

NATURE VS. NURTURE: THE ROLE OF FAMILY IN COMPULSIVE BUYING

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Compulsive buying is characterized as "chronic, repetitive purchasing that occurs as a response to negative events or feelings (O'Guinn and Faber 1989, p. 149)." This study looks at two sources of family influence on compulsive buying: nature (a genetic predisposition towards compulsive disorders) and nurture (influences in the family environment during adolescence). Although several variables related to these factors have been studied individually (or in some combination), no study has looked at the relative effects of nature and nurture on compulsive buying. This study finds that nature and nurture both have a significant and positive effect on compulsive buying behavior.

INTRODUCTION

O'Guinn and Faber (1989, p. 149) define compulsive buying as "chronic, repetitive purchasing that occurs as a response to negative events or feelings." The consequences of compulsive buying seem positive in the short-term as the buyer receives the immediate gratification of the purchase; however, the long-term consequences are negative as compulsive buyers deal with economic and psychological consequences including high levels of credit card debt, low savings, depression, anxiety, frustration, low self-esteem, and interpersonal conflict (Roberts 1998).

Compulsive buying is an important issue for marketing and consumer behavior because this segment is of sufficient size to represent a potential negative influence on society. Faber and O'Guinn (1989, p. 142) estimate that approximately six percent of the general population could be reasonably classified as being "at risk or predisposed to compulsive buying." Given the range around the estimate, compulsive buyers could represent from two to eight percent of the general population (Faber and O'Guinn 1992). Roberts and Manolis (2000) have found

the incidence of compulsive buying to be as high as eleven percent among younger generations. Due to the costs of compulsive buying to both individuals and society in terms of indebtedness, bankruptcies, and dysfunctional families, it is important that we broaden our understanding of such enigmatic consumer behavior.

Marketing has been cited as a key cause for compulsive buying with ubiquitous marketing messages designed to create desires for purchase and encourage materialism (cf. Roberts and Manolis 2000; Damon 1988). However, marketing may serve only a facilitating role. The roots for compulsive buying may lie within the family. The relationship of compulsive buying to other addictive behaviors indicates that there may be a genetic predisposition to compulsive buying (Black et al. 1998; Faber 1992; Friese and Koenig 1993). Research has also shown that the family environment plays a critical factor (cf. Desarbo and Edwards 1996; Rindfleisch et al. 1997; Roberts et al. 2003). The purpose of this research is to elucidate the role family plays in compulsive buying by looking at the relative influence of nature (the genetic predisposition to compulsive buying) and nurture (the role of the family environment). By identifying the impact of these two factors, marketing can better understand and define its own role in creating, as well as potentially remedying, this societal problem.

ANTECEDENTS OF COMPULSIVE BUYING

Previous research suggests that compulsive buying is caused by psychological tension (as a result of either internal or external stimuli) that creates the urge to buy leading to immediate gratification followed by guilt. This vicious cycle is repeated over and over, despite the long-term negative consequences for the individual of personal distress, marital or family discord, and high levels of indebtedness and bankruptcy (Christenson et al. 1994; McElroy et al. 1994; O'Guinn and Faber 1989; Roberts 1998; Roberts and Jones 2001).

Valence, d'Astous and Fortier (1988) describe four antecedents of compulsive buying: family environment, genetics, situational variables, and biological dysfunction. Our research will assess the effect of two of these – genetics and family environment– on compulsive buying.

- Genetics, or nature: Factors relating to the family predisposition to compulsive buying.
- Family environment, or nurture: Factors relating to the family environment that may encourage (or discourage) compulsive buying.

Nature

According to Faber (1992), “some researchers believe that there is a genetic element making people from families with some form of impulse control problem more at risk for these disorders.” Seligman (1994) in summarizing the research about the role of genetics on adult personality concludes “... studies find massive effects on adult personality and only negligible effects of any particular events” (p. 231). Identical twins reared apart are far more similar as adults than fraternal twins reared together across a broad spectrum of personality types. Additionally, adopted children share more in common as adults with their biological parents than their adoptive parents. This research sug-

gests a genetic role in the compulsive buying disorder.

