Development of a New Scale for Measuring Compulsive Buying Behavior

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Compulsive buying is an abnormal form of consumer spending which afflicts many individuals who, as a result, often find themselves in deep debt. An instrument to assess compulsive spending behavior is developed and the reliability and validity of the scale and its subscales are evaluated. Exploratory and confirmatory factor analyses confirm five hypothesized dimensions comprising compulsive spending: Compulsion/Drive to Spend, Feelings About Shopping and Spending, Tendency to Spend, Dysfunctional Spending, and Post-Purchase Guilt. Financial counselors and therapists could use the scale to signal the need for clients to seek out appropriate resources for help in addressing the underlying behaviors and attitudes that led them to excessive debt.
KEY WORDS: compulsive, measurement, spending

Introduction

Compulsive buying is a phenomenon that has been examined only recently by the psychological community, economists, and consumer behavior researchers. It is an abnormal form of shopping and spending in which the afflicted consumer has an overpowering, uncontrollable, chronic and repetitive urge to shop and spend, compulsive spending characteristically functions as a means of alleviating negative feelings of stress and anxiety. As opposed to impulsive buying, where a consumer makes an unplanned purchase (usually of a relatively inexpensive nature), compulsive buying typically leads to severe negative consequences, particularly serious financial debt, and at the extreme point where the process of shopping and spending becomes addictive, severely disrupts the consumer's daily life.

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Financial counselors are beginning to recognize that many cases of excessive borrowing result from compulsive spending, or have origins in other unhealthy behaviors. It is very important that financial counselors are aware of and are trained to recognize the signals that indicate an addictive process or abnormal consumption behavior is evident in many of their clients' spending and borrowing patterns. Those individuals can then be referred to the appropriate resources for help in addressing such issues. Financial counseling can increase its effectiveness in changing long-term spending and borrowing behavior when applied in conjunction with the proper recognition and treatment of the underlying behaviors and attitudes that can lead the consumer into excessive borrowing behavior. By referral to an external resource, clients of debt management counselors would have the opportunity to reach a higher level of awareness concerning the root causes of their debt and to begin the process of change.

Compulsive buying has been variously defined in recent research. Some authors (Rook, 1987; Rook and Hoch, 1985; Weinberg and Gottwald, 1982) explore impulse buying in terms of what may be more appropriately conceptualized as compulsive purchasing behavior because of similarities in traits and symptoms to obsessive-compulsive behavior, particularly a lack of impulse control. Two other groups of consumer researchers have studied compulsive buying specifically. Faber, O'Guinn, and Krych (1987), Faber and O'Guinn (1988a, 1988b, 1989, and 1992), and O'Guinn and Faber (1987 and 1989), discuss compulsive buying as it relates to personality traits, family communication patterns, and demographic variables, and developed a diagnostic instrument for measurement and classification of compulsive versus non-compulsive buyers. Valence, d'Astous, and Fortier (1988) suggest an approach relating compulsive buying to the three forces: emotional activation, high cognitive control, and high reactivity. d'Astous (1990) models compulsive buying as a high level of the "generalized urge to buy".

Scales for measuring compulsive buying have been developed by some of these authors. Valence et al. (1988) initial 16 item compulsive buying scale measures four factors: a high propensity to spend, psychological tension, feelings of guilt following a compulsive purchase, and parental attitudes. Their results indicate that the items measuring family environment should be eliminated, based on a weak correlation with total score. A reduced 13 item scale resulted in Cronbach's alpha of .88, indicating high reliability. The unidimensionality of the scale was

confirmed with the first factor accounting for 78% of the variation, based on a maximum likelihood factor analysis.

Faber et al. (1987), Faber and O'Guinn (1988a, 1988b, and 1989), and O'Guinn and Faber (1987 and 1989), have conducted research on compulsive buying that succeeds mainly in identifying the characteristics of compulsive buyers and differentiating compulsive from non-compulsive buyers, and that ties in more closely with psychological theories of compulsive behavior and addiction than other research. Faber et al. conducted a pilot study in 1987, and Faber and O'Guinn followed up with a larger survey group in 1988. Compulsive buying is viewed as part of a larger categorization of compulsive consumption, which includes other activities such as compulsive gambling. Their definition of compulsive consumption is "consumer behavior that is inappropriate, typically excessive, and clearly disruptive to the lives of individuals who appear impulsively driven to consume." Note that this definition includes the idea that consumption becomes compulsive when it is a major force in afflicted persons' lives, and involves them to the point of creating dysfunction in other areas of life.

