The Impact of Stress on Male and Female Impulsive and Compulsive Buying Behaviors: a Life Event Perspective

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The impact of life event-induced stress on coping outcomes is well-documented in the social sciences. However, there are very few studies which link events and resulting stress with consumption behavior, and virtually none found in the marketing literature. Further, very few studies in any discipline have examined the impact of biological sex on this relationship. Since evidence suggests that individuals use shopping and consumption behaviors as stress-reduction mechanisms, a model based on life event theory was tested using quantitative and qualitative methods of analysis. The findings indicate that level of stress is predictive of both impulsive and compulsive shopping behaviors. Although data from the questionnaire portion of the study suggest that women are more likely than men to engage in both impulsive and compulsive buying behaviors, results of the content analysis suggest that biological sex is not predictive of stress-induced shopping behaviors.

INTRODUCTION

Although a substantial body of work has examined outcomes of and reactions to the events that occur during an individual’s lifetime, the findings have contributed little to the understanding of specific behaviors engaged in by consumers under stress. As the occurrence of individual (e.g., divorce) and community-wide (e.g., floods) events continue to complicate people’s lives, the impact of such events and their resulting stress on consumption behaviors emerges as a timely and relevant issue for marketers. Further, marketers should be interested in how variables such as differences in perception and sex might mediate and/or moderate the event-outcome relationship.

Most of the research on life events has been conducted in sociology and psychology. This research suggests a relationship between events and: 1) stress (Thoits 1983; Brown and Harris 1984), 2) physiological outcomes (Holmes and Rahe 1967), 3) or both (Hinkle 1974; Dohrenwend and Dohrenwend 1974). The findings promise important implications for researchers and practitioners, since it appears that the outcome of a heightened level of stress may be observed through behaviors used to cope with stress. These coping behaviors have been shown to include increased reliance on mental health service providers (Dooley and Catalano 1980, 1984) and increased use of drugs (Jessor 1979).

However, marketing researchers and practitioners are primarily interested in consumer-oriented outcomes. In his pioneer marketing study, Andreasen (1984) showed evidence of a relationship between events and changes in brand preference, stress and lifestyle change, and purchase satisfaction and lifestyle change. More recently, Faber and his colleagues (1986) have also provided evidence for a relationship between events, stress, and behavior, but many questions remain. For example, Andreasen’s (1984) study was unable to establish a direct linkage between events and changes in consumption behavior; stress was associated with lifestyle change and lifestyle change was related to
changes in brand preference. Furthermore, consumer decision making and choice behavior may be influenced by changes in physical needs for products or services as the consequence of an event.

Although research in the social sciences has provided strong evidence of a relationship between events, stress, and behavioral response, the impact of event-induced stress on shopping-related consumption remains unclear. Despite the documented influence of life events on emotions and behaviors, the event-outcome relationship appears to be much more complex than that of a direct relationship mediated by an individual's level of stress. This research will examine consumer choice from an event-stress-coping perspective, based on the assumption that certain consumer behaviors are, in fact, coping behaviors. The study will incorporate factors which have also been found to influence the event-stress-behavior relationship, including: 1) the effect of event importance (as a mediator) on level of stress, and 2) the impact of biological sex (as a moderator) on impulsive and compulsive behaviors. In sum, the proposed study will attempt to investigate the effects of life events on level of stress, and how these events interact with individual-specific factors to predict some of the consumer behavior responses to stress.

Life Events

Life events research can be traced back to studies conducted in the 1940s by psychologists Holmes and Rahe, who observed a link between events in their patients' lives and an onset of illness. Subsequent studies have shown correlations between various events (from changes in work responsibilities to death of a spouse) and well-being (Morgan et al. 1986). However, scales used to examine the relationship between life events and dependent variables, such as the Holmes and Rahe (1967) Social Readjustment Rating Scale (SRRS), have been criticized for their ambiguity and inability to predict subsequent outcomes. Questions have been raised concerning how exhaustive any list of events might be, since it is unlikely that any single scale of events could be all-inclusive. For example, Dohrenwend et al.'s (1978) Psychiatric Epidemiology Research Interview Life Scale (PERI) consists of 102 events, and Žautra et al.'s (1986) Inventory of Small Life Events scale (ISLE) includes up to 178 events; yet, both have shown only low to moderate correlations between life events and outcome measures.

In response to criticisms concerning the ambiguity and inability of life event scales to predict outcomes, researchers have begun to focus on dimensions of events, resulting in classifications of anticipated/unanticipated, favorable/unfavorable, important/unimportant, and major/minor events. In addition, unlike earlier scales, in which these dimensions were determined by researchers, recent examinations of event-induced outcomes have begun to explore how individual perceptions of an event influence subsequent emotional or behavioral response.