Several studies support the potential importance of genetics in compulsive buying behavior based on family history (McElroy et al. 1994; Black 2001; Black et al. 2001). Black et al. (1998, p. 960) conclude “compulsive buying itself may run in families.” Their research shows that compulsive buyers report effects of the disorder over as many as three generations, typically following the maternal lineage. Friese and Koenig (1993) find that compulsive buyers identify their parents' buying behavior as a significant factor in their own compulsive buying. D'Astous et al. (1990) and Roberts (1998) observe a positive relationship between consumers' perceptions of their parents' compulsive buying tendencies and their own compulsive buying tendencies.

Research further suggests that addictive or compulsive behaviors often relate to the existence of these behaviors within the immediate family. Several studies have shown that relatives of compulsive buyers are more likely to suffer from disorders such as depression, alcoholism, and drug use and have more psychiatric disorders in general than relatives of “normal” consumers (Black et al. 1998; McElroy et al. 1994; Valence et al. 1988). Frost et al. (2002) find that compulsive buyers report more family histories of depression and anxiety than observed in a control group. All of this research provides evidence of a possible genetic link to compulsive buying behavior. Additionally (as shown in the preceding discussion), specific effects can be expected as it relates to parental tendency toward compulsive buying and presence of other family dysfunctional behaviors.

H₁: Genetic predispositions (nature) toward compulsive buying will increase the likelihood of compulsive buying.

H_{1a}: Individuals whose parents engaged in compulsive buying are more likely to be compulsive buyers than those whose parents did not display compulsive buying tendencies.

H_{1b}: Individuals with a family history of dysfunctional behaviors are more prone to compulsive buying than those without a family history of these behaviors.

Nurture

Despite the strong influence of genetics on adult personality and behavior, Seligman (1994) asserts that there is ample room for non-genetic influences on adult personality given that genes account for less than half of the variance. Scherhorn et al. (1990, p. 368) find that compulsive buyers "have been exposed to a systematic, repeated and prolonged denial of their feelings" in the family environment. D'Astous and Tremblay (1989) postulate that compulsive buying tendencies may originate in early consumption experiences and become progressively more severe over time. In further research, d'Astous et al. (1990) conclude that conflicts, troubles, or disorders within the family unit are linked to compulsive buying tendencies in adolescents. These findings show a role for nurture as well as nature in compulsive buying disorders.

Research has shown a relationship between several factors in the family environment and compulsive buying: gender of the child, divorce, family resources, family stressors, family communication patterns, and parental yielding to a child's requests.

Research evidence suggests that the vast majority of compulsive buyers are female (Faber 1992; O'Guinn and Faber 1989; Roberts 1998; Roberts and Martinez 1997; Scherhorn et al. 1990). The high level of compulsive buying among young females may be linked to how children are socialized. Compared to males, young females are more likely to receive gifts of money and are not generally taught to be as money conscious as their young male counterparts (Furnham and Thomas 1984). Further, females are more likely to have been socialized to derive pleasure from shopping (Roberts 1998). Women still do more of the household shopping, which may provide them with a socially acceptable activity to deal with the exi-

gencies of daily life. Scherhorn et al. (1990) posit that women are socialized to develop more passive and emotional ways of coping with stress and conflicts. Therefore, compulsive buying may become a way for women to receive an "emotional lift" (O'Guinn and Faber 1989), repair hurt feelings (Elliott 1994), and/or improve their sense of self-worth (d'Astous 1990).

D'Astous et al. (1990) find that divorce has a significant impact on the likelihood of compulsive buying. The authors conclude that compulsive buying tendencies appear to be influenced by environmental factors as well as personal factors. In addition, divorce has been shown to play a significant role in the compulsive buying and materialism levels of young adults and adolescents (Rindfleisch et al. 1997; Roberts et al. 2003).

