DOES CULTURAL ORIENTATION INFLUENCE IMPULSIVE CONSUMPTION?

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Abstract

Four studies are reported that investigate the impact of a person’s activated self-construal (interdependent vs independent) on consumers’ impulsive consumption tendencies. A cross-country comparison of per capita beer consumption data (Study 1a) and a cross-state comparison within the U.S. on problem alcohol consumption (Study 1b) indicated that an independent self-construal was associated with greater beer and alcohol consumption. Three additional experiments that manipulated self-construal confirmed this relation and also demonstrated that the effect of self-construal on beer consumption attitudes was mediated by state impulsiveness (Studies 2 and 3), moderated by peer presence (Studies 3 and 4), and can be extended from beer and alcohol consumption to preferences for vice vs. virtue foods (Study 4).

**Keywords**: cultural orientation; self-construal; impulsive consumption
Impulsive behavior, and impulsive consumption in particular, are generally considered negative constructs that are associated with a variety of other negative traits (e.g., lower intelligence, immaturity, poor value system) and outcomes (e.g., financial problems, lower self esteem and post-purchase satisfaction; Rook 1987; Rook and Fisher 1995). Yet, impulsive consumption is also very common, with some estimates attributing impulse buying to over four billion dollars of annual sales in the U.S. (Kacen and Lee 2002).

Impulsive consumption has been linked to a variety of psychological “markers” (e.g., lack of reflectiveness, spontaneity, lack of persistence) and general correlates (e.g., thrill-seeking, need for stimulation, low self esteem; Gerbing, Ahadi, and Patton 1987; O’Guinn and Faber 1989; Weun, Jones, and Beatty 1998). More recently, research has explored the relation between culture orientation and impulsive consumption. Kacen and Lee (2002) provided correlational evidence of an interrelation between individualism–collectivism (independence–interdependence), trait buying impulsiveness, and impulse buying behavior. They reasoned that individualistic societies may exhibit more impulsive consumption than collectivistic societies, not because of less impulse, but because collectivistic societies suppress the impulse more than do individualistic societies. Consistent with this hypothesis, they found that measures of trait impulse buying were more predictive of actual impulse buying behavior for individualistic than for collectivistic societies.

Although the results are correlational, and thus vulnerable to alternative explanations, they are also interesting and provocative and have a number of implications. For one, it suggests that to the extent that the self is malleable (Mandel 2003; Markus and Kunda 1986) and subject to situational changes (Trafimow, Triandis, and Goto 1991), then such situational changes in
self-construal should have corresponding influences on impulsiveness. This possibility has the potential to reconcile conflicting findings on the relation between conformity (a value that correlates with self-construal) and certain impulsive behaviors (cf. O’Guinn and Faber 1989; Rose, Bearden, and Teel 1992). A second implication is that cultures should differ on the extent to which they engage in particular impulsive consumption behaviors.

Four studies are presented that test these possibilities. Starting with two secondary data sources, we show that both cultural-level (country) and subcultural level (U.S. states) measures of individualism–collectivism correlate strongly with beer consumption, even when controlling for other plausible alternatives. Next, we present data from two experiments in which we manipulated self-construal to determine its effect on state impulsiveness and the intention to engage in a behavior often linked to impulsive consumption (beer drinking). From the two experiments, we show that manipulations of self-construal influence intention to engage in an impulsive behavior in predictable ways, and this influence is mediated by state impulsiveness. In the final experiment, we manipulated self-construal with a more subtle approach to investigate its effect on preferences for vice and virtue products, and the results confirm that the impact of self-construal on impulsive consumption is not specific to beer consumption but can be extended to other domains as well.

CULTURE ORIENTATION, SELF-CONSTRUAL AND IMPULSIVE CONSUMPTION

Self-Construal

Self-construal refers to how people perceive themselves to be linked (or not) with other people (Markus and Kitayama 1991). People with an independent self-construal see themselves as independent, autonomous people, view themselves as distinct from the group, and tend to place high value on uniqueness, individual accomplishments, and achievement. People with an
*interdependent* self-construal see themselves as a part of a larger group, value connectedness, conformity, and group harmony, and place a high value on safety and security. Numerous studies have confirmed the distinction as well as its effects. For example, those with an independent self-construal are more willing to take social risks (Mandel 2003), more promotion (gain) focused (Aaker and Lee 2001), and weight attitudes more heavily than subjective norms in behavioral decisions (Ybarra and Trafimow 1998) than do those with an interdependent self-construal.

Although the research that has shown between-country differences in self-construal is consistent and compelling, it is also well documented that individuals actually hold both types of self-construals simultaneously, and perceptions, judgments, and behavior are influenced by which self-construal happens to be activated at any given time (Trafimow et al. 1991; Briley, Morris, and Simonson 2000). Thus, people in collectivistic (individualistic) societies hold both self-construals, but the interdependent (independent) self-construal is the one that tends to be chronically accessible, activated the most, and thus most likely to guide behavior (Singelis 1994). Moreover, the self-construals can be easily manipulated such that even those with generally independent or interdependent self-construals can be induced to take the opposite perspective. That is, by activating the self-construal of individuals within a culture through priming, researchers have obtained many cross-cultural differences that had previously been witnessed only in between-nation comparisons (Aaker and Lee 2001; Gardner, Gabriel, and Lee 1999; Hong et al. 2000).

A careful reading of the literature suggests that neither self-construal is superior to the other. For example, people with an interdependent self-construal seem to be more patient and able to exert self-control but they tend to display relatively stronger tendency of social loafing.
and less creative in solving problems as compared to those with an independent self-construal (see Oyserman et al. 2002 for a related review).