One dimension, importance, has been demonstrated to have a more significant impact on stress than others (Lazarus and Folkman 1984). Studies on the relationship between event importance and stress indicate that important events are linked to increased levels of stress (Lazarus and Folkman 1984; Westbrook 1987). However, even if an event is perceived as important -- hence, is stressful -- to most people, it may not be universally stressful (Dohrenwend et al. 1978; Ross and Mirowsky 1979) since not all events are perceived as important to every individual. For example, although findings suggest that the loss of a job induces stress in most people, job loss is not universally stressful since the event may, for some individuals, result in decreased levels of anxiety (Kessler et al. 1985).
Life Events and Stress

Stress has been defined in a variety of ways including, “a process” through which an individual is threatened by stressors or events in the environment (Baum et al. 1983, p. 4); “a state” resulting from an individual having experienced a loss, threat, or continued difficulties (Oatley and Jenkins 1992, p. 72); or “a condition” resulting from demands being placed on an individual and his or her ability to respond (Caplan 1981; Aneshensel 1992). Kessler and his associates (1985) suggest that the change associated with an event -- and not the event itself -- is what leaves the individual “vulnerable to stress” (p. 33). Still others suggest that events, in and of themselves, are a potential source of stress for the individual (Andreasen 1984; Zautra et al. 1986).

While certain events are more likely to elicit stress than others, it appears that the occurrence of an event may not be the key determinant of behavior. As previously discussed, stress-related research has found that responses to life events vary substantially. Although findings suggest a relationship between stressful events and certain outcomes such as physical and psychological disorders (Coleman 1973; Rahe 1972, 1974), not everyone who experiences an event perceives it as being equally stressful (Morgan et al. 1985). Even though occurrence of an event may precede the anxious state, individuals’ evaluations of an event influence subsequent level of anxiety. As such, the individual’s evaluation appears to mediate the relationship between the event and subsequent levels of stress (Figure 1). Therefore, it is proposed that:

H1: The greater the perception of the importance of an event, the greater the level of stress.

Coping and Buying Behaviors

Coping with stress is a natural response elicited by individuals under stress. While various definitions of coping have been advanced, it is generally accepted as a means through which individuals manage external and internal demands being placed on them -- demands “which tax or exceed their resources” (Cohen and Lazarus 1973, p. 219). Whether stress-induced responses are manifested through discernable behaviors, such as increased alcohol consumption, or through strategies which help the individual to “tolerate, minimize, accept, or ignore” the situation (Lazarus and Folkman 1984, p. 140), such as sleeping or praying, it is apparent that coping activities are likely to occur when individuals encounter difficult situations. Consistent with the stated objectives of this study, the following discussion will focus on shopping-related manifestations of coping, including impulsive and compulsive behaviors and their buying implications.

Impulsive Buying

Impulsive behavior has been conceptualized as acts which are spontaneous and unplanned (Rook 1987; Weinberg and Gottwald 1982). In psychology, the term has been defined as “a strong and irresistible urge; a sudden inclination to act without deliberation” (Goldenson 1984, p. 37). These acts, whether they are unconscious or conscious responses to stimuli, are often performed in anticipation of pleasurable outcomes which have previously been associated with performance of a behavior.

A type of unplanned purchasing behavior, impulsive buying has been similarly described as, “the tendency to buy on whim or an action based on a powerful and persistent urge” (Rook 1987, p. 189). Although definitions and descriptions of the impulsive buying
concept exist, very little is actually known about “how consumers experience the impulse” to make purchases (p. 192), particularly within a theoretical context (Anderson 1983; Deshpande 1983). Furthermore, the relationship between stress and impulsive behavior within a consumption context is yet to be explained. However, while “useful predictors” of impulsive buying behavior have been difficult to determine (Cobb and Hoyer 1986, p. 384), emotional arousal has been linked to impulsive behavior (Engel et al. 1968; Weinberg and Gottwald 1982; Goldenson 1984).

Although early conceptualizations of impulsive buying did not distinguish between unplanned purchases and memory stimulated by environmental cues, research indicates there are five types of unplanned purchase behavior, including: 1) pure impulse (spontaneous departure from normal purchasing behavior), 2) suggestion effect (awareness of a product resulting from in-store stimuli), 3) planned impulse (intent to buy without having specific products in mind — e.g., due to a special sale), and 4) reminder effect (no intent to buy, but in-store cue reminder that product was needed) (Stern 1962). The fifth category, planned product, describes situations where purchase of the product category is preplanned but brand is not (Assael 1987).

Anxious individuals often demonstrate changes in brand loyalty (Andreasen 1984; Duwors and Haines 1990). Research has also shown that in-store brand decisions are frequently based on price (Assael 1987). It is unclear whether these changes in behavior should be classified as impulsive (the result of a sudden and powerful urge) or unplanned (the product purchase is preplanned, but the brand decision occurs in the store). It is likely that responses to events and in-store stimuli have differed across studies depending on how the behavior has been conceptualized since the terms (unplanned and impulsive) are often used interchangeably (Rook 1987). As such, difficulties associated with predicting buying behavior may, in part, be due to lack of distinction between impulsive buying and other types of unplanned buying behaviors.

