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Romantic Attachment and Consumer Behavior:

You Never Really Shop Alone

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Abstract

Associations between romantic attachment and consumer behavior were tested in a study of undergraduate students using an online survey and laboratory virtual shopping experiment. The present study ($N = 78$) investigated whether activating the mental representation of a romantic attachment partner (compared to activating the representation of an acquaintance) influences consumer behavior. Romantic attachment strength, romantic relationship satisfaction and romantic relationship length were all strong predictors of shopping behavior but only in the acquaintance condition. Participants whose partner representations were activated, relationship length was associated with increased impulsive and decreased exploratory shopping behavior. In contrast, for participants who were asked to think about an acquaintance, romantic relationship length predicted more exploratory and less impulsive shopping behavior. Overall, the simple effects analyses suggest that conjuring up a mental representation of the romantic partner qualitatively altered the experiment. Limitations and future directions for this line of research are discussed.

“Men, as well as women, are much oftener led by their hearts than by their understandings.”

(Lord Chesterfield)

Society has quickly become driven by consumers as businesses strive to cater to each individual's needs, wants, and preferences. However, it is still unclear what motivates a particular purchase. Consumer behavior is a science that aims to understand the psychology behind the purchase of a product or service. Despite being a field that focuses on the psyche of a consumer, much of consumer research has been cognitive in nature with less attention paid to emotions or affect and how that could influence consumer behavior (Morris et al., 2002). As the literature develops, researchers are exploring how affect can impact consumer behavior (Garbarino & Edell 1997; Luce 1998; Luce, Bettman, and Payne 1997; Isen 2000; Iaros & Steenkamp, 2005; Lin & Lin, 2009). However, to date, nearly all of the research has remained solely focused on the spectrum of positive to negative affect. Other emotional states such as “felt security,” a sense of safety and comfort that we derive from close relationships (Bowlby, 1982, 1988; Sroufe & Waters, 1977), has not been studied in this context. The present study aims to expand upon the literature and address the question of whether relational affect influences consumer behavior.

Attachment Theory

Attachment has been theorized and shown to have a strong influence on human behavior, attitudes and well-being (Bowlby, 1969, 1973, 1982, 1988; Mikulincer & Florian. 1998; Moore & Leung, 2002). The present research seeks to investigate the link between attachment and consumer behavior. First, I will provide a brief overview of the features and functions of attachment bonds and how the theory has developed over time and been applied to adult romantic relationships. Second, I will review how attachment theory influences everyday

behaviors and decision-making processes such as exploration, creativity, etc. Third, I will review consumer behavior literature, focusing on research that has examined the link between affect and consumer behavior. To conclude, the goal of the present study is to bridge the gap between the two fields and learn whether attachment influences consumer behavior in any way. In examining this complex interaction between emotions and consumption, this research aims to better understand the motivation behind an individual's purchase of a product or service.

The initial focus of attachment theory (Bowlby 1969, 1973, 1982) was the infant-caregiver relationship. Bowlby argued that developing an attachment bond with one's caregiver is fundamental to a child's development. One of many innate behavioral systems, attachment helps promote survival and increase reproductive success. An attachment relationship is defined in terms of four distinct but overlapping behaviors: 1) the individual *maintains proximity* to the attachment figure; 2) the individual displays *separation distress* when the attachment figure is inaccessible; 3) the individual uses the attachment figure as a *safe haven* in stressful situations; and 4) the individual uses the attachment figure as a *secure base* to explore the world (Bowlby, 1979; Hazan & Shaver, 1987, 1994; Fraley & Davis, 1997). Attachment is relevant and operative not only during infancy and childhood but extends to emotional ties within adult romantic relationships (Hazan & Shaver, 1987, 1990). As Bowlby contended, "attachment behavior [characterizes] human beings from the cradle to the grave" (1979, p. 129) and fostering attachment bonds throughout one's lifetime is integral to survival and reproductive success.

Although individuals develop an attachment bond in early childhood, there is no guarantee that the bond will be a secure one. Infants form attachments with caregivers, even if mistreated. Dependent on the caregivers' responsiveness and sensitivity, infants learn to develop an organization of attachment behaviors that are qualitatively different. This organization system

is defined by four attachment styles (Ainsworth, Blehar, Waters, & Wall, 1978; Hesse & Main, 2000). These styles are identified as secure (when caregivers are consistently responsive and sensitive), insecure-ambivalent (when caregivers are inconsistent and intrusive), insecure-avoidant (when caregivers are consistently rejecting), and disorganized-disoriented (when caregivers are inconsistently neglectful or abusive). An infant's attachment style with the caregiver determines how the infant will use the caregiver to regulate felt security. Expectations developed during this period eventually become what Bowlby (1973) called "internal working models", which are mental representations a child constructs about the world that influence how the child behaves in social settings. The types of bonds formed during infancy shape the organizational system that individuals will use in their adult relationships (Waters & Sroufe, 1983; Hazan & Shaver, 1987; Bartholomew & Horowitz, 1991). Both infant and adult attachment research began with a categorical measures approach but there have since been significant advances in measurement (Fraley, Waller & Brennan, 2000). Brennan, Clark, & Shaver (1998) found that individual differences in adult and even infant-caregiver attachment patterns are better reflected on two dimensions: attachment-related anxiety and attachment-related avoidance. People who score high on attachment-related anxiety tend to have intense worries about partner responsiveness and accessibility while people who score low on this variable are more secure in partner availability. For attachment-related avoidance, people who score high on this variable tend to keep a distance from and have difficulty relying on others while people who score low on this variable are more secure and trusting (Fraley, Waller, & Brennan, 2000).

Exploration

Research has shown that a sense of security is an important foundation for individuals to engage in exploration activities. If an attachment figure is believed to be accessible and responsive, an individual will then be able to fully engage in exploring and mastering the environment without fears of danger (Bowlby, 1982). In fact, empirical studies have shown parents to be a strong influence on children's exploratory behavior during infancy and childhood (Ainsworth, Blehar, Waters & Wall, 1978; K.E. Grossmann, K. Grossmann, & Keppler, 2005; Sroufe & Waters, 1977). Imagine two children, Jane and Kate, playing in a sandbox; Jane's mother is sitting next to the sandbox reading a magazine while Kate's mother left to use the restroom in the house. According to the attachment-exploration paradigm, Jane will happily build sandcastles and explore her surroundings as the presence of her mother reassures her that she is in a safe environment. Her mother smiles and nods as Jane looks up for attention and eventually Jane will begin to explore other parts of the playground. On the other hand, Kate will be distracted as she tries to search for her mother and eventually becomes distressed that her mother is nowhere in sight. Instead of exploring her environment, Kate will eventually stop playing in the sandbox as she is distressed by her mother's separation. In adulthood, as the primary attachments transition from parental figures to romantic partners (Hazan & Zeifman, 1994), romantic partners often become the source of "felt security" on a day-to-day basis (Sbarra & Hazan, 2008). Romantic relationships in adulthood serve as a "secure base" that helps partners face the challenges and surprises in life.