_Self-Construal and Impulsiveness_

The various aspects of interdependent and independent self-construals just reviewed suggest plausible relations between self-construal and impulsiveness. For example, those with an interdependent self-construal tend to be more concerned with social cohesion and conforming to social norms, whereas those with an independent self-construal are more concerned with expressing individuality and following their attitudes and emotions (Trafimow et al. 1991; Ybarra and Trafimow 1998). If so, given that impulsive consumption is generally considered an unplanned and immature behavior that reflects badly on the individual\(^1\) (and thus badly on the group in interdependent societies), then people with an interdependent self-construal should be more likely to suppress the impulsive urge than those with an independent self-construal.

There is some research that provides indirect support for this thesis. As noted earlier, people with interdependent self-construals put more weight on subjective norms than do people with independent self-construals when forming behavioral intentions, whereas people with independent self-construals put more weight on attitudes than do people with interdependent self-construals (Ybarra and Trafimow 1998). In addition, Rook (1987) observed that when people think a particular impulsive buying behavior is inappropriate, there is no relation between trait impulse buying tendencies and impulse buying behavior. Research on self-construal and emotion has shown that consumers with an interdependent self-construal tend to rely less on their inner feelings to form their consumption decision than do those with an independent self-construal, suggesting that interdependents tend not to be under the force of their inner impulsive

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\(^1\) Impulsive behavior can be positive or negative, like one can impulsively buying a present for friend or buying herself a chocolate. Consistent with the existing literature, the construct of “impulsive” does not convey any judgment implications.
tendency (Williams and Aaker 2002). Studies have also shown that patience may be linked to self-construal. North Americans (chronic independent self-construal) have been shown to be more impatient (and thus discount the future more) than their East Asian counterparts (chronic interdependent self-construal), suggesting that consumers with an interdependent self-construal tend to postpone instant gratification more often than those with an independent self-construal do (Chen, Ng, and Rao 2005). All these arguments support the thesis that consumers with an interdependent self-construal tend to be less consumption impulsive than those with an independent self-construal.

The thesis that self-construal affects consumption impulsiveness has also received some direct support, particularly with the notion that those in collectivistic (interdependent) societies tend to suppress the impulsive buying urge more so than do those in individualistic (independent) societies. From a multi-country survey of consumers in Australia, U.S., Hong Kong, Singapore, and Malaysia, Kacen and Lee (2002) found that an individualistic (vs. collectivistic) cultural orientation and an independent (vs. interdependent) self-construal is correlated with consumers’ impulsive behavior. Specifically, measures of trait buying impulsiveness were more strongly related to self-reported impulsive buying behavior for those with an independent self-construal than for those with an interdependent self-construal. Presumably, independents were more likely to act on their attitudes (trait measures), whereas interdependents were more likely to suppress their attitudes and use subjective norms to guide their behavior.

Hypotheses Development

Impulsiveness has consistently been linked with alcohol consumption, as have disorders for which impulse buying is often a precursor (e.g., compulsive consumption; cf. Ainslie 1975; Hirschman 1992; O’Guinn and Faber 1989; Rook 1987; Rook and Fisher 1995). Impulsiveness
has been shown to be inversely correlated with serotonin levels in people with alcohol use disorders (Soloff, Lynch, and Moss 2000), and positively correlated with drinking behavior in lab studies and self-reported drinking frequency (Conrod, Petersen, and Pihl 1997; for a review, see Acton 2003). Alcohol consumption has also been frequently linked with various traits that are also closely linked to impulsiveness, including thrill-seeking (Weun et al. 1998), need for stimulation (Gerbing et al. 1987), low self-esteem (O’Guinn and Faber 1989), sensation-seeking (Grau and Ortet 1999), lack of willpower (Hoch and Lowenstein 1991), fantasy (O’Guinn and Faber 1989), and lack of reflection on actions (Eysenck et al. 1985).

The research just reviewed suggests a number of theoretical relations that we were interested in testing. On the most general level, we expect that culture orientation of individualism and collectivism will influence a country or a state’s beer drinking tendency. We also expect that self-construal of independent and interdependent will influence the willingness of people to engage in the impulsive behavior of beer drinking, and that this relation will be mediated by impulsiveness. Formally:

**H1:** Cultural orientation will influence consumers’ beer consumption tendency. People with an individualistic orientation will evidence greater beer or alcohol consumption tendencies than those with a collectivistic orientation.

**H2:** The activated self-construal will influence the evaluation of beer consumption. Specifically, when an independent self-construal is activated people will evaluate beer consumption as more attractive than when an interdependent self-construal is activated.

**H3:** The effect of self-construal on the evaluation of beer consumption will be mediated by consumption impulsiveness.

We were also interested in testing further implications of the relation between self-construal and impulsive consumption. Some research suggests that the presence of peers increases the urge to purchase impulsively (Luo 2005). However, the participants in Luo’s
research were American students. Thus, they are likely to have held independent self-construals. These results suggest that consumers with independent self-construals tend to be more impulsive when peers are present than when they are absent. For consumers with interdependent self-construal, the presence of peers should make them less impulsive than the absence of peers because such individualistically oriented behaviors such as impulsiveness tend to be sanctioned in collectivistic cultures.

Taken together, this research suggests that the effect of self-construal on impulsive consumption should be more pronounced when close others like peers are present than when they are absent and that the effects should be opposite for those with independent and interdependent self-construals. There is some previous research that bolsters this reasoning. For example, Han and Shavitt (1994) found that advertisements emphasizing individual benefits were more persuasive than ads emphasizing family or in-group benefits in an individualistic society (U.S.) as compared to a collectivistic society (Korea), but this cultural difference was evident only when consumers anticipate they have to consider the reactions of close others. In a similar manner, Torelli (2006) found that a temporarily accessible self-construal is more likely to influence judgments when consumers anticipate the presence of others than private judgment in which consumers don’t anticipate the presence of others at all, again suggesting that the presence of others will facilitate the priming effect of self-construal on consumer information processing. Thus, we expect the presence of peers to increase the effect of self-construal on impulsive consumption.