Since the primary distinction between impulsive and nonimpulsive behaviors is that impulsive acts differ from existing behavioral patterns (Rook and Hoch 1985), it appears that the stress-impulsive behavior relationship should be examined from the perspective of stress-induced changes in behavior. This also suggests that the term ‘impulsive behavior’ should be viewed as a surrogate for behavioral change — unplanned or impulsive. Consistent with findings that suggest a relationship between event-induced stress and behavioral change, it is likely that impulsive shopping behaviors may emerge as a consequence of an increased level of stress (Figure 1). Therefore, it is proposed that:

**H2:** The greater the level of stress, the greater the likelihood of engaging in impulsive buying behaviors.

**Compulsive Buying**

Compulsive behavior has also been associated with increased levels of stress. Defined as behavior that is “inappropriate, typically excessive, and disruptive” to those who engage in it (Faber et al. 1986, p. 132; also see Ullman and Kraser 1969), compulsive behavior is often used to escape from something that is causing distress in a person’s life (Faber et al. 1986). Compulsive behaviors often involve frequently repeated actions which, regardless of the consequences associated with them, are often uncontrollable (O’Guinn and Faber 1989). These behaviors are either performed unconsciously or are consciously determined to be the only act that will reduce an individual’s level of stress, regardless of their potential
for long-term consequences such as severe financial, emotional, and interpersonal
difficulties (Faber 1992).

Among psychologists, compulsive buying - often termed ‘buying mania’ - has long been
advanced as being a form of obsessive-compulsive disorder. In marketing, Faber and
O’Guinn, have proposed (1986) and suggested (1988, 1989, 1992) the linkage between
stress and some compulsive behaviors. Their findings indicate that, under stress,
purchases are often made to “achieve gratification through the buying process” (O’Guinn
and Faber 1989, p. 147). Hence, an individual’s motivation for purchase may not be to
obtain utility or satisfaction, but rather is an attempt to cope with and reduce anxiety
through previously experienced means. In order to examine this relationship (Figure 1),
the following hypothesis is proposed:

H3: The greater the level of stress, the greater the likelihood
of engaging in compulsive buying behaviors.

Sex and Buying Behaviors

“Various cultural forces” are likely to impact consumption behavior (Rook 1987, p. 92).
This belief is reflected in a statement made by Faber and his colleagues (1995), who
suggest that “growing up female in current Western culture may socialize women to engage
in shopping behaviors” (p. 302). Although there is evidence that the majority of
consumers have made impulsive purchases at one time or another (Welles 1986), findings
across compulsive behavior studies have been inconsistent. For example, research
conducted by Faber (1992) suggests that women are more likely than men to engage in
compulsive buying behavior. Yet, research also indicates that -- while men are less likely
to admit to compulsive behaviors or obtain help for the problem -- they are “as susceptible
as women to compulsive consumption” (Faber et al. 1986, p. 134).

According to Faber (1992), “the different socialization of men and women” (p. 816) may
be linked to findings that suggest differences in stress-induced shopping behaviors. While
both men and women have been shown to engage in purchasing behavior to relieve anxiety
(Faber et al. 1986), women are more likely to have greater opportunities to make purchases
given their traditional role in procurement for the household. Cultural values may be an
important determinant of buying behavior, as well. As such, buying may be perceived as
“humorous or not a real problem” (p. 817) for women in the Western culture, but
considered an inappropriate response for men (Rook and Fisher 1995). Consistent with
research which suggests that women are more likely to compulsively purchase clothing and
jewelry, while men are more likely to purchase cars and electronics (Faber et al. 1986), it
appears that the manifestations of compulsive behavior -- rather than the behavior itself --
differ by sex. Therefore, the following hypotheses (also shown in Figure 1) are proposed:

H4a: Women are no more likely than men to engage in impulsive
buying behaviors.

H4b: Women are no more likely than men to engage in compulsive
buying behaviors.
FIGURE 1
Proposed Relationship Between Events, Stress, Sex and Behavior

<table>
<thead>
<tr>
<th>Life Event</th>
<th>Event Importance</th>
<th>Level of Stress</th>
<th>Impulsive Buying</th>
</tr>
</thead>
<tbody>
<tr>
<td>Compulsive Buying</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

RESEARCH DESIGN

The research entailed two separate studies, since it was believed that some information may not otherwise be obtained if assessed by questionnaire alone. Hence, Study One utilized the questionnaire method, while Study Two relied upon personal interviews. Multiple methods of data collection were employed in an effort to provide insight into the true nature of the relationship between the variables and help enable the study to analyze, in greater detail, individual-specific perceptions of events (Kassarjian 1977).