The present research will help bridge the gap between attachment theory and consumer behavior. Attachment theory is now used in many areas of research and linked to functioning in non-social domains such as exploration, achievement, and information seeking (Feeney, 2004;

2007; Germeijs & Verschueren, 2009; Feeney & Thrush, 2010; Selcuk, 2010). Adults who are reminded of their romantic partners are found to have higher curiosity and engage in more exploratory activities (Selcuk, 2010). Exploration takes various forms in adulthood such as work (Hazan & Shaver, 1990), educational pursuits (Aspelmeier & Kerns, 2003), and leisure activities (Carnelley & Ruscher, 2000). It can be postulated that variety-seeking and consumer behavior during “shopping” are also types of exploratory activities. In the present study shopping behavior is conceptualized as an adult exploration activity.

Consumer Behavior

Although having a secure attachment bond with a significant other can often induce positive and warm feelings, these feelings are distinct from positive emotions that people may experience when given a gift or negative emotions when people accidentally drop their favorite piece of chocolate cake on the floor. Consumer behavior is the science of how psychological and social factors can interact and influence individuals’ behaviors. It has been based primarily on the marketing literature but the field is beginning to draw upon literature from social and cognitive psychology, anthropology, sociology, and economics as well. For a long period of time, it was assumed that consumers make rational purchasing decisions based on practical product features and functionalities. In the last two decades, research in consumer behavior is reporting evidence of interference and influence of affective cues in consumer decision-making processes, variety-seeking tendencies, and judgment (Kahn & Isen, 1993; Laros & Steenkamp, 2002; Lin & Lin, 2007; Pulkkinen & Saaksjarvi, 2008). Affect has direct influence on cognitive responses, which then influence an array of consumer behaviors such as impulse buying, consumption frequency and patterns (Hirschman & Stern, 1999). Whether affect has a direct or indirect effect, it plays a significant role in shaping consumer behavior.

Imagine a scenario where two people are shopping for books in a bookstore. One of them just finished having an enjoyable lunch with her husband and is shopping at the mall until her husband gets off work. The other woman has been consistently fighting with her husband because he never returns her phone calls and is often cold towards her so she wanted to leave the house and shop on her own. How might the difference in their attachment bonds with their partners influence their consumer behavior in the bookstore?

Some research has shown that positive and happy people are more likely to be self-indulgent and engage in self-gifting (Isen, 1987; Mick & Demoss, 1990). Similar to individuals who are securely attached and use their significant others as a secure base from which to explore the world, Kahn and Isen (1993) proposed that an induced positive affect can cause consumers to show a greater preference for variety-seeking behavior. The safe environment framed by positive affect improves an individual's expectations about the outcome of an anticipated neutral or positive experience. Thus, in an induced positive state, consumers are more likely to engage in impulse purchases, especially when feeling happy, self-indulgent, and venturesome (Hirschman & Stern, 1999). However, before delving further into the literature, I must draw a distinction between impulse purchases and compulsive purchases. An impulse purchase is unplanned, sudden, and at the spur of the moment that is correlated with a strong urge and feelings of pleasure and excitement (Rook 1987; Rook & Fisher, 1995; Verplanken & Herabadi, 2001). Both positive and negative affects have been shown to influence impulsive buying in forms such as "self-gifting" or "trying to make oneself feel better" (Rook & Gardner, 1993; Mick & Demoss, 1990). This might seem unproblematic but as impulse purchases increase in number and frequency it can evolve into "compulsive buying."

Compulsive purchases typically occur when individuals attempt to “feel better” when they are in a negative emotional state (Hirshman & Stern, 1999). Similar to how an anxiously-attached infant may engage in “self-rocking” behaviors (Bowlby, 1982) to alleviate anxiety, the emotional high from compulsive purchasing then becomes a “self-medication” for an individual as he or she tries to escape from stress and anxiety. Research has found that compulsive behavior can stem from having grown up in a broken or abusive family (DeSarbo & Edwards, 1996). On this spectrum of the emotional scale, consumers who are in a negative state are often slow and hesitant with decision making because they are hopeless and pessimistic about consumption activities. As a result, they are less likely to explore alternatives and stick to “tried and true” alternatives to avoid further disappointments (Hirshman & Stern, 1999). Based on previous research, an induced mental representation of an attachment figure is capable of reactivating the same physical and emotional processes initially induced by physical interactions with attachment figures (Uvnas-Moberg, 1998; Mikulincer, Gillath & Shaver, 2002; Sbarra & Hazan, 2008). However, it is unclear where affect induced by a mental representation of an attachment figure will fall on the spectrum of positive to negative emotions.

The present study aims to investigate whether activating mental representations of romantic partners influences consumer behavior. Participants were asked to think and write about a romantic partner or an acquaintance. Following the task, I assessed participants’ consumption behavior in a virtual shopping environment. Based on research reviewed above, I hypothesized that participants in the romantic partner condition would be more “exploratory” in their shopping behaviors (e.g., spend more money, seek more variety) as compared to participants in the acquaintance condition. Furthermore, I hypothesized that participants would also purchase different types of goods depending on whether they were asked to think and write about a romantic compared to a social figure. The overarching categories are materialistic vs.

non-materialistic goods. Research has shown that people who prefer materialistic goods to nonmaterialistic goods tend to agree with statements such as “some of the most important achievements in life include acquiring material possessions” (Boven & Gilovich, 2003). Furthermore these people are likely to report a lower subjective well being and satisfaction with life (Belk, 1985, Richins & Dawson, 1992, Kasser & Ryan, 1992). Experiential goods have been shown to make people happier because there are “more open to positive reinterpretations, are a more meaningful part of one’s identity, and contribute more to successful social relationships” (Boven & Gilovich, 2003). Thus, I hypothesized that participants who are asked to think about their romantic partner would purchase more experiential goods than materialistic goods.