**H4:** The effect of self-construal on impulsive consumption will be more pronounced when the presence of peers is made salient than when it is not.

In addition to beer consumption, impulsiveness is also related to consumers’ decision between vice (e.g., Oreo cookies) versus virtue products (e.g., whole grain bread; Wertenbroch
Consumers tend to prefer vice products to virtue products when they are impulsive, and they tend to prefer virtue products to vice products when they are not impulsive (Loewenstein 1996). Accordingly, if self-construal has a systematic impact on consumption impulsiveness, it should affect consumers’ desire for vice versus virtue products. More specifically, consumers for whom an independent self-construal is most accessible should indicate a greater desire for vice products than consumers for whom an interdependent self-construal is most accessible, whereas just the opposite should be true for virtue products. Formally:

**H5:** The activated self-construal will influence the evaluation of vice versus virtue products. Independents will show a greater preference for vice products than will interdependents, whereas interdependents will show a greater preference for virtue products than will independents.

Further, as before, we expect the presence of peers to increase the effect of self-construal on evaluation of vice versus virtue products.

**H6:** The effect of self-construal on vice versus virtue product consumption will be more pronounced under the presence of peers than the absence of peers.

*Testing Alternative Mechanisms*

Although our experimental design allows for relatively confident assessments of causality for the effect of self-construal on impulsiveness, it is possible that the self-construal mechanism may affect other variables that might also be associated with beer drinking, suggesting other possible mediators of the self-construal–beer drinking relation. Two in particular seem the most plausible. The first is risk attitude. Research suggests that self-construal influences risk taking, such that independents tend to be more risk seeking and interdependents more risk averse, at least when the risks pertain to social situations (Mandel 2003). It is also reasonable to think that beer drinking might be considered a risky behavior, raising the possibility that risk attitude mediates the self-construal–beer consumption relation. We therefore measured risk attitudes to
test this possibility. The second possibility we addressed was that affect might also be a mediator. Some research suggests that independents tend to experience more positive affect than interdependents do, at least in situations when there is a match between self-construal state and the chronic self-construal state of the culture (Diener and Suh 2003; Nezlek, Kafetsios, and Smith 2005; see also Kitayama, Markus, and Kurokawa 2000). Because beer drinking may be considered a pleasurable activity, it may therefore hold more interest for independent than for interdependents. To test for this possible mediating effect, we measured affect in our study and used life satisfaction as a proxy control in our secondary data study.

Next we report results from four studies. Study 1 (1a and 1b) are designed to test hypothesis 1 with externally valid datasets, whereas Studies 2 and 3 tests hypothesis 2 and 3. These studies manipulate self-construal via a priming task that has been shown to activate either an independent or interdependent self-construal and measure their effect on beer consumption to show a relation between the two constructs. Study 4 manipulates self-construal with a more subtle priming task to investigate the role of activated self-construal in preference decisions for vice and virtue products to further test the relationship between self-construal and impulsive consumption.

STUDY 1a

Method

Per capita beer consumption data (in liters) of 42 countries from 1999 and served as the criterion variable. Data for the primary predictor variable, country-level individualism, were obtained from the Geert Hofstede Cultural Dimensions website (Hofstede 2005; see http://www.geert-hofstede.com). Individualism and collectivism are considered to be cultural-level representations
of independent and interdependent self-construals, respectively. That is, the chronically accessible self-concepts of individuals from individualistic cultures tend to be independent, whereas the chronically accessible self-concepts of individuals from collectivistic cultures tend to be interdependent (Markus and Kitayama 1991; Triandis 1995). Because Hofstede conceives of individualism and collectivism as opposite poles of a continuum, a country that is more individualistic is thus also less collectivistic, and vice versa (Hofstede 2005).

We also collected data that would plausibly be related to either individualism or beer consumption, and thus might render the individualism—beer consumption relation spurious. As Oyserman, Coon, and Kemmelmeier (2002) have noted, countries differ on many cultural dimensions other than individualism. Because many studies have divided countries into groups based on only one variable (individualism) and assumed that differences in the criterion variable are caused by individualism, researchers actually have no way of knowing whether it is that predictor variable, or perhaps other cultural variables, that influences individualism. To account for this possibility, we included the other cultural orientation variables measured by Hofstede (2005), which are power distance, masculinity, and uncertainty avoidance, to use as statistical controls (long term orientation was not included because scores were provided for only 18 of the 42 countries in our data set).

We also included other variables that would logically be related to beer consumption, and which also might be related to cultural values. One is income. Past studies have produced mixed results regarding the effect of income on beer consumption tendency (see Ornstein and Hanssens 1985 for a review). Some found that income has a positive impact on beer consumption, whereas others have found no significant relationship at all. In addition, some cultural theorists suspect that individualism is the consequence of income growth, implying that the effect of
individualism will disappear if income is included in the analysis (see Triandis 1995 for related discussions). To test this possibility, we included data on a country’s per capita income (in dollars), obtained from the United Nations website (http://unstats.un.org/unsd/demographic/products/socind/inc-eco.htm).