In particular, it was believed that the information provided by the personal interviews (Study Two) would help to address the concerns of researchers who have questioned the temporal sequence and directionality of the event-stress-behavior relationship (Aldwin 1994; Dohrenwend et al. 1984). Furthermore, because individual nuances and inferences might assist in understanding and predicting the outcomes of event-induced stress, the interview method was used to test the validity of measures of the study and assess, in greater detail, shopping-related coping strategies and behaviors that might not otherwise be obtainable (e.g., direct observation would likely alter behavior patterns, or a questionnaire may be incomplete).

Study One

Data Collection
The questionnaire was completed by 785 adults from randomly-selected U.S. households (n=1085) who had participated in an earlier study. Subjects were sent a questionnaire, which was accompanied by a cover letter (explaining the nature and purpose of the study), as well as a list of toll free numbers as an inducement for participation. Self-addressed metered enveloped were also provided to encourage response. Nearly half of all respondents (n=369, or 48.2%) were female.

Event Importance
Since not all events are important to every individual nor is it likely that all events would have been experienced during the previous twelve month period, respondents were asked to indicate whether or not an event had occurred (yes/no) and, if so, to rate the importance of each event experienced. Responses to the eighteen events (e.g., ‘got married’, ‘changed employment’, ‘different residence’) were computed using a three-point scale, ranging from ‘not at all important’ to ‘extremely important’.
Erratum, Page 86

The correct "Figure 1" appears below.

FIGURE 1
PROPOSED RELATIONSHIP BETWEEN EVENTS, STRESS, SEX AND BEHAVIOR

\[
\begin{array}{c}
\text{Life Event} \rightarrow \text{Event Importance} \rightarrow \text{Level of Stress} \\
\end{array}
\]

\[
\begin{array}{c}
\text{Impulsive Buying} \\
\text{Compulsive Buying} \\
\text{Sex} \\
\end{array}
\]

Fourth Proceedings of the Association for Consumer Research Conference on Gender, Marketing and Consumer Behavior.
Level of Stress
Whether defined as a process, state, or condition, stress has been consistently linked with the events that occur in individuals’ lives. Similar to the case with event importance, level of stress associated with the occurrence of an event(s) also varies across individuals. Although numerous measures for event-induced stress exist (such as Holmes and Rahe’s (1967) Social Readjustment Rating Scale; Zautra et al.’s (1986) Daily Hassles Scale), many of these have been criticized because of their propensity to measure “presumed stress”, rather than “perceived stress” (Aldwin 1994, p. 59). Consequently, this study focused on examining individual perceptions of stress-inducing situations, rather than rely on what others believe should or should not be the reaction to an event. Since the purpose of this research was to examine the relationship between subjects’ level of stress and subsequent outcomes, individuals were asked to assess their level of felt stress during the past twelve months, rather than using existing life event scales which estimate individuals’ level of stress based on assessments of researchers or independent judges.

Employing previously-tested overall and specific measures of stress, subjects were asked to indicate (during the past year): 1) how stressful their lives were (the overall stress measure), 2) if they had to deal with a lot of problems on a daily basis, 3) whether or not relatives or coworkers expected a lot from them, and 4) whether or not problems experienced by others had put an extra burden on them, using a 3-point frequency scale (‘more often than usual’ = 3, ‘about the same as usual’ = 2, and ‘less often than usual’ = 1).

Impulsive Buying
To measure impulsive buying, respondents were presented with a list of impulsive shopping-related items, which had either been designed for this study or were drawn from existing scales developed by Rook and Hoch (1985). For each measure, individuals were asked to indicate whether or not they had engaged in the behavior (yes/no), and if so, whether they had engaged in it more often, less often, or about the same as usual over the past year.

Compulsive Buying
Compulsive buying behavior was assessed using measures drawn from a compulsive consumption scale developed by Faber and O’Guinn (1989, r=.83), as well as items created for this study. For each measure, individuals were asked to indicate whether or not they had engaged in the behavior (yes/no), and if so, whether they had engaged in it more often, less often, or about the same as usual over the past year.

Study Two

Data Collection
Consistent with the objectives of Study Two, personal interviews were conducted using a convenience sample of adults drawn from the general population of a large metropolitan area. Subjects were independently secured (on the basis of apriori knowledge) and interviewed by three individuals. A total of 30 different events, representing 17 of the events included in the questionnaire portion of the study (exception: retirement) were identified and discussed by the 17 subjects (10 women, seven men) who agreed to participate.