Although my hypotheses should apply across participants, research has shown that attachment styles sometime moderate attachment processes (Diamond, Hicks, & Otter-Henderson, 2008; McGowan, 2002; Mikulincer et al., 2002). People who are anxiously-attached are often anxious about being abandoned by their partners and worried about their self-worth. These individuals tend to agree with statements such as “I worry that my partner won’t care about me as much as I care about him/her” and are more likely to express strong emotions, worries and impulsiveness in their relationships (Bartholomew & Horowitz, 1991; Aspelmeier & Kerns, 2003). Thus, I further hypothesize that anxiously-attached participants will make more impulse purchases as compared to securely-attached participants.

Method

Participants. The sample consisted of 82 undergraduate and graduate students, 67 females (81.7%) and 15 males (18.3%). All participants were in an exclusive romantic relationship for 3 months or longer. The age range was 18-33 years old ($M = 20.14$, $SD = 2.23$). The sample was 52.5% Caucasian, 32.5% Asian, 8.75% African American, 3.75% Hispanic, and

2.5% identified as Other. 96.0% of the sample identified as heterosexual. 3 participants were eliminated for inadequate data so only 79 participants are included in the analyses. Participants were recruited from an online experiment sign-up program provided by the Department of Psychology. In exchange for their involvement in the study, participants were awarded extra credit or given \$5 as compensation.

Study Part I

For the first part of the study, participants completed a set of questionnaires online. The set of questionnaires included the following measures in addition to demographic questions: the WHOTO scale (Fraley & Davis, 1997; Hazan & Zeifman, 1999) the Experiences in Close Relationship scale (ECR; Brennan, Clark & Shaver, 1998), the short form of the Perceived Relationship Quality Components Inventory (PRQC; Fletcher, Simpson, & Thomas, 2000), the Materialism Scale (Belk, 1984), the Impulsivity scale and the Shopping Enjoyment scale (Chang, Burns, & Francis, 2004). I discuss each measure in further detail below.

WHOTO Scale. The WHOTO scale identifies a participant's attachment figures for the participant (Hazan & Zeifman, 1999). An attachment figure is defined as someone who provides a "secure base" for exploration and a "safe haven" in times of stress (Bowlby, 1982). The instructions are as follows: "Below you are asked to list people who are significant in your life. Rather than providing their names, answer with a term that defines how they are related to you (e.g., mother, boyfriend, sister). If you list more than one person, list them in order of significance, starting with the most significant." Example statements include, "person(s) you seek out when worried or upset." and "person(s) you know will always be there for you." Participants could list up to 4 people for each of the 15 items. Based on the listed order of significance, each participant's romantic partner was assigned a rating. We assigned a "4" when

the romantic partner is named as the most significant figure and a “0” when the romantic partner is not mentioned at all for a particular item. The WHOTO score is the mean across all 15 items with a possible range of 0-4.

ECR. Participants completed the Experiences in Close Relationship Scale (ECR) (Wei, Russell, Mallinckrodt, & Vogel, 2007). The scale consists of 12 questions that measure how one feels towards a romantic partner. Six of the items measure attachment anxiety and six items measure attachment avoidance. For example, “I worry that my partner won’t care about me as much as I care about him/her” measures attachment anxiety whereas “I want to get close to my partner, but I keep pulling back” measures attachment avoidance. Responses were captured on a 7-point Likert scale (ranging from 1 = strongly disagree to 7 = strongly agree). The anxiety and avoidance scales were calculated by taking the mean of the six relevant items for each scale. Reliabilities for the scales of attachment anxiety ($\alpha = .72$) and attachment avoidance ($\alpha = .84$) were consistent with previous research (Wei, Russell, Mallinckrodt, & Voget, 2007).

PRQC. The Perceived Relationship Quality Components Inventory measures satisfaction with a romantic relationship (Fletcher, Simpson, & Thomas, 2000). The short form of this inventory consists of one item from each of six constructs that have been shown in prior research to represent components of perceived relationship quality: satisfaction (Hendrick, 1988), commitment (Adams & Jones, 1997; Lund, 1985), trust (Boon & Holmes, 1990), closeness or intimacy (Aron, Aron, & Smollan, 1992), passion (Aron & Westbay, 1996), and love (Fehr & Russell, 1991). For example, “how intimate is your relationship?”; participants respond on a 7-point scale (ranging from 1 = not at all to 7 = extremely). PRQC scores represent the mean across all 6 items.

Shopping Enjoyment. The Shopping Enjoyment scale is an 8-item scale that measures how much individuals enjoy shopping (Chang, Burns, & Francis, 2004). For example, “shopping is a good way for me to relax” or “shopping picks me up on a dull day.” Responses were on a 7-point Likert scale (ranging from 1 = strongly disagree to 7 = strongly agree). All items were included in the scale and the reliability for the scale was ($\alpha = .95$).

Impulsivity. The 4-item impulsivity buying scale measures the inclination to make purchases without sufficient forethought (Donthu & Gilliland, 1996). For example, “I always make unplanned purchases”, or “I like to purchase things on a whim.” Responses were recorded using a 5-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly agree). Item 2 “I think twice before committing myself” was excluded from the scale. Reliability for the scale then becomes ($\alpha = .70$).

Materialism Scale. The Materialism Scale is a 24-item measure that reflects the importance attached to worldly possessions (Belk, 1984). The scale measures three primary constructs that are related to materialism: possessiveness, non-generosity, and envy. Possessiveness is defined as “the inclination and tendency to retain control or ownership of one’s possession” (Belk, 1983); non-generosity as the “unwillingness to give possessions to or share possession with others” (Belk, 1984); and envy as the “displeasure and ill-will at the superiority of (another person) in happiness, success, reputation, or the possession of anything desirable” (Schoeck, 1966). Nine items measure possessiveness, seven items measure nongenerosity, and eight items measure envy. For example, “I tend to hang on to things I should probably throw out” captures possessiveness, “I don’t like to lend things, even to good friends” captures nongenerosity, and “when friends have things I cannot afford it bothers me” captures envy. Responses were on a 5-point Likert scale (ranging from 1 = strongly disagree to 5 = strongly

agree). Materialism scores were calculated by obtaining the mean of the 24 items. Items 1, 4, 10, 13, 21, 23, and 24 were removed due to lack of reliability with the remaining items in the scale. Reliability for the scale ($\alpha = .66$) was consistent with previous research (Belk, 1984).

Study Part II

The second part of the experiment took place in the lab. Participants completed a mood measure, a priming task, *shopped* on a virtual shopping website, responded to an impulse shopping prompt and finally completed a manipulation check survey. Below is a detailed description of each.

Mood Measure. The 5-item survey measures current mood. For example, “I am hungry,” “I am calm.” Responses were on a scale ranging from 1 = not at all to 10 = extremely.