Faber and O'Guinn (1988b) developed an instrument for measuring compulsive buying behavior that includes eight items to assess feelings and attitudes about the process of buying and the types of products purchased. Five-point Likert scales were used to measure most items, either as a frequency or as a level of agreement. Their analysis focused on identifying the variables that distinguish compulsive buyers from the general population. The results of their study indicate a number of differences between compulsive buyers and members of the general population. Compulsive buyers scored higher on questions related to feelings of happiness and enjoyment when purchasing things. They also were more likely to question why they bought certain items after the fact, and even purchased things without caring what they bought. The compulsive buyers experienced a physical or psychological rush when shopping, and depression afterwards. In comparison, the control group reported that they almost never experienced buying episodes in which they could not control themselves.

In later papers, Faber and O'Guinn (1989), and O'Guinn and Faber (1989) elaborate on their compulsive buying scale, with a factor analysis revealing three factors: object attachment (measuring the subject's desire for the object purchase), emotional lift (measuring the positive feeling produced by the process of purchasing), and remorse (guilt or other

negative feelings resulting from shopping). Three subscales based on these factors were created, with fairly high Cronbach's alpha reliabilities of .75, .89, and .71, respectively. The object attachment scale showed that compulsive consumers were less concerned than those from the general population with the item purchased as a reason for buying it, scored higher on the emotional lift factor, and scored considerably higher on the remorse factor.

In their 1989 paper, Faber and O'Guinn carry the analysis one step further. Having identified those variables that distinguish between compulsive buyers and members of the general population, they attempt to use those variables to create a screening measure for classifying compulsive versus non-compulsive buyers. With such an instrument, they hoped to estimate the proportion of the population affected by compulsive buying behavior.

The 14 item screening instrument developed is the simple sum of the scores of the fourteen variables chosen in a discriminant analysis. The scale was tested for unidimensionality and internal reliability within the general population. One factor emerged in factor analysis, with internal reliability estimated by Cronbach's alpha, .83. A comparison was made of the distribution of scores within the two samples and the intersection of those distributions. Only the distributions of the two opposite tails overlapped, as expected, and very few people in the general population scored high enough on the scale to overlap with those in the self-identified group. In order to determine the threshold level to use for classifying an individual as a compulsive buyer, a level two standard deviations from the mean scale score within the general population was chosen arbitrarily.

Aside from the use of an arbitrary cut-off point, a problem with using such a threshold for identifying compulsive buyers in the general population is that it only allows for a dichotomous categorization of compulsive buyers versus non-compulsive buyers. It does not discriminate between inordinately compulsive or addicted buyers and persons who may be somewhat compulsive, and may even include persons who are recreational buyers, who only occasionally use shopping for the same reason as do compulsive or addicted spenders. A more subtle and discriminating scale would allow for identification of different levels of compulsive buying behavior, the threshold levels of which should be determined on a statistical basis. There appear to be individuals who are mildly compulsive buyers and some who are extremely compulsive. In order to better estimate the percentage of the population with truly serious

spending problems, a scale identifying varying levels of compulsive buying would be desirable.

Faber and O'Guinn (1992) reduce their 14-item compulsive buying scale to 7 items, employing a logistic regression that specifies weights for each item's contribution to total compulsive buying score and predicts a dichotomous outcome variable representing whether or not an individual is a compulsive buyer. Only the statistically significant items (p<.05) were retained in their reduced scale. This unidimensional scale reflects such characteristics as lack of impulse control, distress at the thought of others' knowledge of the individual's spending habits, irrational use of credit and money in general, tension when not shopping, and the use of spending to feel better. This scale correctly classified 89.8 percent of the general population sample, and 85.3 percent of the compulsive buying group. The cut-off point chosen for classifying compulsive buyers again was 2 standard deviations above the mean. Although this was a carefully considered decision, it remains a rather arbitrary threshold.