After receiving instructions concerning the nature and purpose of the study, subjects were asked, using a semistructured (focused) interview format, to identify, from a list, those
shopping-related behaviors they had engaged in during the past twelve months. First, a list of impulsive buying behaviors was handed to the interviewee, who was then asked to indicate which activities he/she had engaged in over the past year, and whether or not it was less often, more often, or about the same as usual. The interviewer was then instructed to hand a second list (compulsive buying behaviors) to the subject, which was also discussed. Finally, subjects were asked to indicate whether they had engaged in shopping behaviors that were not included on the lists.

Subjects were asked to think back to the time they had engaged in a specific behavior. They were asked to consider events or situations in their lives that might have occurred prior to engaging in the activity. Wherever possible, three behaviors were selected from among those engaged in by the interviewee during the previous year (one from each list). Subjects were then handed a list of 18 events (plus ‘other’ category), and asked to indicate which, if any, they had experienced prior to their engaging in the shopping behavior. Interviewers were instructed to ask how important the event was perceived to be and to probe for feelings or thoughts during that period of time.

Coding
Tapes of the interviews were assembled, transcripts of which were distributed to two independent coders. Each coder was provided with detailed instructions, which included information concerning the purpose of the study, content categories (event importance, stress, reasons for behavior), coding sheets for events, and a list of synonyms/words, drawn from Webster’s Dictionary and Roget’s Thesaurus, to aid in identification of recording units (words). Coders were asked to determine the number of times the construct was represented by a recording unit during the interview, and make inferences concerning its meaning and magnitude (using a five-point scale). In addition, frequencies were compiled for type and number of events and behaviors discussed during the interview. Finally, coders were asked to indicate the strength of the relationship between events and shopping behaviors: no stated relationship, implied relationship, stated relationship, or strongly stated relationship (Carley 1993).

RESULTS (STUDY ONE)

Reliabilities and Factor Analysis
Construct reliability of previously used measures for stress were computed using Cronbach’s alpha. The four items used to measure stress (‘life was very stressful’, ‘had to deal with a lot of problems on a daily basis’, ‘relatives or coworkers expected a lot from me’, and ‘problems experienced by others put an extra burden on me’) were reliable at r=0.77. Reliabilities were not computed for impulsive and compulsive buying behaviors since the test is not appropriate for use with nominal-level data. Consequently, scales for the impulsive/compulsive buying behavior constructs were developed using factor analysis (yes/no responses, whether or not the individual had engaged in the behavior during the previous year), where items loading highly on a factor (>0.40) were included as measures of the construct.

Although the items designed to measure impulsive buying and compulsive buying were drawn from previously tested scales developed by Rook and Hoch (1985) and Faber and O’Guinn (1989), not all measures from these scales were used in the current study, nor were they measured in the same manner. Given these modifications to the existing scales, a Confirmatory Factor Analysis (CFA) was conducted to assess construct validity and to
determine the number of underlying dimensions among measures of impulsive \( n=6 \) and compulsive buying \( n=4 \).

Six items loaded on a single factor, and three items loaded highly on a second factor. The following measures loaded onto the first factor: 1) bought something new or different to get 'out of a rut', 2) bought products I would not normally buy, 3) treated myself to special products or services, 4) bought something 'out of the blue', 5) went into a store and bought things I hadn't planned on purchasing, and 6) bought something just to make myself feel better. The remaining three items loaded onto a second factor: 1) took on major credit card debt, 2) made only the minimum payment on credit cards, and 3) bought something even though I knew I couldn't afford it. Loadings for the first factor, labeled “impulsive buying,” ranged from 0.41 to 0.70, while loadings for the second factor, labeled “compulsive buying,” ranged from 0.74 to 0.78. A final measure, 'went on a buying binge', did not load highly on either factor and, as such, was not included in subsequent analyses.

**Regression Analysis**

A series of regressions was performed to test the hypotheses that event importance would be positively associated with stress (H1), and that a high level of stress would be positively associated with both impulsive buying (H2) and compulsive buying (H3). Prior to hypothesis testing, the variables were examined to ensure that the regression assumptions of linearity, homoscedasticity, and normality were met. An examination of the residuals showed no pattern of nonlinearity nor were there signs of increasing or decreasing residuals for any of the variables.

**Hypothesis 1**

As seen in Table 1, results of the analysis indicate that stress is significantly and positively predicted by event importance \( F=54.263, p<.001 \). Thus, Hypothesis 1 is supported: the greater the mean importance of experienced events, the higher the level of stress. However, these results showed that less than 10 percent (6.6%) of the variation explained by the model was explained by event importance. Hence, while the data support the hypothesis, the low coefficient value suggests that variables other than perceived importance may help explain reaction to an event.

**Hypotheses 2 and 3**

The results indicate that increased stress leads to a greater probability of engaging in impulsive buying behavior \( F=111.263, p<.001 \), thereby supporting H2 (Table 1). This regression explained more than 12 percent (12.7%) of the variance for impulsive behavior. A positive relationship between stress and likelihood of engaging in compulsive buying was also found \( F=85.565, p<.001 \) (Table 1). Stress was shown to explain more than 10 percent of the variation for compulsive buying \( (10.2\%) \).