Finally, we included two additional variables that might also correlate with both an individualistic cultural orientation and beer consumption. As noted earlier, some researchers have suggested a link between self-construal and affect (Diener and Suh 2003; Markus and Kitayama 1991). Thus, we included life satisfaction data obtained from http://wvs.isr.umich.edu. We also included a measure of religiosity that would likely be related to beer consumption. Specifically, we obtained data from www.islamicweb.com on the percentage of the population of a country that is comprised of Muslims. Muslims make up one of the largest religious groups in the world and also have very strict prohibitions against alcohol consumption. The combined data from the various sources can be seen in Table 1.

| Table 1 about here |

Results

We expected that level of individualism would be positively correlated with per capita beer consumption (H1). To test this hypothesis, we first combined all of the data described previously into one data set. Next, to determine appropriate control variables, we computed correlations between the six potential control variables and beer consumption. The results of this analysis indicated that four of the variables were significantly correlated with beer consumption (power distance: $r = -0.54$; income: $r = 0.43$; percentage of the population that is Muslim: $r = -0.36$;
life satisfaction: $r = .54; \text{all } p's < .02$) but two were not (masculinity: $r = .17, p = .27$; uncertainty avoidance: $r = -.11, p = .51$). We then conducted multiple regression analyses with per capita beer consumption as the criterion variable. In the first block, we entered the four variables that were significantly correlated with beer consumption, followed by the addition of individualism in the second step. If individualism is a unique, significant predictor of country-level beer consumption, then the inclusion of individualism in the second step of the regression should be significant.

When all four control variables are considered simultaneously, only power distance showed any substantial correlation with beer consumption ($\beta = -.35, t(32) = -1.91, p = .065$), and this relation only approached significance. More important, as expected, when individualism was included in the regression, the results indicated that a country’s level of individualism was positively correlated with its level of beer consumption ($\beta = .36, t(31) = 1.85, p = .07$), although this relation also only approached significance. Moreover, the addition of individualism in the second step of the regression reduced the effect of power distance on beer consumption to nonsignificance. Finally, given that only power distance was significantly correlated with beer consumption in the first regression, we re-ran the regression analysis but included only power distance and individualism. In that model, individualism was significant ($\beta = .37, t(39) = 2.12, p = .04$) but power distance was not ($\beta = -.29, t(39) = -1.69, p = .10$).

Discussion

Study 1a provided preliminary evidence on the relationship between cultural orientation and beer consumption tendency and it ruled out several possible alternative explanations for the role of individualism/collectivism in beer consumption. In next study, we sought to extend these findings in slightly different contexts. The first is that we looked at subcultural differences in
self-construal by linking the levels of individualism-collectivism within U.S. states to alcohol consumption. This provides a more stringent test of our hypothesis by focusing on a more homogenous culture, but one that nevertheless differs significantly on the focal independent variable (Vandello and Cohen 1999). The more homogenous sample also reduces the variability in potential confounding variables, thereby reducing their plausibility as alternative explanations for the noted effects. The second change pertains to the dependent variable. Whereas Study 1a looked strictly at beer consumption, Study 1b looks at the effects of self-construal on the more general variable of problem alcohol consumption. Not only does this change provides for more generalization, but the alcohol consumption problems that are addressed, such as binge and other excessive drinking, may even better capture the concept of impulsive consumption.

STUDY 1 b

Method

Data pertaining to problem alcohol consumption published by the Centers for Disease Control and Prevention (CDC) were used in our analyses (http://apps.nccd.cdc.gov/yrbss/; http://apps.nccd.cdc.gov/brfss/). These data break out the prevalence of particular alcohol consumption problems by U. S. states. We looked at three measures of problem alcohol consumption: the percentage of teens who report drinking alcohol in the last month, percentage of teens who report heavy drinking in the last month, and the percentage of adults who report binge drinking (consuming five or more drinks on one occasion) in the last month. The youth data are from 2003 and the adult data are from 2004. These data were then combined with state level scores on individualism provided by Vandello and Cohen (1999).

Results
We expected that the level of a state’s individualistic cultural orientation would be positively correlated with its level of problem alcohol consumption. Correlational analyses confirmed this hypothesis for all three dependent variables. A state’s level of individualism is positively correlated with teen drinking \( (r(32) = .57, p = .001) \), teen heavy drinking \( (r(44) = .44, p = .003) \), and adult binge drinking \( (r(49) = .45, p = .001) \). (Note that data from some states were not measured or reported in the CDC reports).

We also test the possibility that temperature is the underlying reason for the connection between culture individualism and alcohol consumption, as consumers might consume more alcoholic beverages in warmer climates due to greater thirst. Indeed, the effect of temperature on alcohol consumption is significant \( (r(29) = -.52, p < .05) \), but the culture of individualism effect remains significant after controlling the temperature effect \( (r(29) = .66, p < .05) \). Thus, hypothesis 1 was confirmed through this within country comparison.

Discussion

Studies 1a and 1b demonstrated a relationship between cultural orientation and alcohol consumption, and this relation held for both cultural-level (country) and subcultural-level (U.S. states) comparisons. However, although the real-world nature of the data enhances external validity, one clear limitation of these studies pertains to threats to internal validity. The correlational nature of the data makes confident claims of causality problematic, and this is compounded by the fact that the studies used secondary data, thus limiting our ability to at least measure and statistically control for alternative explanations. The following set of studies addresses these limitations by experimentally manipulating self-construal and investigating likely mediators and moderators of the effect.

STUDY 2
Method

Participants. Participants were 75 undergraduate business students from a major southwestern university (36 women, 39 men) above the legal drinking age with some beer drinking experience who participated in return for partial course credit. All participants provided informed consent.

Design and Procedure. The design was a one-factor experiment in which self-construal was manipulated via a priming procedure to determine its effect on state impulsiveness, and in turn, state impulsiveness’ effect on attitudes toward impulsive consumption (drinking beer). Participants were told they were taking part in two studies. As part of the first study, they completed a writing task that was intended to prime either an independent or interdependent self-construal. In the second study, which was billed as a study of student beer consumption habits, participants first indicated their attitudes toward drinking beer, then provided information on their current knowledge and consumption of beer. Following that, they completed items intended to measure their level of impulsiveness. Participants were then debriefed and dismissed.