It is important to note that Faber and O'Guinn's scale for compulsive buying, as well as that developed by Valence et. al. (1988), contains items that measure constructs that are distinct from the concept of compulsive spending. These include credit card usage, payment of debt behavior, and attitudes toward money in the former, and items referring to other types of consumption behavior such as impulse buying, catalog spending, and other constructs such as general feelings of regret in the latter. These separate constructs could serve to confound the measurement process when a unique assessment of the concept of compulsive buying is the goal. The scale developed in the present study is an attempt to measure only those dimensions of behavior that are specifically representative of the compulsive spending construct, such as a general tendency to spend, feelings about and experienced while shopping, frequency of shopping and spending, impulsiveness in purchasing, post-purchase guilt, and dysfunction surrounding spending behavior. Credit card usage, family environment, psychological factors such as self-esteem, etc., should be construed as separate variables that might serve to explain compulsive buying.

A subtle scale that allows for identification of low to high levels of compulsiveness in an individual's buying behavior would be an improvement upon Faber and O'Guinn's bivariate classification scheme. Faber and O'Guinn describe Rook's impulsive buying as an acute behavior and compulsive buying as a chronic behavior. The compulsive

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buyer suffers from a chronic loss of impulse control that becomes repetitive and is eventually accompanied by consequences considerably more severe than those experienced by the impulse buyer. However, the impulsive buyer as described by Rook (1987) may occasionally use shopping and spending to escape stress and anxiety, which appears to be the primary motivating force for compulsive buying. Such an impulsive buyer may either be a recreational spender or a borderline compulsive buyer who may be prone to an eventual addiction to shopping and spending, as "redosing" is required to attain the feelings of well-being sought through the shopping and spending process. That is, the prospective compulsive buyer initially finds that shopping and spending provides relief from anxiety, and as with any addictive process, requires progressively more shopping and spending (the addictive commodity) to attain the equivalent level or sense of well-being.

No test or instrument has been developed to determine not only whether a person is a compulsive buyer but also just **how** compulsive or addictive the person is in their buying behavior. Theoretical relationships have been established between personality and compulsive buying by Albanese (1988). In his research relating psychological object relations theory to compulsive consumption, Albanese arrays different personality types along a continuum that identifies the underlying personality organization for different ranges of consumption behavior, including compulsive and addictive consumption. If a parallel can be drawn between compulsive buying and an addictive process, then classifying consumers according to varying levels of compulsiveness in buying is important because their buying behaviors are different relative to their degree of addiction to the shopping and spending process. Note that such a conceptualization includes the "stage" of non-addiction and allows for the classification of non-compulsive spenders.

The compulsive spending scale developed here can be used to identify low to high levels of compulsiveness in clients' buying behavior, as it was hypothesized by Edwards (1992) that compulsive spending is not a dichotomous behavior, but one which lies along a continuum with ranges that could be designated as non-compulsive, recreational, borderline compulsive, compulsive, and addicted buying. Such a continuum is illustrated in Figure 1. Previous studies may have misclassified moderate levels of spending as compulsive or addictive, or labeled as non-compulsive those consumers whose spending dangerously borders on excessive. Most of the population should fall into the lower part of the compulsive buying continuum, and though many persons who find

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themselves in excessive debt may not be addictive in their spending behavior, they may actually experience occasional buying binges motivated by anxiety, and actualized by learned escape coping mechanisms, all of which signify an addictive response.

Figure 1.
The Compulsive Buying Continuum

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Normal/Non-Compulsive   Recreational   Borderline   Compulsive   Addicted
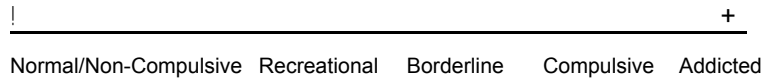
Methodology

The Samples

Data were collected in two groups. First, a sample of self-identified compulsive buyers responded to the survey. This group included persons attending self-help groups for compulsive buyers. The groups for compulsive spenders surveyed were located all over the country. A contact person at each locale was asked to distribute surveys to members of their self-help group, and the individual surveys were returned by mail (a posted, return addressed envelope was included with each questionnaire and cover letter.) Other sources for this sample were therapists, financial counselors, tax attorneys, and other counselors, all of whom specialize in helping compulsive spenders overcome their excessive spending and borrowing habits. In most cases, the survey was given to the compulsive spender by one of these third parties and returned individually by mail. A total of 600 questionnaires was sent to these third parties for distribution. Because of the assurance of complete confidentiality and the use of a third party to distribute the surveys, the exact number of surveys actually received by individual compulsive spenders is unknown. A response rate of 17.33% was obtained with 104 usable questionnaires.