Prime. There were two primes; one for the control condition and one for the experimental condition. For the control group, participants were asked to write about an acquaintance who has little impact on their lives. The acquaintance may be someone the participant interacts with on a regular basis on a superficial level or someone whom the participant has only met a few times. Participants answered questions about the acquaintance such as “please visualize and describe this person’s appearance,” “when and how did you first meet this person,” “please visualize a time when you interacted with this person,” etc. For the experimental group, participants were asked to write about their romantic partner. For example, “please visualize spending and enjoying a day with your romantic partner and describe what you and your romantic partner do together on such a day.”

Virtual Shopping Website. This is a computer program that simulates an online shopping website. The website is similar in concept to general online shopping websites such as *www*.

amazon.com. The virtual shopping website, *www.shoppingmall.com* has a catalog of seven categories of products: accessories (e.g., sunglasses, purses, scarves, watches, belts); apparel (e.g., women's and men's clothing and shoes); electronics (e.g., ipods, cameras, headphones, dvd players); exercise and fitness (e.g., basketballs, soccerballs, dumbbells, yoga mats); experiences (e.g., oceanside dinners, spa treatments, concert tickets, movie tickets); health and personal care (e.g., electric shavers, fragrance and perfumes, facial care sets, supplements); movies and TV, music, and books (e.g., novels, "The Office" dvd set, Backstreet Boys CD). On average, there are approximately 12 products per category for a total of 110 products. The products were coded into three categories: 1) materialistic (e.g., t-shirts, ipods, belts, watches); 2) experiential (e.g., movie tickets, spa treatments); 3) self-improvement (e.g., dumbbells, yoga mat, protein powder). There are roughly the same number of female and male oriented products. All products are sold at market price based on competitive analysis with similar products on other online shopping websites. Every time the participant decides to purchase an item, he/she adds it to the "shopping cart". Once the participant is done with shopping, he/she clicks "check-out" and proceeds through the pre-programmed payment pages. The program captures information during the shopping experience and provides the following information: the total amount of purchase, the total number of items purchased, the particular products purchased, the amount of time spent on the program, and the total number of pages viewed.

Impulsive Shopping Task. The impulsive shopping task presents 9 items that "just went on sale!" Participants had the option to purchase none or all of the items. The items were typical of those that one would find at the checkout aisle in a store or a supermarket; examples include Ghirardelli chocolate squares, the Economist magazine, and chewing gum. The products were coded into three categories 1) materialistic (e.g., cardigans, t-shirts); 2) experiential (e.g., magazines); 3) food (e.g., chocolate, chips).

Follow-up Manipulation Check. This questionnaire asked participants 1) how positive the experience was 2) how realistic the experience was 3) how regretful or frustrated they felt after shopping. For example, “how much did you enjoy the task” captures positivity, “this felt like a pretty realistic online shopping experience” captures realism, “how much do you regret purchasing the item(s) you just picked” captures regret and “what did you purchase” captures active engagement. Each was rated on a 10-point scale (ranging from 1 = not at all to 10 = extremely).

Procedure. The experiment “Virtual Shopping Experience” was advertised through an online experiment sign-up program provided by the Department of Psychology. A total of 82 participants signed up for the study but three were omitted due to incomplete data. I restricted our participant pool to only participants who had been in an exclusive romantic relationship for three months or longer.

For the first part of the study, participants were provided a link to complete the set of online questionnaires. After they completed the set of online questionnaires, they signed up for a timeslot to complete the second part of the experiment in the lab. When participants arrived at the lab, an experimenter greeted them and gave them a consent form. If the participants agreed to proceed, they completed a measure of their current mood. After completing the mood measure, participants were randomly assigned to one of two conditions. Participants in the "partner prime" condition answered questions about their partner, whereas participants in the "control-acquaintance prime" condition answered questions about an acquaintance. Participants in both conditions were given 6 minutes. After completing the prime, the experimenter asked participants to go through a virtual shopping experience on the computer. Each participant was pre-assigned an account name and password (e.g., subject1@shop.com). Participants were then

“signed-in” to the website and asked to shop for as long as they would normally shop online. When the participant finished the online shopping component, he/she was presented with the impulse shopping task. After the participant finished both of the shopping tasks, he/she filled out the follow-up questionnaire and was thanked and debriefed. The online questionnaires took approximately 30 minutes and the lab component took approximately 45 minutes to complete.

Results

Preliminary Analyses

Preliminary analyses included GLM univariate tests of whether the partner prime condition related to any of the major variables of interest (dollars spent, number of pages viewed, types of purchases, number of impulse purchases). There were no significant main effects of prime (see Appendix 1 for intercorrelations table). For number of pages viewed there was a significant prime by relationship length interaction (see Table 1 for regression coefficients). A probe of the interaction revealed that relationship length was associated with a decrease in the total number of pages viewed when the length of relationship was long, $\beta = -10.97, p < .03$ but not when the length of relationship is short, $\beta = -.24, p < .88$. There were three main categories of purchases: materialistic, experiential, and self-improvement. None were significant. The analysis for the number of impulse food purchases revealed a prime by relationship length interaction (see Table 2 for regression coefficients). Further analysis showed that relationship length was associated with an increased number of impulse food purchases when the length of relationship was long, $\beta = 1.12, p < .01$ but not when the length of relationship was short, $\beta = .05, p < .76$.

To test whether attachment style moderated the effects of the primes, I conducted a hierarchical regression analysis for each of the following dependent variables (dollars spent, number of pages viewed, types of purchases, number of impulse purchases). The first step involved attachment anxiety, attachment avoidance, romantic relationship satisfaction, attachment strength, romantic relationship length, and price sensitivity in dollars spent; shopping enjoyment in the number of pages viewed; materialism in the types of purchases; and impulsivity in the number of impulse purchases. The second step involved two-way interactions of prime and attachment styles. There were no significant interactions.

I expanded upon the initial set of variables of interest and examined how the prime might influence subjective experience of the virtual shopping task. I created scales to measure three aspects of the experience: 1) how positive the shopping experience was (Positive Experience Scale); 2) how realistic the shopping experience was (Realism Scale); and 3) how much regret or frustration was experienced (Regret and Frustration Scale) (see Appendix 2 for items and reliability coefficients). Each item was rated on a scale ranging from 1 = not at all to 10 = extremely. There was a main effect of prime for realism when three interactions with relationship strength, relationship satisfaction, and romantic relationship length were included in the model (see Table 3 for regression coefficients). There were no significant main effects of prime for positive experience or regret and frustration.