Priming Materials and Measures. In the priming procedure, which has been successfully used in prior studies (Hamilton and Biehal 2005, study 1), participants were asked to take five minutes to write down all of the thoughts they had after being told either “Remember, enjoying your life is what it is really all about” (independent) or “Remember, enjoying relationships with your family or friends is what it is really all about” (interdependent). Beer attitudes were measured by asking participants to indicate their feelings toward drinking beer at that moment on 7-point scales with anchors of like/dislike and good/bad. The items were highly correlated ($r = .92$) and thus averaged. Consumption impulsiveness was measured with a 10-item scale ($\alpha = .84$)
used in previous research (Puri 1996). Finally, participants were asked their thoughts on the purpose of the study. No one correctly guessed the research purpose.

**Self-Construal Pretest.** Thirty-six participants (20 men, 16 women) from the same participant pool who did not participate in the main study took the pretest to assure that the self-construal priming procedure worked as intended. Participants first completed the priming task described in the previous section, and then completed a 6-item scale (Hamilton and Biehal 2005), three of which measured independent cognitions ($\alpha = .72$) and three of which measured interdependent cognitions ($\alpha = .68$). The three items measuring independent cognitions were averaged, as were the three items measuring interdependent cognitions. The independent composite score minus the interdependent composite score formed the manipulation check measure. An analysis of variance (ANOVA) indicated that the groups differed significantly as expected on the manipulation check measure ($M_{\text{Interdependent priming}} = -1.83, M_{\text{Independent priming}} = 0.33; F(1, 34) = 14.29, p = .0006$).

**Results and Discussion**

We expected that those in the independent self-construal condition would have more positive attitudes toward drinking beer than would those in the interdependent self-construal condition (H2). A one-way ANOVA confirmed this expectation. Independent-primed participants ($M = 5.92$) had more positive attitudes than interdependent primed participants ($M = 5.16$), ($F(1, 73) = 5.26, p < .05$).

We also expected that the self-construal—beer consumption attitude relation would be mediated by impulsiveness (H3). That is, we expected that the self-construal prime would influence state impulsiveness (independents would report higher impulsiveness than interdependents), which in turn would influence beer consumption attitudes. To test this
hypothesis, we ran a series of regression analyses based on Baron and Kenny’s (1986) suggestions for testing for mediation. First, as confirmed in the ANOVA reported previously, the effect of self-construal on beer consumption attitudes was significant ($\beta = .38$, $t (73) = 2.29$, $p = .02$). Second, the effect of self-construal on consumption impulsiveness was significant ($\beta = .33$, $t (73) = 2.01$, $p = .05$). Tests of mean differences indicated that those primed with independence reported higher levels of state impulsiveness ($M = 5.05$) than did those primed with interdependence ($M = 4.32$). Third, when consumption impulsiveness and self-construal were both included in the regression, the effect of self-construal on beer consumption attitudes became statistically non-significant ($\beta = .37$, $t (72) = 0.95$, $p = .35$) but consumption impulsiveness remained significant ($\beta = .08$, $t (72) = 2.67$, $p = .01$). Thus, consistent with hypothesis 3, consumption impulsiveness mediated the effect of self-construal on the beer consumption attitudes.

These results show that self-construal affects impulsive tendencies, as indicated by attitudes toward beer consumption, and that this relation was mediated by state impulsiveness. Moreover, our ability to manipulate self-construal via priming methodology helps eliminate some possible alternative explanations to which the previous correlational findings were vulnerable.

In next study, we sought to replicate and extend the findings from Study 2 by manipulating a second independent variable, peer presence, along with self-construal. Peer presence has been shown to increase impulsive consumption tendencies, at least in samples that are likely to hold an independent self-construal (American students; Luo 2005). Thus, we expect that situating the impulsive consumption context in one in which peers are included will increase the effect of self-construal on beer consumption. Thus, we expect a self-construal X peer
presence interaction. Further, as with Study 2, we expect that these relations will be mediated by state impulsiveness.

In addition, we were interested in testing some alternative explanations for our findings. In particular, we were interested in determining the effects of risk attitudes and affect on impulsive tendencies. Previous research has shown that both of these factors may be related to self-construal. Because beer drinking may plausibly be considered a risky behavior, and may also be influenced by affect, we measured both risk attitudes and general affect to address these alternative possibilities.

STUDY 3

Method

Participants. Participants were 128 undergraduate business students (66 men, 62 women) above the legal drinking age with some beer drinking experience who participated in return for partial course credit. All participants provided informed consent.

Design and Procedure. The design was a 2 (interdependent vs. independent) X 2 (peer presence vs. absence) between-subjects design. As in Study 2, participants were told they were taking part in two studies. As part of the first study, participants completed the same priming task as in Study 2, which was intended to activate either an independent or interdependent self-construal. As ostensibly part of the second study, participants again indicated their feelings about drinking beer at that moment, as well as their knowledge and beer drinking experience, but with one variation. Half of the participants were told to “imagine a group of your close friends have decided to go out to a local bar to celebrate a friend’s new job” prior to completing the beer attitude measures, and the other half received no such instructions. Assignment to priming and peer presence conditions was random. Following that, participants completed scales that
measured state impulsiveness, risk attitudes, and current affect. Finally, participants were asked their thoughts on the study purpose and then debriefed. No one was correct in guessing the research purpose.

**Measures.** Measures of beer knowledge ($\alpha = .86$) and state impulsiveness ($\alpha = .84$) were the same as those used in Study 2. Participants’ attitudes toward beer drinking at that moment were measured with three items using 7-point scales anchored by good/bad, like/dislike, and positive/ negative. The three items were sufficiently correlated to form a composite score ($\alpha = .88$). Risk attitudes were measured with a 12-item scale ($\alpha = .70$; Weber, Blais, and Betz 2002), and affect was measured on a 10-item scale ($\alpha = .76$; Pham et al. 1999).