Serving as a comparison group, a convenience sample of 101 responses was collected from the general population. Approximately 75% (78 respondents) of this sample resulted from a direct mailing to a random sample of 300 persons from the Ann Arbor/Ypsilanti area telephone book. A total of 300 questionnaires, including cover letters and stamped return envelopes, were mailed directly to those persons selected. To ensure

a reasonable response rate, a carefully constructed cover letter was attached to each survey, and follow-up postcards were mailed to potential respondents three weeks after the

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Table 1.
Twenty Nine Item Compulsive Buying Scale © Elizabeth Anne Edwards[**]

1.		I usually spend all of my money left after paying bills each month
2.		My spending habits are creating chaos in my life
3.*		I feel driven to shop and spend, even when I don't have the time or the money
4.		I cannot resist sales signs in window or shop displays, I just have to check them out
5.*	R	I get little or no pleasure from shopping
6.*	R	I hate to go shopping
7.	R	I only shop out of necessity
8.		I go shopping and buy things as often as I can
9.		Shopping is **fun**!
10.		I am preoccupied with shopping and spending
11.		I frequently buy things I did not plan to buy
12.*		I go on buying binges
13.		I feel like I just have to spend money left after bills are paid
14.*		I feel "high" when I go on a buying spree
15.*		I buy things even when I don't need anything
16.*		I go on a buying binge when I'm upset, disappointed, depressed, or angry
17.*		I worry about my spending habits but still go out and shop and spend money
18.*		I feel anxious after I go on a buying binge
19.*		I buy things even though I cannot afford them
20.		I center my day around the next time I can go shopping
21.		Many of the things I buy are never worn or used
22.		I hide my spending habits and the things that I buy from family or friends
23.*		I feel guilty or ashamed after I go on a buying binge
24.		I return purchases
25.		I shop and spend even when I don't need anything
26.*		I buy things I don't need or won't use
27.		My debts create problems in my home or work life
28.		I go shopping and buy things to celebrate
29.*		I sometimes feel compelled to go shopping

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* Items retained in the final 13-item scale.
** Please contact the author if you wish to use this scale.

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initial mailing, as suggested by Dillman (1978). Costs precluded further mailings. The response rate was 26%. Another 23 responses were obtained from students or their relatives in an undergraduate evening class at the University of Michigan-Dearborn, in order to have a sample size comparable to that of the compulsive buying group.

The compulsive buying sample consisted of 82% females and 18% males, versus 64% females and 36% males in the comparison sample. The average ages were 39 and 38, and the average incomes were $34,230 and $25,730 for the compulsive spending group and the comparison group, respectively.

Instrument Development

The variable representing the level of compulsiveness in a person's buying or spending behavior was measured initially via 29 five-point Likert scaled questions indicating frequency of behavior or level of agreement. The scale items are shown in Table 1. The compulsive buying scale consists of items intended to measure the dimensions tendency to spend (items 1, 12, 13, 21, 26), frequency of shopping and spending (items 7, 8), feelings about and experienced while shopping (items 5, 6, 9, 14, 16, 28), impulsivity while shopping, in the sense of unplanned purchasing (items 4, 11, 15, 24, 25), post-purchase guilt (items 18, 22, 23), and dysfunction surrounding spending (items 2, 3, 10, 17, 19, 20, 27, 29). The dimensions were chosen so as to develop a pure measure of the compulsive buying construct, without the inclusion of items measuring separate constructs that are evident in compulsive buyers' overall behavioral patterns. Those distinct constructs, such as irrational credit card usage, are either relevant **exogenous** variables for explaining compulsive buying behavior, or results of excessive spending. Were those independent variables included in the compulsive spending scale, the items would serve only to confound, and lead to representation of a construct that would be a combination of endogenous and exogenous variables. The compulsive spending score was represented by the average of all the items and treated as interval for scale development purposes, assuming that this average represents an underlying continuous variable.

