumer Impulsiveness Trait Scales

Scale	Sample Size	No. of Items	CFA Fit Indices	Psychometric Properties	Scale Statistics
Buying Impulsiveness (Rook and Fisher, 1995)					
Study 1 (Undergraduate students, USA)	212	9	χ^2 = 49.45 (df = 27, p < .01) AGFI = .92, CFI = .97, NFI = .94	1 Factor, α = .88	M = 25.1 SD = 7.4
Study 2 (Retail shoppers, USA)	104	9	χ^2 = 44.88 (df = 27, p < .02) AGFI = .86, CFI = .93, NFI = .84	1 Factor, α = .82	M = 21.5 SD = 7.1
Consumer Impulsiveness Scale (Puri, 1996)					
Study 1 (MBA students, USA)	90	12	ARMSI = .08, APGI = .92, TLI = .05	2 Factors, α = .82	NA
Study 2 (MBA & PhD students, USA)	93	12	ARMSI = .09, APGI = .89	2 Factors, α = NA	NA
Study 3 (Unspecified subjects, India)	127	12	ARMSI = .08, APGI = .93	2 Factors, α = NA	NA
Impulse Buying Tendency (Weun, Jones, and Beatty, 1998)					
Study 1 (University students, USA)	212	5	χ^2 = 5.16, p = .40 AGFI = .97, NFI = .99, RMR = .023	1 Factor (59%) α = .83	M = 19.23 SD =6.10
Study 2 (Mall shoppers, USA)	152	5	χ^2 = 6.26, p = .28 AGFI = .95, NFI = .98, RMR = .024	1 Factor (63%) α = .85	M = 21.30 SD = 6.95
Study 3 (University students, USA)	124	5	χ^2 = 3.37, p = .64 AGFI = .97, NFI = .98, RMR = .027	1 Factor (56.4%) α = .80	M = 14.73 SD = 4.16
Study 4 (Mall shoppers, USA)	550	5	NA	NA	NA
Impulse Buying Tendency (Verplanken and Herabadi, 2001)					
Study 1 (Undergraduate students, Norway)	106	20	NA	2 Factors, α = .86	M = 3.69 SD = 1.00
Study 2 (Mixed subjects, Norway)	144	20	NA	2 Factors, α = .87	M = 3.08 SD = 1.00
Consumer Buying Impulsivity (Youn and Faber, 2002)					
Study 1 (Undergraduate students, US)	258	24	χ^2 = 475.518 (df = 245, p < .001), AGFI = .85, NNFI = .91, CFI = .92, RMSEA = .060	Two 2nd order factors with six sub-factors, α = NA	M = NA SD = NA
Study 2 (Adult retail shoppers, US)	215	24	χ^2 = 307.453 (df = 245, p < .01), AGFI = .85, NNFI = .99, CFI = .99, RMSEA = .034	Two 2nd order factors with six sub-factors, α = NA	M = NA SD = NA

Table 2: New Consumer Impulsiveness Scale

Items	Factor Loadings	Variance Explained	Reliability (α)	Mean (SD)
Prudence (Cognitive)				
1. I am a careful thinker	.83			
2. I plan everything in advance	.83	40%	.80	3.54 (1.01)
3. I am a methodical person	.77			
4. I am a cautious shopper	.73			
Self-indulgence (Affective)				
5. I enjoy spending money	.79			
6. I like to indulge myself	.72	16%	.76	3.27 (.99)
7. I buy things for pleasure	.70			
8. I like good things in life	.65			
Self-control (Behavioral)				
9. I am often restless	.75			
10. I get bored easily	.73	9%	.79	3.81 (1.30)
11. I find it difficult to concentrate	.68			
12. I say things without thinking	.63			
Overall		**65%**	**.82**	**3.59 (1.13)**

Table 3: Trait Scales – Study 2 & 3

Personal Uncertainty Scale (Clampitt, Williams, and Korenak, 2000)

1. I'm comfortable making a decision on my gut instincts
2. I'm comfortable using my own intuition to make a decision
3. I'm willing to make a decision based on a hunch
4. I'm comfortable deciding on the spur-of-the-moment
5. When I start a project, I need to know exactly where I'll end up *
6. I need a definite sense of direction for a project *
7. I don't need a detailed plan when working on a project
8. I need to know the specific outcome before starting a task *
9. I actively try to look at situations from different perspectives
10. I'm always on the lookout for new ideas to address problems
11. I actively look for signs that the situation is changing

Self-monitoring (Lennox and Wolfe, 1984)

1. In social situations, I have the ability to alter my behavior if I feel that something else is called for
2. I have the ability to control the way I come across to people, depending on the impression I wish to give them
3. When I feel that the image I am portraying isn't working, I can readily change it to something that does
4. I have trouble changing my behavior to suit different people and different situations *
5. I have found that I can adjust my behavior to meet the requirements of any situations I find myself in
6. Even when it might be to my advantage, I have difficulty putting up a good front *
7. Once I know what the situation calls for, it's easy for me to regulate my actions accordingly

Change Seeking Index (Steenkamp and Baumgartner, 1995)

1. I like to continue doing the same old things rather than trying new and different things *
2. I like to experience novelty and change in daily routine
3. I like a job that offers change, variety and travel, even if it involves some danger
4. I am continually seeking new ideas and experiences
5. I like continually changing activities
6. When things get boring, I like to find some new and unfamiliar experience
7. I prefer a routine way of life to an unpredictable one, full of change *