**Results**

**Tests of Hypotheses.** As in Study 2, we expected that self-construal would influence state impulsiveness, which in turn would influence attitudes toward beer consumption. However, we expected this relation to be moderated by the salience of peer presence, such that the self-construal effect on beer consumption would be more pronounced under peer presence than peer absence. To test these possibilities, we conducted a full factorial ANOVA on the beer attitude composite score with the self-construal prime and peer presence as the two independent factors. The results of this analysis can be seen in Figure 1. As expected, there was a main effect of self-construal on beer consumption attitudes ($F(1, 124) = 23.75, p < .0001$). Participants primed with an independent self-construal perceived consuming beer at that moment to be more attractive ($M = 5.65, SD = 1.43$) than did those primed with an interdependent self-construal ($M = 4.53, SD = 1.43$). However, also as expected, this effect was qualified by a self-construal X peer presence interaction ($F(1, 124) = 5.71, p < .01$), in which the peer presence increased the effect of self-
Mediating Mechanisms. We expected that state impulsiveness would mediate the effect of self-construal on beer drinking attitude. To test this, we averaged the consumption impulsiveness items to form a composite score ($\alpha = .84$), with higher values indicating more impulsiveness. As in Study 2, we then ran a set of regression analyses based on Baron and Kenny’s (1986) suggestions for testing for mediation. First, the effect of self-construal on beer consumption tendency was significant ($\beta = 0.56$, $t(124) = 4.87$, $p < .0001$). Second, the effect of self-construal on consumption impulsiveness was significant ($t(123) = 2.77$, $p = .006$). Third, when consumption impulsiveness was included, both the effect of self-construal ($\beta = 0.49$, $t(123) = 4.21$, $p < .001$) and consumption impulsiveness were significant ($\beta = 0.19$, $t(123) = 2.47$, $p = .02$). A Sobel test (Kenny 2001; Sobel 1982) indicated that the inclusion of impulsiveness in the regression significantly reduced the effect of self-construal on beer consumption attitudes ($\beta = 0.56$ vs. $\beta = 0.49$, $Z = 1.92$, $p = .05$). Thus, consumption impulsiveness partially mediated the effect of self-construal on the beer consumption tendency in this study, supporting hypothesis 3.

Based on Muller, Judd, and Yzerbyt (2005), we conducted further analyses to test for a mediated moderation effect. The results of this analysis can be found in Table 2. First, when the dependent variable of attitude toward beer-drinking was regressed on self-construal, presence of peers and their interaction, the two way interaction was significant ($\beta = 0.27$, $t(123) = 2.39$, $p < .02$). Second, when the mediator (state impulsiveness score) was regressed on self-construal,
presence of peers and their interaction, the effect of self-construal was positive and approached significance ($\beta = 0.13$, $t(123) = 1.82$, $p < .08$). Lastly, when the beer-drinking attitudes were regressed on self-construal, presence of peers, consumption impulsiveness, and both two-way interactions, the interaction between the mediator and moderator was significant ($\beta = -0.16$, $t(122) = -2.15$, $p < .05$). This analysis confirms that the moderating effect of peer presence is mediated by state impulsiveness.

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**Table 2 about here**

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**Alternative Mediators.** We examined two alternatives to consumption impulsiveness as potential mediators: risk attitudes and general affect. We averaged the risk attitude ($\alpha = .68$) and affect ($\alpha = .78$) items to form respective composite scores, with higher values indicating more of the constructs. Correlational analyses ruled out both constructs as potential mediators. Risk attitudes were not significant predictors of beer consumption attitudes ($r = 0.15$, $p = .10$), nor was general affect ($r = 0.16$, $p = .11$).

**Discussion**

The results of Study 3 again confirmed that self-construal has a causal effect on impulsive consumption tendencies (beer drinking), and this effect is mediated by state impulsiveness. Moreover, consistent with our expectations, when the beer drinking context included the presence of peers, the effect of self-construal on beer consumption attitudes was enhanced by peer presence, and this interaction was also shown to be mediated by state impulsiveness. This complex pattern of results provides more compelling support for the notion
that self-construal affects impulsiveness. In addition, plausible alternative explanations that risk attitudes or general affect were the root cause received no support.

Studies 2 and 3 manipulated self-construal through the same priming mechanism and tested its effect on the same dependent variable, attitudes toward beer consumption. In Study 4, we sought to improve the generalizability of these results by using a different (and more subtle) self-construal prime and by using a more general dependent variable. In particular, we investigated the effect of self-construal on preference for vice and virtue products.

STUDY 4

Method

Participants. Participants were 119 undergraduate business students (56 women, 63 men) who participated in return for partial course credit. All participants provided informed consent.

Design and Procedure. The design was a 2 (interdependent vs. independent) X 2 (peer presence vs. absence) between-subjects design. Participants were told they were taking part in two studies. As part of the first study, they completed a pronoun checking task that was intended to prime either an independent or interdependent self-construal. In the priming procedure, which has been successfully used in prior studies (Gardner et al. 1999), participants were asked to identify and count the number of pronouns in a particular paragraph. The manipulation (to be described in more detail) consisted of randomly assigning participants to paragraph conditions that differed on whether the pronouns related to interdependent (we, our, us) or independent (I, me, my) concepts.

Next, as ostensibly part of the second study, participants were asked to indicate their desire to consume various products at that moment. The products differed on whether they were vice (Oreo cookies, potato chips, ice cream, doughnuts, milk shake) or virtue (salad, fruit, milk,
whole grain bread, yogurt). Prior to indicating their desire to consume different vice or virtue products, participants received the peer presence versus absence manipulation. Half of the participants were told to “imagine you and a group of your close friends have decided to go out to a local restaurant to celebrate a friend’s new job. The following items are available on the menu. Please let us know how much you would like to have each for this occasion. Please base on what you feel as of right now.” The other half of the participants were told that “in this study, we are interested in getting your general evaluations of particular products. For the following products, we want to know how much you would like to have each right now.”