**Hypotheses 4a and 4b**

A test for differences between male and female respondents' shopping-related behaviors revealed that they differed significantly in their responses. As seen in Table 2, Hypotheses 4a and 4b were not supported by the data. Females were shown to be more more likely than males to engage in both impulsive buying \( t=8.94, p<.001 \), and compulsive buying \( t=6.94, p<.001 \) behaviors.
TABLE 1
Regression Analysis

**Independent Variable: EVENT IMPORTANCE**

<table>
<thead>
<tr>
<th>Intercept</th>
<th>7.417 a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Event Importance</td>
<td>4.952 a</td>
</tr>
<tr>
<td>F-value</td>
<td>54.263 a</td>
</tr>
<tr>
<td>R-squared</td>
<td>.066</td>
</tr>
</tbody>
</table>

**Independent Variable: STRESS**

<table>
<thead>
<tr>
<th>Intercept</th>
<th>6.896 a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>.314 a</td>
</tr>
<tr>
<td>F-value</td>
<td>111.263 a</td>
</tr>
<tr>
<td>R-squared</td>
<td>.127</td>
</tr>
</tbody>
</table>

**Independent Variable: IMPULSIVE BUYING**

<table>
<thead>
<tr>
<th>Intercept</th>
<th>.464 a</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stress</td>
<td>.012 a</td>
</tr>
<tr>
<td>F-value</td>
<td>86.565 a</td>
</tr>
<tr>
<td>R-squared</td>
<td>.102</td>
</tr>
</tbody>
</table>

*p < .01

**Overall Model**

Prior to testing the relationship between event importance, stress, and buying behaviors, the association (correlations) among the dependent variables (impulsive and compulsive buying) was examined to determine the appropriate method for assessing the temporal sequence of variables within the model. Since the dependent constructs were shown to be intercorrelated at r=.4287 (which precluded the use of regression analysis), the overall model was tested using MANOVA.

TABLE 2
Effects of Sex on Behavior

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Group</th>
<th>Mean</th>
<th>t</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>*Impulsive Buying</td>
<td>1 (Female)</td>
<td>10.71</td>
<td>8.94</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>2 (Male)</td>
<td>8.51</td>
<td></td>
<td></td>
</tr>
<tr>
<td>*Compulsive Buying</td>
<td>1 (Female)</td>
<td>6.88</td>
<td>6.94</td>
<td>.001</td>
</tr>
<tr>
<td></td>
<td>2 (Male)</td>
<td>5.81</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The results indicated there were no significant interactions (F=.636, n.s.) between event importance, stress, and behavior. The main effect of stress was significant at F=38.929 (p<.001) for impulsive buying and F=16.628 (p<.001) for compulsive buying, and the main effect of event importance was significant at F=10.202 (p<.001) for impulsive buying and F=7.815 (p<.005) for compulsive buying. The hypothesized event
importance-stress-buying relationship was supported by the data since both event importance and stress were significant predictors of buying behavior (Table 3). To test moderating effects of sex on the stress-behavior relationship, the data was also examined to determine whether or not the proposed moderator (sex) was related to stress. Since sex was a significant predictor of behavior and the stress-by-sex interaction was shown to be significant (F=12.22, P<.001), the results suggest that biological sex moderates the relationship between stress and buying behavior.

**TABLE 3**

MANOVA

**Event Importance, Stress, Impulsive Buying, Compulsive Buying**

<table>
<thead>
<tr>
<th>Stress X Event Imp.</th>
<th>Multivariate F</th>
<th>Univariate F</th>
<th>Significance (F)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impulsive Buying</td>
<td>0.636</td>
<td>0.006</td>
<td>0.592</td>
</tr>
<tr>
<td>Compulsive Buying</td>
<td>1.819</td>
<td>1.178</td>
<td>0.936</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Stress</th>
<th>14.922</th>
<th>38.929</th>
<th>0.001</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impulsive Buying</td>
<td>16.628</td>
<td>0.001</td>
<td></td>
</tr>
<tr>
<td>Compulsive Buying</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**RESULTS (STUDY TWO)**

**Content Analysis**

Content analysis was used to interpret the personal interview data. As an analytical technique, content analysis has long been used in behavioral research. Although there are problems associated with this technique (e.g., its labor intensive nature and potential for interviewer bias), content analysis has effectively been used in marketing to examine product and company images (Woodside 1972), coupon usage (Tepper 1994), and decision choice models (Wright and Barbour 1975). The method, which focuses on the frequency with which words or concepts occur (Carley 1993), is “based on the assumption that higher relative counts (proportions, percentages, ranks) reflect higher concern with the category” (Weber 1985, p. 57).