Overall, the findings did not support my hypotheses. There were no main effects of prime and attachment styles did not moderate any effects. However, there was an interaction effect of prime by romantic relationship length for the total number of pages viewed and the number of impulse food purchases made. This effect occurred when romantic relationship length was long

but not when it was short. The main effect of prime for realism provided the first indication that predictors of shopping behavior might be different for the two prime groups

Secondary Analyses

The preliminary analyses found no main or interactions effects of attachment style, no main effects of prime and only two prime interaction effects – both with relationship length. As terms were entered into and removed from the models, there were indications that predictors of shopping behavior might be different for the two prime groups. Thus, I conducted a series of simple effects analyses to predict the variables of interest within each level of the prime (0 = acquaintance; 1 = partner). Since attachment styles had no main or interaction effects, I removed attachment anxiety and attachment avoidance from the subsequent models. Once I split the groups, I found that romantic attachment strength, romantic relationship satisfaction, and romantic relationship length predicted different outcomes for each of the groups.

Number of pages viewed. In the acquaintance prime group, romantic relationship length was associated with an increased number of pages viewed $\beta = .28, p < .03$ (see Table 3 for regression coefficients). In contrast, there were no significant effects found in the partner prime group for any of these variables.

Number of impulse food purchases made. In the acquaintance prime group, romantic relationship length was associated with a decreased number of impulse food purchases $\beta = -.03, p < .001$ (see Table 4 for regression coefficients). There were no significant effects found for the partner prime group.

Realism. In the acquaintance prime group, attachment strength decreased the perceived realism of the virtual shopping task $\beta = -3.72, p < .02$ and relationship satisfaction increased the

perceived realism of the virtual shopping task $\beta = 4.48$, $p < .02$. In the partner prime group, attachment strength increased the perceived realism of the virtual shopping task $\beta = 2.52$, $p < .02$; relationship satisfaction decreased the perceived realism of the virtual shopping task $\beta = -2.58$, $p < .05$; and length of relationship increased the perceived realism of the virtual shopping task $\beta = .18$, $p < .02$ (see Table 6 for regression coefficients).

Romantic attachment strength, romantic relationship satisfaction and romantic relationship length were all strong predictors of shopping behavior but only in the acquaintance prime group. Overall, the simple effects analyses suggest that conjuring up a mental representation of the romantic partner qualitatively altered the experiment.

Discussion

Consciously or subconsciously, our attachment relationships and styles influence our everyday behaviors. A recurring theme in the attachment theory literature is that a responsive and available attachment figure can provide the sense of safety and comfort we need across the lifespan. In adulthood, we rely much less on the physical presence of our attachment figures but rather on mental representations of them as we face our daily surprises and challenges in life. The ability to derive and maintain this sense of security from mental representations of our attachment figures helps us explore and master our environments. Exploration can take many forms and it can be postulated that variety-seeking in shopping is also exploratory in nature.

Based on this idea, the present study investigated whether activating the mental representation of a romantic attachment figure would influence consumer behavior. I had three major hypotheses: H1) participants asked to think about their romantic partner would be more exploratory in their shopping behavior; H2) participants asked to think about their romantic

partner would make more non-materialistic than materialistic purchases; and H3) attachment styles would moderate the effect of partner prime; specifically, anxiously-attached participants would make more impulse purchases than would securely-attached participants.

Overall, the findings did not support the predictions. I found that for participants whose partner representations were activated, the longer the participants had been in a relationship, the fewer pages they browsed and the more impulse food purchases they made – the opposite of what I predicted. Thus, one post-hoc conclusion is that similar to how inducing positive affect could influence consumers to engage in more impulse purchases (Hirschman & Stern, 1999), participants who were asked to think about their romantic partners could also become more self-indulgent and make more impulse purchases. The fewer number of pages viewed could indicate that participants were more impulsive in their decision-making and made purchases without considering other alternatives. Possibly, the length of a romantic relationship predicts how readily a participant could conjure up a mental representation of their partner and this could perhaps explain why as participants have longer relationships, they become more secure and engage in more impulse purchases. This interpretation is very speculative at this point and future studies are definitely needed. In particular, future studies isolating positive affect as a confound is needed to determine whether this effect is a result of the participants being in a positive mood state or thinking about their romantic partners.

Although the present findings did not support the initial hypotheses, the secondary analyses revealed that activating the mental representation of a romantic partner does have an influence on consumer behavior. As I analyzed the romantic partner and acquaintance groups separately, I found that three attachment variables: attachment strength, relationship satisfaction, and length of relationship predicted different shopping behavior outcomes for the two groups. This demonstrated that bringing the romantic partner to consciousness changed the individuals'

shopping behavior to the extent that the two groups experienced two totally different experiments. In contrast to what was found in the overall model, when participants were asked to think about an acquaintance and the romantic partner was not mentioned at all, relationship length predicted more exploratory behavior and reduced the number of impulse purchases made as would be expected from the attachment theory. This same effect was not found when the participants were instead asked to think and write about their romantic partner. In the case of realism, attachment strength and relationship satisfaction predicted completely opposite effect in the acquaintance and partner prime groups. The specific interpretation will require further study. The findings imply that just being in an attachment relationship may benefit the individual when pursuing exploratory activities. Furthermore, the longer the relationship, the more the romantic relationship may confer benefits to the individual when pursuing exploratory activities or applying restraint. So whether or not you are physically with or have a mental representation of your romantic partner, your romantic partner will influence your shopping behavior. After all, you never really shop alone.

There are several important limitations to this present study that are worth addressing. First, my sample was predominantly female. Previous research has shown that shopping plays a more emotional, psychological and identity-related role in women's lives than in men's (Dittmar & Drury, 2000). Women view the process of shopping and browsing as a leisure activity whereas men perceive shopping as work and desire to commit as little time and effort as possible (Campbell, 2000). If the process of shopping is qualitatively different for men and women, then the effect of activating mental representations of romantic partners could also vary. Thus, a larger and more representative sample should be used before generalizing the results to males, married couples, and older adults. Next, there are some limitations in the virtual shopping experiment. We were unable to present the number and variety of products that are typical of an

online shopping website. The virtual shopping experiment had approximately 110 products as compared to thousands that would be offered on the average online shopping website. Therefore, it was difficult to determine whether some participants purchased less because they just couldn't find what they were looking for or whether it was a result of the prime. Lastly, given that this was a virtual shopping experiment, participants were not given a budget, nor did they have to spend their own money. This could have caused participants to spend more and purchase items that they would not normally purchase in their everyday lives.