Finally, participants were asked their thoughts on the purpose of the study. No one correctly guessed the research purpose.

**Measures.** Dependent variables were measured by asking participants to indicate their desire to consume the various products at that moment on 7-point scales with anchors of not at all/very much. The vice ($\alpha = .92$) and virtue ($\alpha = .88$) items were both highly correlated and thus averaged to form a composite index.

**Self-Construal Priming.** The priming material was adapted from the Gardner et al. (1999) pronoun checking task. Participants were told that the researchers were collaborating with a developmental psychologist to establish adult norms for a language task. Participants were given a paragraph about a trip to the city and asked to circle and then count the number of pronouns in the paragraph. The paragraph differed only on whether the pronouns were related to independent or interdependent concepts: “I (we) go to the city often. My (our) anticipation fills me (us) as I (we) see the skyscrapers come into view…”

**Self-Construal Priming Pretest.** Forty participants (18 men, 22 women) from the same participant pool who did not participate in the main study took the pretest to assure that the self-
construal priming procedure performed as intended. Participants first completed the priming task described in the previous section, and then completed the same 6-item used in Study 1 that measured independent ($\alpha = .74$) and interdependent ($\alpha = .68$) cognitions scale, three of which measured independent cognitions and three of which measured interdependent cognitions. As before, the difference between the independent and interdependent scores formed the manipulation check measure. An ANOVA indicated that the groups differed significantly as expected ($M_{\text{Interdependent priming}} = -1.21, M_{\text{Independent priming}} = 0.26; F(1, 38) = 6.24, p < .05$).

**Results**

We expected that self-construal would influence consumption preferences between vice and virtue products. However, we expected this relation to be moderated by the salience of peer presence, such that the self-construal effect would be more pronounced when the peers were present than when they were absent. To test these possibilities, we conducted a full factorial ANOVA on the composite scores with the self-construal prime and peer presence as the two independent factors. We formed composite scores for the vice and virtue measures by averaging the evaluations of the five vice and five virtue products respectively.

For the vice measure, consistent with hypothesis 5, there was a main effect of self-construal ($F(1, 115) = 25.48, p < .0001$). Participants primed with an independent self-construal liked vice products more ($M = 4.45, SD = 1.13$) than did those primed with an interdependent self-construal ($M = 3.16, SD = 1.12$). However, also as expected, this effect was qualified by a self-construal X peer presence interaction ($F(1, 115) = 3.88, p < .05$), in which the self-construal effect was more pronounced under peer presence ($M = 4.49$ vs. $2.71$, $t(58) = 4.90, p < .01$) than under peer absence ($M = 4.40$ vs. $3.62$, $t(61) = 2.20, p = .03$). Thus, hypothesis 6 was also confirmed. There was no main effect for peer presence ($p > .12$).
For the virtue measure, as expected, there was a main effect of self-construal \((F(1, 115) = 3.85, p = .05)\). Participants primed with an interdependent self-construal \((M = 4.20, SD = 1.27)\) liked the virtue products more than did those primed with an independent self-construal \((M = 3.68, SD = 1.57)\), also supporting hypothesis 5. However, contrary to expectations, this effect was not qualified by a self-construal X peer presence interaction \((F(1, 115) = 0.23, p > .65)\), though the direction was consistent with hypothesis 6: the self-construal effect was close to be significant under peer presence \((M = 4.08 \text{ vs. } 3.44, t(58) = 1.70, p = .09)\) but was not significant under peer absence \((M = 4.32 \text{ vs. } 3.93, t(61) = 1.02, p = .29)\). There was no main effect for peer presence either \((p > .20)\).

**Discussion**

This study extends the findings of the previous studies in several ways. First, we showed that the effects of self-construal hold across different manipulations of self-construal. Moreover, the pronoun circling task is arguably more subtle than the task that required participants to spend five minutes writing about enjoying their life or relationships with others. Second, and perhaps more important, we showed that the hypothesized effects of self-construal affect not only specific impulsive consumption related attitudes and behaviors pertaining to beer and problem alcohol consumption, but also apply to a general preference for vice versus virtue products. In addition, we again showed that the effect is moderated by the peer presence, although this interaction was significant only for the preference for vice products.

**GENERAL DISCUSSION**

How consumers react to beer consumption is an important area of inquiry. We make a novel prediction connecting culture orientation, self-construal, and impulsive consumption. Our studies add insight by showing the impact of self-construal and its related antecedent (cultural
orientation) and consequence (consumption impulsiveness). More specifically, consumers with an activated independent self-construal tend to hold more positive attitudes toward drinking beer than consumers with an activated interdependent self-construal. We show this effect by demonstrating the antecedents of self-construal—individualism versus collectivism—through a cross-culture comparison and cross-states within U.S. comparison, and by directly manipulating self-construal. In addition, we test the processes underlying the effects. Across the two experimental studies, the expected effects of our constructs on impulsive consumption were confirmed. Notably, across all studies, we obtained both externally and internally valid results regarding the role of culture orientation on beer consumption and activated self-construal on beer drinking attitudes.

In addition to providing convergent evidence in different domains, we integrate three well researched constructs—culture orientation, self-construal, and consumption impulsiveness into a comprehensive framework by providing a direct test on the connections among these constructs: the effect of cultural orientation is operating through self-construal and the effect of self-construal is operating through consumption impulsiveness. This is the first time in the literature that the connection between different self versus other mindsets and consumption impulsiveness were systematically tested in set of studies.