Statements made during the interviews were then analyzed to determine, in an “objective, systematic, and quantitative” manner (Kassarjian 1977, p. 9), message content and meaning. It should be recognized, however, that the inferential nature of content analysis makes it particularly susceptible to errors due to interviewer bias and perceptions that affect coding of responses. Hence, great care was taken in the design and execution of the content analysis, including data collection, nature of the sampling units, and scale development and coding instructions to ensure validity of the results (Bailey 1978).

**Frequencies**

Frequencies were compiled for units associated with both event importance and stress, as well as any words used by interviewees to discuss or provide reasons (i.e., rationale) for their actions. In all, 19 words (units) indicative of event importance and 27 words associated with stress were elicited during the interviews. For some, importance of the situation -- that is, any combination of events and occurrences happening at the time -- was discussed without regard to a specific event. Responses were more explicit for observed frequencies of stress, and had an intercoder reliability of 96.7 percent (29/30). Reliability
was initially 83 percent (25/30) for the event importance category. Differences were resolved through subsequent discussion, and reliability increased to 100 percent.

The content analysis provides support for the hypothesized relationship between event importance and stress. These results were consistent with findings from Study One, which also suggested that important events are linked to increased levels of stress. The 7 men and 8 women who had engaged in impulsive buying behaviors (Table 4) indicated they had done so in response to very important and stressful events. *Compulsive* buying was also perceived to be an outcome of important stressful events. The 10 individuals (4 men, 6 women) who had engaged in compulsive buying behavior (Table 4) indicated their actions were linked to event-induced stress.

**TABLE 4**

MEASURES: BUYING BEHAVIOR

(Impulsive Buying, Compulsive Buying)

**Impulsive Buying**

A. Bought something new or different to get myself “out of a rut.”
B. Bought something “out of the blue.”
C. Bought products I would not normally buy.
D. Treated myself to special products/services.
E. Went into a store and bought things I hadn’t planned on purchasing.

**Compulsive Buying**

F. Made only the minimum payment on credit cards.
G. Took on major credit card debt.
H. Bought something even though I knew I couldn’t afford it.
I. Went on a buying “binge” and was unable to stop.
J. Bought something and when I got home wasn’t sure why I had bought it.
K. Bought things and put them away in a closet without ever using them.
L. Went on a shopping spree after not going for a long time (besides Christmas shopping).

*Effects of Sex*

Despite the empirical findings, which suggested that women are more likely than men to engage in both impulsive and compulsive shopping behaviors, statements made by participants during the personal interviews did not provide support for differences in behavior by sex. In the interview portion of the study, both men (impulsive: 7/7, compulsive: 4/7) and women (impulsive: 8/10, compulsive: 6/10) acknowledged they had engaged in these behaviors during the previous twelve months. Interestingly, with only one exception, male participants who had engaged in the behaviors offered explanations or provided reasons for their behavior (which ranged from having previously decided to purchase the item to buying something in order to feel better), while only one woman attempted to do so.

**IMPLICATIONS**

A major theoretical contribution of this study is the integration of streams of literature from marketing and the social sciences within the context of life events, stress, and behavior. While studies from other disciplines have linked emotional arousal to impulsive and compulsive behavior, prior to this study, manifestations of stress-induced coping that are
most relevant to consumer behavior have not been fully explored (Rook 1987). This study is among the first to empirically test the relationship between stress and impulsive and compulsive buying behaviors among a large and diverse group of individuals. The results are consistent with findings in the social sciences literature -- namely, that people seek to reduce stressful situations through behavior -- and, therefore, provide support for the need to incorporate buying-related activities with stress-induced coping strategies (Hirschman 1992; Faber et al. 1995).

To accurately predict behavior in a retail setting, it is imperative that researchers provide firms and consumer advocates with a more complete understanding of the forces that motivate impulsive and compulsive buying behavior. Although it is apparent that the primary contribution of this study is theoretical, there are important implications for marketers as well as public policymakers. For example, while some excessive buying behaviors may not always be in the best interest of either the firm or consumer, due to administrative costs associated with the return of items purchased impulsively (or compulsively), and/or the unpaid bills or credit problems that might arise.

Results of this study indicate that level of stress is predictive of shopping-related behaviors. Given the nature of this relationship, it appears that marketers may have more control over consumers' propensity to purchase than was previously thought. If Rook and Fisher's (1995) statement that "in extreme cases, impulsive behavior is almost entirely stimulus driven" is correct (p. 306), marketing strategies could be designed to exploit or temper this knowledge, especially during those periods when customers are more likely to be experiencing stress. Activities could be performed that would heighten or reduce customers' feelings of anxiety. For example, during the hectic Christmas and back-to-school shopping seasons, factors which add to level of stress (e.g., loudness of music, use of color) might be used to increase sales. Alternatively, if these factors are shown to result in increased rates of returns or credit problems, management may look for ways to ease customers' level of anxiety. Similarly, public policymakers may wish to address situations when firms misuse or abuse this information. For example, when natural disasters such as tornadoes or floods strike a community, it may be necessary to monitor business activities to prevent victimization of those whose lives have been altered by the event.