The compulsive buying continuum developed by Edwards (1992) is intended to classify consumers according to level of compulsiveness in buying, and may help to better estimate the population proportion of compulsive buyers or nearly compulsive buyers, by allowing for low

(borderline), medium (compulsive), and high (addicted) levels of compulsive buying behavior (i.e., more than one level of compulsive buying behavior), as well as non-compulsive and recreational spending levels. The full compulsive buying scale produced in this study may be used to classify consumers according to these varying levels. Edwards (1992) employed ordinal regression models with compulsive spending as the dependent variable, and identified thresholds that can be used to distinguish between the five levels or categories on the compulsive buying continuum.

Plans for Data Analysis

The questions for the compulsive spending scale were factor analyzed, and confirmatory factor analysis (using the statistical package LISREL) performed based on the exploratory factor analysis structure specified, to test for goodness of fit and dimensionality.

The first technique employed for the purpose of refining the scale was exploratory factor analysis using the maximum likelihood method of estimation. Successive factor analyses were performed, and items with low factor loadings were eliminated at each step, until a clear factor structure with consistently high loadings was achieved.

Confirmatory factor analyses (CFA) were utilized (using LISREL) to further refine the scale and to identify subscales. In effect, an exploratory analysis was conducted using a sequence of confirmatory analyses, beginning with the factor structure generated by exploratory factor analysis. Given the items measuring a construct, confirmatory factor analysis can be used to confirm the underlying dimensions such that these latent factors account for the intercorrelations among the items. In CFA versus exploratory factor analysis, a specified factor structure is evaluated for goodness of fit rather than a factor structure being generated. The fit of the model is determined using the same methods as are used for evaluating any LISREL model (Joreskog and Sorbom, 1989). The CFA's thus performed allowed for further refinement of the compulsive buying scale until a meaningful factor structure was established that also fit the data well, and allowed for the determination of subdimensions or subscales.

Reliabilities of the compulsive spending scale and subscales were assessed using Cronbach's alpha (Carmines & Zeller, 1979), which determines the internal consistency of the scale items.

Construct validity (the extent to which an observation or operationalization measures the concept it is intended to measure) was assessed by first examining convergent validity via confirmatory factor analysis. Convergent validity is the degree to which two or more measures of the same construct agree, and can be determined by the unidimensionality of factors as shown in the factor loadings, in the correlations between the factors, and by the overall goodness-of-fit tests. Construct validity was further assessed by comparing scores on the compulsive spending scale and its subscales across the compulsive buying group and the general population. Those in the general population should score significantly lower on the scale and its subscales.

The compulsive spending scale developed for this study began as a 29 item scale. The scale required analysis to determine construct validity, and part of this analysis entailed eliminating items that reduce such validity, and at the same time developing a resultant scale that achieves reliability and also makes sense theoretically. In addition, it became apparent from respondents' comments, and during coding, that some items were not answered consistently, and that some items allowed for ambiguous answers or simply were not interpreted as intended. Such items also were eliminated from the scale.

The exploratory and confirmatory factor analyses were used to refine the compulsive spending scale. Items with low factor loadings were dropped from the scale only if a reasonable substantive explanation could be found for so doing, and the factor analysis revised until a strong and stable factor structure was identified. The final factors thus established can be used as measures of the subdimensions of the compulsive buying scale.

Results

The compulsive buying sample was used to determine the items to retain in all scales so refined, as opposed to the general population sample or a combined sample. Though not presented here, factor analyses were performed using the general population group to determine whether the structures are widely disparate -- this was not the case, though some minor differences did exist.

The exploratory and confirmatory factor analyses are discussed in the following. In the list of scale items, an "R" following an item indicates that the item should be reverse coded. The scale initially contained 29 items intended to measure compulsive buying, as shown in Table 1. A high

average or total score on this scale represents a high level of the compulsive buying tendency.