Rindfleisch et al. (1997) find higher levels of compulsive buying in young adults from disrupted families than intact families. They also find the effect of family disruption is mediated by family resources (the amount and quality of various tangible and intangible resources provided by the parents) and family stressors (events that placed stress on the child or family – e.g., a move, physical abuse, etc.) when the child was growing up. In their analysis, Rindfleisch et al. (1997) show that family stressors have a positive, direct effect on compulsive buying, while family resources have a negative, direct effect.

In further analysis in the paper, Rindfleisch et al. (1997) show that tangible family resources (spending money, food, clothing) and intangible family resources (time and attention, discipline, love and role modeling/guidance) have different effects on materialism. Intangible family resources have a significant effect, while tangible family resources do not. As a result, we look at these two components of family resources independently in our analysis. As shown in Rindfleisch et al. (1997), we anticipate that each of these factors will have a significant and negative effect on compulsive buy-

ing behavior. Tangible family resources allow families to offset other negative events such as divorce and stressors, plus provide the luxury to get additional help as needed to provide the intangible family resources needed by children. Intangible family resources provide the ability to train children to become "good" consumers and also prevent indulging children due to a feeling of guilt often associated with parents spending too little time with their children.

Family communication patterns have been successfully used to predict how a child will be socialized as a consumer while a child's consumer behavior is conditioned by the style of communications between the parent and child (Caruana and Vassallo 2003). Moschis (1985, p. 910) asserts, "Parents can influence the development of consumer behavior in their children both directly and indirectly." Family communication patterns have been shown to have an important influence on compulsive buying behavior. Two types of communication patterns have been identified: socio-oriented and concept-oriented.

Socio-oriented communication patterns are designed to produce deference and foster harmonious and pleasant social relationships at home. Moschis (1985) suggests "parents who emphasize the importance of pleasant social relationships in the family in their communications with their children may implicitly encourage their children to evaluate their actions (including consumption behaviors) on the basis of their perceived effects on others" (p. 906).

In contrast, concept-oriented communication patterns focus on positive constraints that help the child develop his/her own views about the world (Moschis 1985, p. 894). The child is encouraged to evaluate alternatives on the basis of objective (rather than social) evidence. This early training in communication may lead to the development of more rational or economic motivations for consumption as an adult (Moschis and Moore 1981).

DeSarbo and Edwards (1996) find that compulsive buyers are more likely to come from fami-

lies emphasizing socio-oriented communication patterns. Moore and Moschis (1981) find that family communication patterns influence the degree to which children perform socially desirable consumer activities. Specifically, greater concept-orientation (vs. socio-orientation) in family communication patterns leads to lower levels of materialism and more socially desirable consumer activities in adolescents. Carlson et al. (1992) find that these communication patterns are typically reflected in more general socialization strategies employed by mothers with adolescents.

Parental yielding to children's requests for consumer goods may be used to appease or placate children. While parental yielding to a child's requests encourages freedom, it does not teach children the skills needed to become competent consumers. This lack of training for a young consumer is likely to be exhibited in adult consumption tendencies (Scherhorn et al. 1990). Parental yielding is likely to lead to compulsive buying because children do not learn when and why they should disregard their urge to buy or when purchases are truly needed or important.

Across all of this research, support is provided for a key role for family environment on compulsive buying tendencies. Children from divorced families and families with fewer resources, more stressors, socio-oriented family communication patterns, and permissive parenting styles are more prone to compulsive buying.

H₂: The family environment (nurture) will impact the likelihood of compulsive buying.

H_{2a}: Females will be more likely to engage in compulsive buying than males.

H_{2b}: Individuals from divorced families will be more likely to engage in compulsive buying than those from intact families.

H_{2c}: As tangible family resources increase, the likelihood to engage in compulsive buying decreases.

H_{2d}: As intangible family resources increase, the likelihood to engage in compulsive buying decreases.