The findings also suggest that spontaneous and unplanned shopping behaviors may both be linked to event-induced stress. Measures of spontaneous (i.e., pure impulse) buying and unplanned buying behaviors loaded on the same factor in Study One and subjects identified both impulsive and unplanned outcomes of stress during the personal interviews. These findings are consistent with those in psychology, and support Rook's (1987) assertion that researchers should attempt to distinguish impulse buying "from other types of unplanned shopping" (p. 196). As such, it appears that more than one type of unplanned buying behavior may be linked to stress. Furthermore, items designed to measure compulsive buying were shown to be distinct from those items designed to measure impulsive behaviors in tests of reliability and factor analyses. Hence, the findings not only provide support for a relationship between stress and buying, but evidence of distinctions between types of buying (impulsive vs. compulsive) behavior, as well.

According to the American Psychiatric Association (1980), a behavior may be classified as impulsive if the individual experiences "pleasure, gratification, or release at the time of committing the act" (p. 291). Conversely, behaviors that have been termed compulsive are linked to feelings of guilt or loss of control, rather than pleasure or enjoyment (Faber and
O'Guinn 1988). Although the present research does not attempt to uncover individuals’ perceptions of these behaviors, it is apparent that attitudes toward spontaneous buying are distinct from overspending. These findings might be a starting point for other models which, using components such as situational factors, and personality and lifestyle traits (Rook 1987; Hirschman 1980; Donovan 1988), could be designed to test differences in “attitudes toward the act of shopping” (Faber and O’Guinn 1988, p. 101).

Overall, the results of this study appear to provide both answers and questions about stress-induced buying behavior. For example, while Rook and Fisher (1985) suggest that consumers may “be less likely to engage in impulsive buying that is socially visible” than buying behaviors that are not socially visible (p. 312). However, statements made by interview subjects about catalog shopping (e.g., “I can’t help myself,” “I sometimes find myself looking through them just to buy something .... anything”) suggest that less visible buying behaviors may also be associated with compulsive buying than impulsive buying behaviors. In each instance, the individual making the statement about catalog shopping behavior had recently experienced events of enormous significance (death of son; spouse had a heart attack; mother had a stroke). Consistent with Rook and Fisher’s assertion (1995) that some of the current difficulties associated with predicting specific buying behaviors may be a consequence of differences between behaviors caused by “exceptional circumstances” versus those experienced on “an everyday basis in the grocery store or local mall” (p. 312), the study suggests that this relationship deserves further examination.

Although Faber (1992) suggests that “the vast majority of compulsive buyers are female” (p. 810), it is apparent from the present study that men engage in compulsive and impulsive buying behaviors. These findings suggest that both men and women engage in impulsive and compulsive acts. Although the behaviors may be manifested in a variety of forms, statements made during the personal interviews suggest that men also engage in spontaneous or uncontrollable consumption behaviors. However, they are less willing than their female counterparts to classify their actions as ‘impulsive’ or ‘compulsive’. Indeed, as evidenced by the interviews, male respondents were far more likely than female respondents to try to rationalize or explain their behavior by indicating they had considered making the purchase prior to the event’s occurrence. As suggested by Rook (1995) it is likely that sex-based differences in the questionnaire portion of the study were the result of individuals’ normative evaluations of buying behavior. While it is conceivable that alternative explanations for these findings might be found through further examination of the various types of unplanned buying behaviors, it appears that stress-induced behaviors may not necessarily be determined by an individual’s biological sex.

CONCLUSION

The results of this study supports the assertion by Hirschman (1992) and Faber et al. (1995) that future research should examine consumption behavior within “a broader category of interrelated phenomena” (p. 303). Although this study did not attempt to assess the relationship between impulsive and compulsive behaviors, studies might further examine the relationship between stress-induced impulsive and stress-induced compulsive behaviors. Perhaps, as suggested by these authors, the gratification experienced through an impulsive buying episode is merely a precursor to subsequent compulsive behavior. As such, examination of this relationship might offer insight into the processes by which individuals learn to engage in certain behaviors. Hence, it is likely that studies on theories of compulsive consumption would benefit from the integration of these streams of literature as well.
Finally, it appears that additional research is needed to explore differences between male and female behaviors and attitudes toward shopping. If, as shown by Study Two (personal interviews), men are as likely as women to engage in stress-induced shopping activities, previous findings that point to differences in buying behavior between men and women may instead be a consequence of differences in normative evaluations of the behavior.

REFERENCES