Items 1 and 25 were eliminated immediately because they were nearly the same as items 13 and 15, respectively; the correlation structure also indicates stronger correlations between items 13 and 15 and the remaining items. Successive factor analyses, in which items were deleted if factor loadings were low (and theory supported their deletion), resulted in a subset of items with large factor loadings and meaningful factors as dimensions of the scale. Through this process, items 22 and 24 were discarded because factor loadings were low; theoretically, item 24 is stated too generally (a better statement would have been "I return purchases whenever I go on a buying binge"), and item 22, though intended as part of the post-purchase guilt dimension, does not refer to guilt specifically. A factor analysis of the remaining 25 items (2-21, 23, 26-29) appears in Table 2. The items are labeled "CB2" for item 2, "CB3" for item 3, etc.. The five factors generated are described below:

Factor 1: Tendency to Spend
Items 12-16, 21, 26, and 28 load heavily on this factor. These items mostly refer to the respondent's tendency to shop and spend in binges or "buying episodes".

Factor 2: Compulsion/Drive to Spend
Items 3, 4, 8, 10, 11, 20, and 29 have high factor loadings for this factor. These items describe the respondent's "drive", preoccupation, compulsion, and impulsiveness in shopping and spending patterns.

Factor 3: Feelings (Joy) About Shopping and Spending
Items 5, 6, 7, 9 load on this factor, and describe how much the respondent enjoys the shopping and spending activity.

Factor 4: Dysfunctional Spending
Items 2, 17, 19, and 27 describe the respondent's general level of dysfunction surrounding and resulting from his or her shopping and spending behavior.

Factor 5: Post-Purchase Guilt
Items 18 and 23 clearly represent feelings of remorse, regret, and shame experienced after the respondent goes on a buying binge.

The confirmatory factor analysis based on this factor structure results in a χ^2 value of 451.26, with 265 degrees of freedom (p=.000), a goodness of fit index (GFI) of .766 (AGFI=.713), and root mean square residual (RMR) of .079. This fit is clearly inadequate. Based on an examination of standardized residuals, factor loadings, and modification indices, this

and subsequent confirmatory factor analyses were used to justify the further elimination of items until a refined five factor, thirteen item scale was found with acceptable goodness of fit measures, and sufficient to cover the theoretical basis of each

Table 2.
Exploratory Factor Analysis:
Maximum Likelihood Method with Varimax Rotation

| | Compulsive Spending Scale | | | | |
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
CB2	.16	.14	.04	**.64**	.19
CB3	.32	**.62**	.17	.39	.21
CB4	.13	**.56**	.12	.04	.26
CB5	.11	.17	**.82**	-.05	.07
CB6	.10	.05	**.90**	.04	.02
CB7	.28	.28	**.70**	.19	.08
CB8	.31	**.74**	.35	.07	.02
CB9	.17	.30	**.66**	-.05	.01
CB10	.27	**.50**	.16	.23	-.01
CB11	.30	**.50**	.11	.20	.04
CB12	**.72**	.34	.19	.05	.12
CB13	**.50**	.37	-.01	.28	.03
CB14	**.67**	.31	.23	.14	.25
CB15	**.69**	.40	.18	.17	.25
CB16	**.57**	.30	.21	.20	.26
CB17	.48	.16	.18	**.51**	.30
CB18	.30	.08	-.00	.22	**.93**
CB19	.52	.07	.11	**.64**	.10
CB20	.34	**.61**	.23	.09	.08
CB21	**.43**	.37	.12	.17	-.03
CB23	.15	.30	.14	.40	**.54**
CB26	**.56**	.44	.15	.12	.14
CB27	.02	.16	-.12	**.74**	.06
CB28	**.48**	.18	.32	.41	.08
CB29	.46	**.48**	.30	.18	.17
Variance(%)	15.9	30.0	7.8	4.7	2.9
Eigenvalue	4.0	7.5	1.9	1.2	.7

factor. The final scale consists of items 3, 5, 6, 12, 14, 15, 16, 17, 18, 19, 23, 26, and 29; these items are signified by an "*" after the item number in Table 1. The CFA results are shown in Table 3. The χ^2 value for this

analysis is 69.30, with 55 degrees of freedom (p=.093), GFI = .912, AGFI = .855, and RMR = .041, an adequate fit. The factor correlations are mostly very high, which indicates that a unique construct is measured by the scale and that individual subscale scores are consistent. The five factors are as described above, with the following items loading on each factor.