- H_{2e}: As family stressors increase, the likelihood to engage in compulsive buying increases.*
- H_{2f}: Individuals from families using socio-oriented communication patterns will be more prone to engage in compulsive buying.*
- H_{2g}: Individuals from families using concept-oriented communication patterns will be less prone to engage in compulsive buying.*
- H_{2h}: Individuals from families with more parental yielding will be more likely to engage in compulsive buying.*

METHODOLOGY

This study used a self-report questionnaire as the survey instrument. Four hundred and seventy-nine Mexican adolescents and young adults completed the questionnaire. Questionnaires were completed at a major university in northern Mexico as well as two junior highs and one high school that are part of the university educational system. The final sample is 48 percent male and 52 percent female between the ages of 12 and 32. Sample characteristics can be found in Table I.

Mexican adolescents and young adults were used in this study for three reasons. First, it extends current research beyond the U.S. and French Canadian cultures studied in the research to date. Second, as an emerging economy with closer ties to the U.S. and potential growth through NAFTA, the negative consequences of success (such as materialism and compulsive buying) may become more prevalent in Mexican society (Roberts and Martinez 1997; Roberts and Sepulveda 1999). Third, marketing messages are not as ubiquitous in Mexico as they are in the U.S. As a result, it is a better culture for isolating the effects of nature and nurture.

Measure of Compulsive Buying

This study uses the 13-item compulsive buying scale developed by Valence, d'Astous, and Fortier (1988). The Valence et al. (1988) scale was modified to more accurately capture the construct in the Mexican culture (see Table II). Items 10 and 13 were both dropped from the scale used in our study. Item 10 deals with direct mail and is not appropriate in Mexico. Item 13 lacks face validity and was thought to be too abstract for Mexican adolescents. Slight modifications were made to items 2, 3, 6, 7, 8, 11, and 12 to clarify their meaning and to use age-

TABLE I
Sample Characteristics
(N=479)

GENDER	%	AGE	%
Male	48	11-17	35
Female	52	18-21	52
		> 21	13
INCOME		EDUCATION	
Under \$15,000	18	Secondary (7-9)	29
\$15,001-25,000	22	High School	4
\$25,001-30,000	14	College	67
More than \$30,000	46		
DIVORCE			
Intact Families	93		
Divorced Families	7		

appropriate vocabulary. The original scale has been shown to be reliable ($\alpha = 0.83$, d'Astous 1990) and valid (Valence et al. 1988). Table II contains a listing of scale items as developed by Valence et al. (1988) and as modified for the culture in our present study. The five-point scale ranges from "strongly disagree" to "strongly agree." We find that the modified 11-item scale has the same level of reliability observed by d'Astous (1990, $\alpha = 0.84$).

Nature

In developing our measures of nature, we reviewed the literature for scales that show a potential genetic predisposition for compulsive buying. Based on this review, two scales are used to measure nature's impact on compulsive

buying. The first measure, a scale developed by Valence et al. (1988) and referred to as family biology, assesses the extent of dysfunctional behavior among family members. This scale is based on seven questions that ask respondents whether any immediate family members (mother, father, brothers, or sisters) experience the following symptoms: alcoholism, anorexia, bulimia, extreme nervousness, depression, gambling, or drug problems. A yes response to any symptom is coded as "1," a no response "0." The seven questions are then combined to form the final scale. As a result, a respondent who had immediate family members who experienced each of these symptoms would have a "7" for the score, and a respondent who had no immediate family members who experienced any of the symptoms would have a score of "0."