To my best knowledge, this is the first study aimed at providing support for attachment theory within the realm of consumer behavior. The present study has many implications for future directions in research on the intersection of attachment and consumer behavior. The associations I found must be examined further to understand the dynamics and consumption effects of activating the mental representation of a romantic partner. Also, a more refined program should be built to better mimic a real life online shopping experience. The sense of security that arises as a result of activating the mental representation of an attachment figure is qualitatively different from positive affect. Future studies should control for positive affect in the experimental design. Hopefully findings from the present study will provide insights to future researchers on how attachment relates to consumer behavior.

References

- Adams, J., & Jones, W. H. (1997). The conceptualization of marital commitment: An integrative analysis. *Journal of Personality and Social Psychology, 72*, 1177-1196.
- Ainsworth, M. D. S., Blehar, M. C., Waters, E., & Wall, S. (1978). Patterns of attachment: Assessed in the strange situation and at home. Hillsdale, NJ: Erlbaum.
- Andrade, E.B. (2005). Behavioral consequences of affect: Combining evaluative and regulatory mechanisms. *Journal of Consumer Research, 32*, 355-362.
- Aron, A., Aron, E. N., & Norman, N. (2000). Self-expansion model of motivation and cognition in close relationships and beyond. In G. J. O. Fletcher & M. S. Clark (Eds.). *Blackwell handbook of social psychology: Interpersonal processes* (pp. 478-502). Oxford, England: Blackwell.
- Aron, A., & Westbay, L. (1996). Dimensions of the prototype of love. *Journal of Personality and Social Psychology, 70*, 535-551.
- Aspelmeier, J. E., & Kerns, K. A. (2003). Love and school: Attachment/exploration dynamics in college. *Journal of Social and Personal Relationships, 20*, 5-30
- Bartholomew, K and Horowitz, L. M. (1991). Attachment styles among young adults: a test of a four- category model. *Journal of Personality and Social Psychology, 61*, 226–244.
- Belk, R. W. (1983). Worldly Possessions: Issues and Criticisms. *Advances in Consumer Research, 10*, 514-519.
- Belk, R. W. (1984). Three Scales To Measure Constructs Related to Materialism: Reliability, Validity, and Relationships to Measures of Happiness. *Advances in Consumer Research, 11*, 291-297.

- Bettman, J. R. (1993). The decision maker who came in from the cold. *Advances in Consumer Research, 20*, 7–11.
- Boon, S., & Holmes, J. G. (1990). Interpersonal trust, attachment, and emotion. Paper presented at the International Conference of Personal Relationships, Oxford, England.
- Bowlby, J. (1973). *Attachment and loss: Vol. 2. Separation: Anxiety and anger*. New York: Basic Books.
- Bowlby, J. (1982). *Attachment and loss: Vol. 1. Attachment (2nd ed.)*. New York: Basic Books.
- Bowlby, J. (1988). *A secure base: Clinical applications of attachment theory*. London: Routledge.
- Bowlby, J. (1979). *The making and breaking of affectional bonds*. London: Tavistock.
- Brennan, K. A., Clark, C. L., & Shaver, P. R. (1998). Self-report measurement of adult romantic attachment: An integrative overview. In J. A. Simpson & W. S. Rholes (Eds.), *Attachment theory and close relationships* (pp. 46-76). New York: Guilford Press.
- Campbell, C. (2000). Shopaholics, spendaholics, and the question of gender. In A. Benson (Ed.), *I shop, therefore I am: Compulsive buying and the search for self* (pp. 57-75). New York: Aronson.
- Carnelley, K., & Ruscher, J. (2000). Adult Attachment and Exploratory Behavior in Leisure. *Journal of Social Behavior & Personality, 15*, 153-165. Retrieved from Academic Search Premier database
- Chang, E., Burns, L. D., & Francis, S. K. (2004). Gender differences in dimensional structure of apparel shopping satisfaction among Korean consumers: The role of hedonic shopping value. *Clothing and Textiles Research Journal, 22*, 185-199.
- Chuang, S., & Lin, H. (2007). The Effect of Induced Positive and Negative Emotion and Openness-to-Feeling in Student's Consumer Decision Making. *Journal of Business &*

Psychology, 22, 65-78. doi:10.1007/s10869-007-9049-6

- Diamond, L. M., & Hicks, A. M. (2005). Attachment style, current relationship security, and negative emotions: The mediating role of physiological regulation. *Journal of Social and Personal Relationships*, 22, 499-518.
- Dittmar, H., & Drury, J. (2000). Self-image - is it in the bag? A qualitative comparison between ordinary and excessive consumers. *Journal of Economic Psychology*, 21, 109-142.
- Donthu, N. & Gilliland, D. (1996). Observations: The Infomercial Shopper. *Journal of Advertising Research*, 36, 69-77.
- Feeney, B. C. (2004). A secure base: Responsive support of goal strivings and exploration in adult intimate relationships. *Journal of Personality and Social Psychology*, 87, 631-648.
- Feeney, B. C. (2007). The dependency paradox in close relationships: Accepting dependence promotes independence. *Journal of Personality and Social Psychology*, 92, 268-285.
- Feeney, B. C., & Thrush, R. L. (2010). Relationship influences in exploration in adulthood: The characteristics and functions of a secure base. *Journal of Personality and Social Psychology*, 98, 57-76.
- Fehr, B., & Russell, J. A. (1991). The concept of love viewed from a prototype perspective. *Journal of Personality and Social Psychology*, 60, 425-438.
- Fletcher, G., Simpson, J., & Thomas, G. (2000). The measurement of perceived relationship quality components: A confirmatory factor analytic approach. *Personality and Social Psychology Bulletin*, 26, 340-354. doi:10.1177/0146167200265007.
- Fraley, R., Waller, N., & Brennan, K. (2000). An item response theory analysis of self-report measures of adult attachment. *Journal of Personality and Social Psychology*, 78, 350-365. doi:10.1037/0022-3514.78.2.350