*** Reverse-coded items**

Table 4: New Consumer Impulsiveness Scale – Study 2

Items	Factor Loadings	T-Values	Reliability (α)	Mean (SD)
Prudence (Cognitive)				
1. I am a careful thinker	.66	8.83		
2. I plan everything in advance	.75	9.39	.83	4.63 (1.25)
3. I am a methodical person	.80	10.23		
4. I am a cautious shopper	.76	9.77		
Self-indulgence (Affective)				
5. I enjoy spending money	.83	11.44		
6. I like to indulge myself	.92	12.32	.86	3.41 (1.01)
7. I buy things for pleasure	.90	12.08		
8. I like good things in life	.84	11.83		
Self-control (Behavioral)				
9. I am often restless	.91	12.22		
10. I get bored easily	.64	8.65	.84	4.28 (1.24)
11. I find it difficult to concentrate	.76	9.24		
12. I say things without thinking	.72	9.05		
Overall			**.85**	**4.11 (1.17)**

Table 5: Confirmatory Factor Analysis – Study 2

Model Description	Groups	X^2	*df*	$\Delta\chi^2$	Δdf	Sig.	RMSEA	AGFI	CFI	NFI
With-in Group Measurement Model Comparison (Singapore)										
- One Factor Model	Singapore	380.59	54	-	-	-	.151	.67	.54	.65
- Two Factor Model	Singapore	123.21	53	142.62	1	$p < .05$	.102	.78	.68	.83
- Three Factor Model	**Singapore**	**78.97**	**51**	**44.24**	**2**	**$p < .05$**	**.042**	**.92**	**.89**	**.95**

Table 6: Correlation Matrix (Nomological Validity) – Study 2

Consumer Trait	1	2	3	4	5	6	7
1. Consumer Impulsiveness	1.00						
2. Self-Control	-.63**	1.00					
3. Self-indulgence	.72**	-.21**	1.00				
4. Prudence	-.73**	.41**	-.32**	1.00			
5. Change-seeking	.22*	-.29**	.27**	-.11*	1.00		
6. Self-monitoring	-.05	.07	.01	-.05	.09	1.00	
7. Personal Uncertainty	.24**	-.18*	.39**	-.25**	.44**	.13*	1.00

*** p < .01, * p < .05*

Table 7: IND-COL Scale (Lee & Brislin 1998) – Study 3

Individualism

1. When I am not happy with my family, I stay away from them
2. When members of a family are not happy with one another, they should stay away from each other
3. I stick to my own point of view even if my group members may not agree with me
4. It is alright for a group member to stick to his/her point of view even if the others may not agree with it
5. I do not rely on my family members for any help
6. Members of a family should not have to rely on others for help
7. I pursue goals that are important to my own personal achievement, independent of the goals that my family may have
8. Members of a family should pursue goals that are important to their own personal achievement, regardless of family goals

Collectivism

9. I will stick with my family if they need me even when I am not happy with them
10. Members of a family should stick together, even when they are not happy with each other
11. I behave in a manner that my family expects me to, even though I may not agree with their expectations
12. Members of a family should behave in a manner that their family expects them to, even though they may not agree with those expectations
13. I strive to make an important contribution to my group
14. Members of a group should try to make an important contribution to their group
15. I pursue goals that are important to my group, even if these are not consistent with my own personal goals
16. Members of a group should pursue goals that are important to their group, even if these are not consistent with their own personal goals

Table 8: Confirmatory Factor Analysis – Study 3

Model Description	Groups	X^2	*df*	$\Delta\chi^2$	Δdf	Sig.	RMSEA	AGFI	CFI	NFI
a. Configural Invariance (Between Groups Measurement Model Comparison)										
- One Factor Model	Singapore & US	1081.53	110	-	-	-	.278	.23	.21	.20
- Two Factor Model	Singapore & US	903.06	109	178.47	1	$p < .05$	.314	.29	.39	.31
- Three Factor Model	Singapore & US	770.10	107	132.96	2	$p < .05$	.292	.35	.49	.38
b. With-in Group Measurement Model Comparison (by Country)										
- Three Factor Model	**Singapore**	**51.65**	**51**	**-**	**-**	**-**	**.010**	**.89**	**.92**	**.95**
- Two Factor Model	Singapore	93.14	53	41.49	2	$p < .05$	.097	.61	.80	.55
- Two Factor Model	**US**	**55.10**	**53**	**-**	**-**	**-**	**.016**	**.86**	**.92**	**.96**
- Three Factor Model	US	107.63	51	52.53	2	$p < .05$	.123	.56	.67	.49
c. With-in Group Measurement Model Comparison (by Culture)										
- Three Factor Model	**Collectivists**	**83.47**	**51**	**-**	**-**	**-**	**.018**	**.86**	**.92**	**.95**
- Two Factor Model	Collectivists	127.41	53	43.94	2	$p < .05$	.144	.56	.72	.53
- Two Factor Model	**Individualists**	**77.39**	**53**	**-**	**-**	**-**	**.021**	**.85**	**.90**	**.95**
- Three Factor Model	Individualists	143.32	51	65.93	2	$p < .05$	.157	.58	.64	.43

Table 9: New Consumer Impulsiveness Scale – Study 3

Items	Singapore			United States	
	1 Prudence	2 Self-indulgence	3 Self-control	1 Prudence	2 Hedonism
1. I am a careful thinker	.66	-	-	.73	-
2. I plan everything in advance	.70	-	-	.81	-
3. I am a methodical person	.81	-	-	.79	-
4. I am a cautious shopper	.82	-	-	.69	-
5. I enjoy spending money	-	.86	-	-	.78
6. I like to indulge myself	-	.82	-	-	.88
7. I buy things for pleasure	-	.80	-	-	.79
8. I like good things in life	-	.84	-	-	.79
9. I am often restless	-	-	.83	-	.76
10. I get bored easily	-	-	.72	-	.81
11. I find it difficult to concentrate	-	-	.84	-	.82
12. I say things without thinking	-	-	.79	-	.83