TABLE II
The Compulsive Buying Scale
Valence et al. (1988) Scale **Modified Scale**

- | | |
|---|--|
| 1. When I have money, I cannot help but spend part or the whole of it. | 1. When I have money, I cannot help but spend part or the whole of it. |
| 2. I am often impulsive in my buying behavior. | 2. I often buy something I see in a store without planning, just because I got to have it. |
| 3. For me, shopping is a way of facing the stress of my daily life and of relaxing. | 3. Shopping is a way of relaxing and forgetting my problems. |
| 4. I sometimes feel that something inside pushed me to go shopping. | 4. I sometimes feel that something inside pushes me to go shopping. |
| 5. There are times when I have a strong urge to buy (clothing, books, etc.). | 5. There are times when I have a strong urge to buy (clothing, tapes, jewelry, etc.). |
| 6. At times, I have felt somewhat guilty after buying a product, because it seemed unreasonable. | 6. At times, I feel guilty after buying something. |
| 7. There are some things I buy that I do not show to anybody for fear of being perceived as irrational in my buying behavior ("a foolish expense"). | 7. There are some things I buy that I do not show to anybody because I am afraid people will think that I wasted my money. |
| 8. I often have an unexplainable urge, a sudden and spontaneous desire, to go and buy something in a store. | 8. I often have a real desire to go shopping and buy something. |
| 9. As soon as I enter a shopping center, I have an irresistible urge to go into a shop to buy something. | 9. As soon as I enter a shopping center, I want to go in a store and buy something. |
| 10. I am one of those people who often respond to direct mail offers (e.g. books & records). | 10. I have often bought things that I don't need even when I knew I had very little money left. |
| 11. I have often bought a product that I did not need, while knowing that I had very little money left. | 11. I like to spend money. |
| 12. I am a spendthrift. | |
| 13. I have sometimes thought "If I had to do it over again, I would ..." and felt sorry for something I have done or said. | |

The second measure is a two-item scale on perceptions of compulsive buying by one's parents. This measure uses a scale developed by d'Astous et al. (1990). Coefficient alpha for the two-item scale is 0.65.

Nurture

The nurture measure is comprised of seven separate indicators of the family environment that have been shown to individually impact compulsive buying behavior. These measures are: gender of the respondent, divorce in the family, tangible and intangible family resources, family stressors, parental yielding, and socio-oriented and concept-oriented family communication patterns.

Gender of the respondent was coded such that males were assigned a "0" and females "1." Divorce is a self-reported item on whether the individual's parents ever divorced. A "0" indicates the family remained intact, and a "1" that the parents divorced. The family resources measure, used by Rindfleisch et al. (1997), is a seven-item scale assessing tangible resources (spending money, food, clothing) and intangible resources (time and attention, discipline, love, role modeling and guidance). The scale shows good reliability with a coefficient alpha of 0.76.

The family stressors scale is a ten-item scale drawn from the Life Experiences Survey (Sarason et al. 1978) and has the same items used by Rindfleisch et al. (1997). This scale assesses events ranging from a move to problems with school work, physical abuse, or the police. The coefficient alpha for the scale is 0.82.

Parental yielding to a child's requests is measured using a revised version of the five-item scale designed by Carlson and Grossbart (1988). Carlson and Grossbart's scale was originally designed for parents to determine how often they yielded to their child's request for various products (candy, games/toys, magazines/comics, snack foods, sports equipment). The scale items, as used in the present study,

are revised so that the questions reflect a child's perspective. Responses are recorded on a five-point scale from "very seldom" to "very often." Coefficient alpha for the present study is 0.78.

Concept-oriented and socio-oriented family communication patterns are measured through an eight-item and seven-item scale, respectively. These scales were designed by Moschis and Moore (1981) to measure communications directly relevant to consumer behavior. Responses to these items are recorded on a five-point scale that ranges from "very often" to "never." Coefficient alpha for the concept-oriented and socio-oriented scales in this study were 0.68 and 0.63, respectively.

ANALYSIS

D'Astous (1990) suggests that we treat compulsive buying as a continuous variable. As a result, the primary method of analysis was hierarchical multiple regression, using compulsive buying as the dependent variable. The independent variables representing nature and nurture were entered separately to assess the effect of each. Additionally, for the full model, the nature measures were entered first, followed by the nurture measures.

Regression Analysis—Quality of the Model

The model does not appear to violate any of the assumptions for linear regression. The model significantly explains variance in compulsive buying ($p \leq 0.0001$). The nature and nurture variables combined explain 24 percent of the variance in compulsive buying which is quite strong for a survey-based model of a complex phenomenon.