- Franke, N., Keinz, P., & Steger, C. (2009). Testing the Value of Customization: When Do Customers Really Prefer Products Tailored to Their Preferences? *Journal of Marketing*, 73, 103-121. doi:10.1509/jmkg.73.5.103
- Garbarino, E. C. and Julie A. E. (1997). Cognitive effort, affect, and choice. *Journal of Consumer Research*, 24, 147–158.
- Hazan, C., & Shaver, P. R. (1994). Attachment as an organizational framework for research on close relationships. *Psychological Inquiry*, 5, 1-22.
- Hazan, C., & Shaver, P. R. (1990). Love and work: An attachment-theoretical perspective. *Journal of Personality and Social Psychology*, 59, 270-280. doi:10.1037/0022-3514.59.2.270
- Hazan, C., & Shaver, P. R. (1987). Romantic love conceptualized as an attachment process. *Journal of Personality and Social Psychology*, 52, 511-524. doi:10.1037/0022-3514.52.3.511
- Hazan, C. & Zeifman, D. (1999). Pair bonds as attachments: Evaluating the evidence. In J. Cassidy & P.R. Shaver (Eds.) *Handbook of Attachment Theory and Research*.
- Hazan, C., & Zeifman, D. (1994). Sex and the psychological tether. In D. Perlman and K. Bartholomew (Eds.), *Advances in personal relationships*, 151-180. London.
- Hendrick, S. S. (1988). A generic measure of relationship satisfaction. *Journal of Marriage and the Family*, 50, 93-98.
- Hermalin, B., & Isen, A. (2008). A model of the effect of affect on economic decision making. *Quantitative Marketing & Economics*, 6, 17-40. doi:10.1007/s11129-007-9032-6
- Hesse, E., & Main, M. (2000). Disorganized infant, child, and adult attachment: Collapse in behavioral and attentional strategies. *Journal of the American Psychoanalytic Association*, 48, 1097-1127. doi:10.1177/00030651000480041101

- Hirschman, E., & Stern, B. (1999). The Roles of Emotion in Consumer Research. *Advances in Consumer Research*, 26, 4-11. Retrieved from Business Source Premier database.
- Hsee, C., Yang, Y., Yangjie, G., & Jie, C. (2009). Specification Seeking: How Product Specifications Influence Consumer Preference. *Journal of Consumer Research*, 35, 952-966. <http://search.ebscohost.com>
- Isen, A. (2000). Some Perspectives on Positive Affect and Self-Regulation. *Psychological Inquiry*, 11, 184. Retrieved from Business Source Complete database
- Kahn, B., & Isen, A. (1993). The Influence of Positive Affect on Variety Seeking among Safe, Enjoyable Products. *Journal of Consumer Research*, 20, 257-270. Retrieved from Business Source Premier database
- Kaye-Blake, W., Abell, W., & Zellman, E. (2009). Respondents' ignoring of attribute information in a choice modelling survey. *Australian Journal of Agricultural & Resource Economics*, 53, 547-564. <http://search.ebscohost.com>. doi:10.1111/j.1467-8489.2009.00467.x
- Laros, F., & Steenkamp, J. (2005). Emotions in consumer behavior: a hierarchical approach. *Journal of Business Research*, 58, 1437-1445. <http://search.ebscohost.com>, doi:10.1016/j.jbusres.2003.09.013
- LaTour, K., & LaTour, M. (2009). Positive Mood and Susceptibility to False Advertising. *Journal of Advertising*, 38, 127-142. Retrieved from Business Source Complete database
- Lerouge, D. (2009). Evaluating the Benefits of Distraction on Product Evaluations: The Mind-Set Effect. *Journal of Consumer Research*, 36, 367-379. doi:10.1086/599047
- Lin, C. and Lin, H. (2009). The effect mood states on variety-seeking behavior: The moderating role of price promotion. *Social Behavior and Personality*, 37, 1307-1312.

- Luce, M.F. (1998). Choosing to avoid: Coping with negative emotion-laden consumer decisions. *Journal of Consumer Research*, 24, 409–433.
- Luce, M. F., Bettman, J. R., and Payne, J. W. (1997). Choice processing in emotionally difficult decisions. *Journal of Experimental Psychology: Learning, Memory and Cognition*, 23, 384–405.
- Lund, M. (1985). The development of investment and commitment scales for predicting continuity of personal relationships. *Journal of Social and Personal Relationships*, 2, 3-23.
- Mick, D. G. and Demoss, M. (1990). Self-Gifts: Phenomenological insights from four contexts. *Journal of Consumer Research*, 17, 322–32.
- Mikulincer, M. and Florian, V. (1998). The relationship between adult attachment styles and emotional and cognitive reactions to stressful events. In *Attachment Theory and Close Relationship*, Simpson, J. A. and Rholes, W. S. (Eds). London: The Guilford Press, pp. 143–165.
- Mikulincer, M., Gillath, O., & Shaver, P. R. (2002). Activation of the attachment system in adulthood: Threat-related primes increase the accessibility of mental representations of attachment figures. *Journal of Personality and Social Psychology*, 83, 881-895.
- Moore, S. and Leung, C. (2002). Young people's romantic attachment styles and their associations with well-being. *Journal of Adolescence*, 25, 243–255.
- Morris, J.D., Woo, C. Geason, J.A. and Kim, J. (2002). The power of affect: predicting intention. *The Journal of Advertising Research*, May-June, 7-17.
- Mowen, J., & Spears, N. (1999). Understanding Compulsive Buying Among College Students: A Hierarchical Approach. *Journal of Consumer Psychology (Lawrence Erlbaum Associates)*, 8, 407. Retrieved from Academic Search Premier database

- Mugge, R., Schifferstein, H., & Schoormans, J. (2008). Product Attachment and Satisfaction: The Effects of Pleasure and Memories. *Advances in Consumer Research - European Conference Proceedings*, 83, 25-331. doi:10.1108/07363761011038347
- Pulkinen, E., & Sääksjärvi, M. (2008). The Effects of Emotions and Product Attachment on Consumer Preferences for New Products. *Advances in Consumer Research - European Conference Proceedings*, 8317-318. Retrieved from Business Source Complete database
- Rook, D. W. (1987). The buying impulse. *Journal of Consumer Research*, 14, 189–99.
- Rook, D. W. and Fisher, R. J. (1995). Normative influences on impulsive buying behavior. *Journal of Consumer Research*, 22, 305–13.
- Rook, D. W. and Gardner, M. P. (1993). In the mood: impulse buying's affective antecedents. *Research in Consumer Behavior*, 6, 1–28.
- Sbarra, D. A., & Hazan, C. (2008). Coregulation, dysregulation, self-regulation: An integrative analysis and empirical agenda for understanding adult attachment, separation, loss, and recovery. *Personality and Social Psychology Review*, 12, 141-167.
- Schoeck, H. (1966). *Envy: A Theory of Social Behavior*, in Michael Glennyard and Betty Ross (translators). New York: Harcourt, Brace and World, Inc.
- Sherlock, P. (1992). The irrationality of 'rational' business buying decisions. *Marketing Management*, 1, 8-15. <http://search.ebscohost.com>
- Shiv, B. and Fedorikhin, A. (1999). Heart and mind in conflict: The interplay of affect and cognition in consumer decision making. *Journal of Consumer Research*, 26, 278-92.
- Sroufe, L. A., & Waters, E. (1977). Attachment as an organizational construct. *Child Development*, 48, 1184-1199.
- Uvnäs-Moberg, K. (1998). Oxytocin may mediate the benefits of positive social interaction and emotions. *Psychoneuroendocrinology*, 23, 819-835.