Our results are consistent with the existing literature on self-construal and impulsiveness. For example, Kacen and Lee (2002) found that consumers with independent self-construals tend to be more impulsive than those consumers with interdependent self-construals. Chen et al. (2005) found that Asian consumers tend to be more patient compared to U.S. consumers in delaying the consumption gratification, although they did not measure or manipulate the construct of self-construal. We extend this literature in two very important ways: we provided a
stronger test of this connection by manipulating self-construal rather than measuring self-construal only. In addition, we extended the causal linkage between self-construal and consumption impulsiveness to the domain of beer consumption. Further, as compared to Kacen and Lee (2002), we provide a stronger test on this relationship by investigating the real world consumption data, testing different mediators and moderators.

Our results are consistent with research regarding boundary conditions of self-construal accessibility on consumer information processing. The priming effect of self-construal and culture orientation on consumer information processing is stronger when others are present than when they are not. For example, Han and Shavitt (1994) found that advertisements emphasizing individual benefits were more persuasive than ads emphasizing family or in-group benefits in an individualistic society (U.S.) as compared to a collectivistic society (Korea), but this cultural difference was evident only for the public consumption, in which consumers anticipate the presence of others. More recently, Torelli (2006) showed that a temporarily accessible self-construal is more likely to influence judgments when the judgments are public than when they are private, suggesting that the presence of others will facilitate the priming effect of self-construal on consumer information processing. In the context of consumption impulsiveness and beer consumption, we demonstrate that the effect of self-construal on consumption impulsiveness tends to be more pronounced when others are present than when they are absent. These convergent results from different domains confirm the role of others as primer of cultural knowledge (Briley et al. 2000).

Our results have important implications for understanding mechanisms underlying the effect of self-construal on information processing. Self-construal has attracted great attention from consumer researchers and social psychologists, its effects on attribution (Hong et al. 2000),
attitudes (Agrawal and Maheswaran 2005), and risk preference (Mandel 2003) have been explored in the literature, and different mediators have been proposed. For example, Mandel (2003) found that size of the social network mediates the effect of primed self-construal on risk preference in the context of social decision making, Agrawal and Maheswaran (2005) found that thoughts related to chronically accessible selves are responsible for the effect of self-construal on brand evaluations, and Zhang, Feick, and Price (2006) found that a confrontation or compromise style of conflict resolution is responsible for the effect of self-construal on aesthetic shape preferences. In the context of beer consumption, we found that the effect of self-construal is operating through consumption impulsiveness. These results suggest that processes underlying self-construal are contextually dependent on the task involved. Future research should specify the conditions under which different mediators might be responsible for the effect of self-construal on information processing. These insights should be valuable to marketing practitioners, policy makers, as well as researchers in the field.

Through a series of analyses, we have ruled out several possible alternative explanations for the relationship between culture orientation, self-construal and beer consumption: such as income, religion, climate, risk attitude and affect. We acknowledge that other alternative explanations are still possible to explain the specific data pattern of some studies, though not all of the results in this research. For example, one possible alternative interpretation can argue that different social norms associated with alcoholic consumption is responsible for the effect of culture orientation on beer consumption. More specifically, this view argues that alcoholic consumption is strictly controlled in U.S. and can be regarded as a forbidden fruit, so college students tend to regard beer drinking as socially attractive. In collectivistic societies, the alcoholic consumption code might not be as strict as that of U.S., so it is less socially attractive
for college students to consume beer. This might be able to explain the cross-country comparison result, but it is difficult to explain why different states within U.S. show different level of beer consumption where the social norm is holding constant, and this difference exhibits not only in the alcoholic consumption of young consumers but also of adults, further, it is difficult to explain why priming interdependent self-construal within U.S. participants can change the perceived attractiveness of beer consumption. Another possible explanation is that interdependent prime might make people more aware of the negative consequences of alcohol consumption so they tend to find beer consumption less attractive. This view might be able to explain the experimental results on self-construal and beer consumption attitude, but it is difficult to explain why interdependent prime makes participants perceive the virtue products as more attractive, as this interpretation will only predict that interdependent prime makes people perceive consuming vice products as less attractive but it will not make any prediction regarding the effect of interdependent prime on perception of virtue product. Overall, we think we have made a strong case on the thesis that the effect of cultural orientation and self-construal on beer consumption is operating though the construct of impulsiveness. More studies should be run to further test the merit of this thesis.
References


CDC (2004), National center for chronic disease prevention & health promotion.


Table 1: Cross-Country Data on Beer Consumption

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<td><strong>Regression 1</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dependent Variable: Beer Attitude</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-construal (SC)</td>
<td>0.56</td>
<td>4.87</td>
<td>.0001</td>
</tr>
<tr>
<td>Presence of Peers (PP)</td>
<td>0.15</td>
<td>1.31</td>
<td>.20</td>
</tr>
<tr>
<td>SC X PP</td>
<td>0.27</td>
<td>2.39</td>
<td>.02</td>
</tr>
<tr>
<td><strong>Regression 2</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Dependent Variable: Consumption Impulsive Tendency</td>
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</tr>
<tr>
<td>Self-construal (SC)</td>
<td>0.38</td>
<td>2.77</td>
<td>.006</td>
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<tr>
<td><strong>Regression 3</strong></td>
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<td>Dependent Variable: Beer Attitude</td>
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<tr>
<td>Self-construal (SC)</td>
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<td>4.21</td>
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<tr>
<td>Presence of Peers (PP)</td>
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<td>1.19</td>
<td>.24</td>
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<tr>
<td>SC X PP</td>
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<td>2.69</td>
<td>.009</td>
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<tr>
<td>Consumption Impulsive Tendency</td>
<td>0.18</td>
<td>2.40</td>
<td>.02</td>
</tr>
</tbody>
</table>

*Note. $R^2 = .18$ for regression 1; $R^2 = .21$ for regression 3.*
Figure 1. Study 4: Effect of Self-Construal and Presence of Peers on Attitude toward Beer Drinking.