Results – Overall Model

The model for nature is significant ($p \leq 0.0001$) with R^2 of .092. These findings provide support for hypothesis 1, indicating that nature has a significant effect on compulsive buying. In fact, nature by itself explains almost ten percent of the variance in compulsive buying.

The model for nurture is also significant and positive ($p \leq 0.0001$) with R^2 of .209. This result provides confirming evidence for hypothesis 2 that nurture impacts compulsive buying behavior, explaining over 20 percent of the variance in compulsive buying. As negative influences in the family environment increase, then the adolescent or young adult is more likely to exhibit compulsive buying behavior.

In the full model, nature and nurture are shown to have discriminatory explanatory power. The R^2 change when nurture is added to the model shows that nurture explains a significant portion of the variance of compulsive buying, beyond the effects of nature ($p \leq 0.0001$). Table III summarizes the model results for the nature and nurture factors.

Results—Individual Variables

Nature. Table IV summarizes the standardized coefficients and significance for each of the independent variables in the model. The coefficients for the parents' tendency toward compulsive buying and the predilection for immediate family members to have dysfunctional behaviors (e.g., alcoholism, bulimia, etc.) are both positive and significant (.168 and .080, $p \leq .0001$ and $p = .041$). These findings support hypotheses 1a and 1b that parental compulsive buying tendencies and dysfunctional behaviors within the immediate family increase the likelihood of compulsive buying behavior.

Looking at the standardized coefficients for the nature variables, parental tendencies toward compulsive buying have the strongest effect,

followed by dysfunctional behavior in the immediate family.

Nurture. As can be seen in this table, the coefficient for gender is positive and significant (.222, $p \leq 0.0001$). This finding supports hypothesis 2a that females are more likely to engage in compulsive buying than males.

The coefficient for divorce is not significant; therefore, H2b is not supported (.033, $p = .228$). Divorce does not have a significant effect on compulsive buying. Tangible and intangible family resources do have a significant effect on compulsive buying (.097 and -.110, $p = .023$ and .011, respectively). Intangible family resources have a negative effect on compulsive buying as hypothesized; however, tangible family resources have a positive effect (opposite of that hypothesized). These findings indicate that more tangible family resources (spending money, clothing, food) increase the likelihood of compulsive buying, while more intangible family resources (time and attention, discipline, love and role modeling/guidance) decrease the likelihood of compulsive buying. These findings support H2d but not H2c.

The presence of more family stressors (e.g., a move, major change in family finances, etc.) also increases the likelihood of compulsive buying (.086, $p = .027$). This finding supports H2e. As seen in prior research (Desarbo and Edwards 1996), we also find that socio-oriented communication patterns have a significant and positive effect on compulsive buying (.124, $p = .004$) while concept-oriented communication has a negative but non-significant effect (-.07,

TABLE III
Regression Models for Nature and Nurture
Dependent Variable: Compulsive Buying

	Significance	R^2	Adjusted R^2	R^2 Change	Significance of Change
Nature Only	$\leq .0001$.092	.088		
Nurture Only	$\leq .0001$.209	.191		
Nature and Nurture	$\leq .0001$.240	.222	.157	$\leq .0001$

TABLE IV
Coefficients for Nature and Nurture Model
Dependent Variable: Compulsive Buying

Variable	Standardized Coefficient	Significance
Nature		
Parents' tendency toward compulsive buying	.168	≤.0001
Family biology	.080	.041
Nurture		
Gender	.221	≤.0001
Divorced parents	.033	.228
Tangible family resources	.097	.023
Intangible family resources	-.110	.011
Family stressors	.086	.027
Socio-oriented communication pattern	.124	.004
Concept-oriented communication pattern	-.070	.073
Parental yielding	.260	≤.0001

$p=.073$). These findings support H_{2f} but not H_{2g} . Finally, a greater tendency for parents to yield to a child's requests is positively associated with compulsive buying (.26, $p \leq 0.0001$), providing support for H_{2h} .