Verplanken, B. and Herabadi, A. (2001). Individual differences in impulse buying tendency:

Feeling and no thinking. *European Journal of Personality*, 15, 71–83.

Waters, E. and Sroufe, L. A. (1983). Social competence as a developmental construct.

Developmental Review, 3, 79–97.

Wei, M., Russell, D., Mallinckrodt, B., & Vogel, D. (2007). The Experiences in Close

Relationship Scale (ECR)-Short Form: Reliability, Validity, and Factor Structure.

Journal of Personality Assessment, 88, 187-204. doi:10.1080/00223890701268041

Table 1

Regression analyses predicting the number of pages viewed

Predictors	β	SE	p
Prime	4.68	2.91	.112
WHOTO	1.21	.98	.222
Satisfaction	-.52	1.25	.678
Length	.26	.12	.188
shopping	.39	.61	.526
avoid	-1.51	1.10	.173
anxiety	-.50	.81	.541
Prime * Length	-.33	.15	.028*

* $p < .05$

Table 2

Regression analyses on the number of impulse food purchases made

Predictors	β	SE	p
Prime	-.39	.27	.147
WHOTO	.05	.09	.572
Satisfaction	-.04	.12	.765
Length	-.03	.01	.095
avoid	.15	.10	.133
anxiety	-.04	.07	.552
impulsivity	.14	.09	.123
Prime * Length	.03	.01	.017*

* $p < .05$

Table 3

Regression analyses on the realism of the experiment

Predictors	β	SE	p
Prime	-6.82	-2.29	.025*
WHOTO	.10	.10	.923
Satisfaction	-.09	-.07	.942
anxiety	.39	.48	.633
avoid	-.32	-.30	.765
Length	-.17	-1.43	.159
Prime*Length	.30	2.34	.022*

* $p < .05$

Table 4

Simple effects regression analysis on number of pages viewed for each prime group

Acquaintance Group	B	Std. Error	Beta	t	p
WHOTO	.075	1.593	.009	.047	.963
Satisfaction	1.278	1.887	.132	.678	.503
Length	.276	.125	.358	2.213	.034*

* $p < .05$

Partner Group	B	Std. Error	Beta	t	p
WHOTO	2.225	1.195	.337	1.863	.071
Satisfaction	-.274	1.399	-.035	-.196	.846
Length	-.029	.083	-.057	-.350	.729

Table 5

Simple effects regression analysis on number of impulse food purchases made for each prime group

Acquaintance Group	B	Std. Error	Beta	t	p
WHOTO	.213	.108	.342	1.972	.057
Satisfaction	-.044	.126	-.061	-.354	.725
Length	-.031	.008	-.539	-3.794	.001**
impulsivity	-.060	.097	-.088	-.616	.542

****** $p < 0.01$

Partner Group	B	Std. Error	Beta	t	p
WHOTO	-.091	.127	-.128	-.716	.479
Satisfaction	-.188	.150	-.225	-1.256	.217
Length	.005	.009	.084	.516	.609
impulsivity	.171	.126	.214	1.352	.185

Table 6

Simple effects regression analysis on realism of experience for each prime group

Acquaintance Group	B	Std. Error	Beta	t	p
WHOTO	-3.723	1.566	-.443	-2.377	.023*
Satisfaction	4.475	1.790	.468	2.499	.018*
Length	-.182	.116	-.243	-1.566	.127

* $p < 0.05$

Partner Group	B	Std. Error	Beta	t	p
WHOTO	2.521	1.061	.387	2.375	.023*
Satisfaction	-2.577	1.243	-.338	-2.073	.045*
Length	.175	.074	.349	2.379	.023*

* $p < 0.05$

Appendix 1

Intercorrelations of prime and dependent variables

** Correlation is significant at $p < 0.01$

* Correlation is significant at $p < 0.05$

		Dollar Spent	Pages Viewed	Impulse Purchase	Impulse Food	Materialistic	Experiential	Self-improvement
Prime	Pearson Correlation	.047	-.072	.166	.127	.044	-.020	-.039
	Sig. (2-tailed)	.682	.535	.146	.268	.702	.861	.734
Dollar Spent	Pearson Correlation	1	-.017	.396**	.256*	.132	-.243*	.186
	Sig. (2-tailed)		.886	.000	.024	.251	.033	.105
Pages Viewed	Pearson Correlation		1	.016	-.236*	-.018	.015	.005
	Sig. (2-tailed)			.893	.039	.874	.898	.962
Impulse Purchase	Pearson Correlation			1	.714**	.168	-.200	.056
	Sig. (2-tailed)				.000	.145	.081	.627
Impulse Food	Pearson Correlation				1	.082	-.094	.022
	Sig. (2-tailed)					.480	.415	.850
Materialistic	Pearson Correlation					1	-.817**	-.289*
	Sig. (2-tailed)						.000	.011
Experiential	Pearson Correlation						1	-.315**
	Sig. (2-tailed)							.005
Self-Improvement	Pearson Correlation							1
	Sig. (2-tailed)							

Appendix 2

*Positive Experience, Realism, and Regret and Frustration Scale Items and Reliability Coefficients***Positive Experience Scale** **$\alpha = 0.77$**

How much did you enjoy the shopping experience?

The products were not really of interest to me.*

How satisfied are you with your purchase?

How confident are you that you made the best purchase?

How much did you enjoy the task?

Realism Scale **$\alpha = 0.74$**

This felt like a pretty realistic online shopping experience.

Did the experience offer at least some of the items you would have purchased in real life?

When you were shopping, were you imagining that you really had money to spend on an online shopping experience?

How realistic was the virtual shopping experience for you as compared to an online shopping experience?

Regret/Frustration Scale **$\alpha = 0.74$**

How frustrated did you feel when making the purchase(s)?

How much do you regret purchasing the item(s) you just picked?

What is the possibility that you will return the item(s) you just purchased?

How confident are you that you made the best purchase?*

*Items were reverse-coded.