For nurture, parental yielding has the strongest effect on compulsive buying tendencies. In fact, parental yielding has the largest standardized coefficient of all of the variables examined. Gender, socio-oriented communication patterns, intangible and tangible family resources, and family stressors are the other significant "nurture" predictors of compulsive buying (in that order).

DISCUSSION

The contribution of this study is threefold:

- It provides a framework for understanding the relative impact of two important antece-

dents to compulsive buying: nature and nurture.

- It assesses the relative impact of nature and nurture on compulsive buying behavior and investigates the influence of individual components of both on such behavior.
- It summarizes the implications of compulsive buying behavior for marketers and public policy makers.

The results of this study provide evidence that both nature and nurture play a role in compulsive buying behavior, with each antecedent explaining a significant amount of the variance in compulsive buying behavior. In fact, these two factors alone account for 24 percent of the variance in compulsive buying. These findings indicate that while marketing may serve a facilitating role in compulsive buying behavior, it is certainly not the only factor in creating compulsive buying behavior. As a result, looking for

simple antidotes to this condition may well miss the point.

Specific variables for nature that are shown to impact compulsive buying include: parental tendencies toward compulsive buying and presence of dysfunctional behaviors in the immediate family. These variables point to family history as an important explanatory variable.

Several family environment (nurture) variables have been shown in prior research to impact compulsive buying behavior. Our study finds support for several of these variables to have a direct, positive effect on compulsive buying: gender, parental yielding, socio-oriented communication patterns, and family stressors.

In addition, we find support for an effect by tangible as well as intangible family resources. The majority of past research has looked at these two components as one variable in terms of its effect on compulsive buying. The results show that the effect of family resources on compulsive buying is negative (Rindfleisch et al. 1997). However, our research shows the importance of looking at these two variables separately. While intangible family resources do have a negative effect on compulsive buying, tangible family resources have a positive effect. In other words, as tangible family resources increase, so too does the likelihood of compulsive buying. In looking at this further, the primary variable driving the effect of tangible family resources on compulsive buying is the availability of spending money ($\beta = .132$, $p = .008$). Neither food nor clothing has a significant effect on compulsive buying behavior ($\beta = -0.091$, 0.071 ; $p = 0.066$, 0.167 , respectively). As a result, it appears that when parents provide more support in terms of spending money, it may encourage a tendency toward compulsive buying. Further research is needed to better understand this relationship, especially since historical research has supported that increased resources (both tangible and intangible) serve to discourage compulsive buying behavior.

The differences between male and female behaviors have often been debated in terms of whether it is due to genetics or social conditioning, and there is no clear answer. However, it is clear from this and previous research that females are more likely to engage in compulsive buying behavior. Whether males are predisposed toward other dysfunctional behaviors (e.g., gambling as proposed by Black 2001) while females engage in compulsive buying is an important topic for future research.

Two “nurture” variables that we hypothesized would impact compulsive buying behavior, in fact, do not have a significant effect. Concept-oriented communication patterns are hypothesized to have a negative impact on compulsive buying. While the sign is correct, this variable is not significant. As a result, it appears that while encouraging children to think of others in their communications and behaviors facilitates compulsive buying; teaching children to think for themselves and consider the consequences of their actions does not discourage compulsive buying. Further research is needed to understand why concept-oriented communication does not have the expected impact on compulsive buying.

The most surprising finding in our research is that divorce does not have a significant effect on compulsive buying behavior. Previous research has shown a significant, positive effect for divorce on compulsive buying behavior (cf. Rindfleisch et al. 1997). In our study, divorce does not have a significant effect. The reason for this finding may well have to do with the Mexican culture. In Mexico, the divorce rate is much lower than that in the U.S. (3.3 percent vs. 49.5 percent, *Divorce Magazine* 2001). In our study, the divorce rate was seven percent (more comparable to the rate observed in urban areas in Mexico of 4.4 percent (INEGI 2000)). In addition, the average household size in Mexico at 4.9 (KIDS 2001) is much larger than that of the United States at 2.61 (U.S. Census 2000). Mexicans rely more heavily on their extended families to help with child care, emergencies or extra expenses. The low likelihood of divorce

and the larger, extended family structure in Mexico may explain why divorce does not have a significant effect on compulsive buying behavior. The extended family may be able to provide the intangible resources in terms of love and support for the child that mitigates the effects of divorce on compulsive buying behavior. Further research on the role of divorce and the extended family in Mexico may provide additional insights on how building a support network can offset the limit on time and resources from a single parent. These findings have direct implications for divorced parents in the U.S. in terms of the need to build a support structure for children from divorced homes, whether from family, friends or services through local, state, or federal government programs.

STUDY LIMITATIONS AND DIRECTIONS FOR FUTURE RESEARCH

There are several directions for future research based on our findings. First, further research into the relative roles of nature and nurture in producing compulsive buying behavior is needed. Our research is limited due to the use of a survey to try to gather "nature" effects. As a result, these findings could also include a "nurture" component. For example, predisposition for parents to exhibit compulsive buying behavior or family members to show dysfunctional behaviors could result in a family environment that is conducive to compulsive buying as well as the biological predisposition. It is impossible using a survey methodology to entirely separate these two effects.

Research using DNA or genetic testing provides a route to establish the distinction and causality of nature and nurture on compulsive buying. Further, DNA and psychological testing may produce more definitive results on the relationship of compulsive buying behavior to other obsessive compulsive, impulse control, and/or addictive disorders. Understanding the specific genetic trigger(s) for these behaviors may point to a better treatment regimen to reduce the likelihood and degree to which these

behaviors are manifest. In essence, we need to discover the genetic roots of compulsive buying.

In the consumer behavior literature, much of the focus has been on the influence of the family environment on compulsive buying behavior. Despite the strong influence of genetics on adult personality and behavior, there is still ample room for environmental influences. Educating parents and other family members on how to encourage and reinforce positive consumption experiences is important. Social marketing and public policy can focus on specific areas of education for the child and parents. These areas include:

- Helping adolescents deal with disruption due to divorce and other family stressors.
- Building family communication patterns that lead to good consumer and life decisions.
- Yielding when it is the best decision for the child, not when it is the easy way out.
- Using both tangible and intangible family resources to reinforce positive coping styles and strategies in children and adolescents.

Research that develops and tests educational materials is needed to provide guidance on what types of appeals and training are most effective in producing "normal" consumers. In addition, PSAs or other social marketing efforts to depict the importance of creating good consumer skills in children appear to be appropriate and needed.

Our study focused on the Mexican culture. Extending this research to other cultures with varying family dynamics may help determine the specific factors in the family environment and structure that encourage better consumer decisions.

Finally, research is needed that shows the path of causality from the antecedents through the consequences. This path can help determine whether the consequences as a result of "nature" are different or more severe than those from "nurture." Further, this research can be

extended to understand what effects certain appeals have on the various consequences of compulsive buying behavior. For example, consumer education may help the compulsive buyer in terms of a poor credit history. However, such education may not teach the proper means for coping with the stressful events that can lead to disorders such as compulsive buying or other potentially destructive behaviors such as alcoholism, gambling and drug addiction. If not equipped with the means to effectively cope with the exigencies of life, the compulsive buyer may be more likely to revert back to compulsive buying behavior or develop some other disorder.

Understanding the relationships of the treatments to the consequences of compulsive buying may lead to more holistic treatments that accommodate and mitigate the multitude of underlying problems that appear to be a part of the compulsive buying syndrome: guilt, depression, low self esteem, credit card abuse, bankruptcy, and marital and family discord. Further research provides the potential to prescribe treatment options based on the antecedents and needs of the individual, rather than searching for one panacea for all compulsive buyers.

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