> Factor 1: Items 12, 14-16, 26; Tendency to Spend
> Factor 2: Items 3, 29; Compulsion/Drive to Spend
> Factor 3: Items 5, 6; Feelings About Shopping and Spending
> Factor 4: Items 17, 19; Dysfunctional Spending
> Factor 5: Items 18, 23; Post-Purchase Guilt

The scale itself and its subscales possess reasonably high reliabilities as estimated by Cronbach's alpha (.91, .76, .90, .86, .78, .79, respectively), and fit the data well according to the confirmatory factor analyses.

Table 3.
Confirmatory Factor Analysis: Maximum Likelihood Method

Five Factor Solution
Compulsive Buying Scale

Lisrel Estimates (Maximum Likelihood)
Factor Structure

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5	θ_δ	Mult. R^2
CB3		0.77				0.41	0.59
CB5			0.94			0.13	0.88
CB6			0.81			0.34	0.66
CB12	0.77					0.42	0.58
CB14	0.83					0.31	0.69
CB15	0.88					0.23	0.78
CB16	0.76					0.42	0.58
CB17				0.85		0.27	0.73
CB18					0.84	0.29	0.71
CB19				0.75		0.44	0.57
CB23					0.77	0.41	0.59
CB26	0.75					0.44	0.56
CB29		0.81				0.35	0.65

Correlations Between Factors

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Factor 1	1.00				
Factor 2	0.91	1.00			
Factor 3	0.40	0.48	1.00		
Factor 4	0.78	0.78	0.27	1.00	
Factor 5	0.66	0.64	0.18	0.71	1.00

Chi-square with 55 degrees of freedom = 69.30 (P = .09)
Goodness of fit index = 0.91
Adjusted goodness of fit index = 0.86
Root mean square residual = 0.04

Construct validity is supported by the adequate goodness-of-fit measures, and by the high correlations among the five factors in the confirmatory factor analysis. A comparison was made between the scores on the compulsive spending scale and its subscales across the two samples, in order to further establish construct validity for the compulsive buying scale. Large sample (Z-) tests were conducted for testing the hypothesis that there is a difference between the mean values of the full scale and each subscale for the two groups, and are shown in Table 4.

Table 4.
Z-Tests for differences in mean values of scale and subscales

Variable	Compulsive buying group Mean	general population group Mean	Z-Value	p - V a l u e
Full scale	2.19	1.21	8.92	.00
Subscale 1	2.67	2.61	0.40	.34
Subscale 2	2.02	0.83	8.23	.00
Subscale 3	1.90	1.00	7.30	.00
Subscale 4	2.40	1.12	9.03	.00
Subscale 5	2.37	0.77	11.32	.00

These results provide meaningful evidence that compulsive buyers score significantly higher than the non-compulsive spenders on the full compulsive spending scale as well as on four of the five subscales. The compulsive buyers scored higher, though not significantly higher, on the first factor subscale, which measures a general tendency to spend. This particular result
supports the notion that compulsive buying behavior does not pertain specifically to a need for attainment of objects so much as it is an activity related to dysfunction, impulse and compulsion, and guilt. However, one hesitates to eliminate the items measuring this factor from the full scale, as the confirmatory factor analysis indicates that the five factor solution is statistically significant, and the factors are significantly correlated.

Discussion

The purpose was to develop a scale for measuring compulsive buying that can be used by counselors and therapists to identify whether a client has compulsive spending tendencies, and the severity of those tendencies. In general, the higher the score on the full compulsive buying scale, the higher the individual's compulsive buying tendency. Alternatively, clients can be classified along a compulsive buying continuum ranging across the categories normal (non-compulsive),

recreational, borderline, compulsive, and addicted spenders, in order of increasing magnitude of compulsiveness in buying behavior. The normal (non-compulsive) consumer is assumed to shop and spend mainly out of necessity, the recreational buyer occasionally uses shopping and spending to relieve stress or to celebrate, and the compulsive and addicted spenders mostly buy in order to relieve anxiety, with the addicted spender being someone whose extreme buying behavior has created serious dysfunctions in their daily lives, as does any form of addiction. The borderline compulsive buyer is someone whose spending lies somewhere between recreational and compulsive. The ordinal regression models developed by Edwards (1992) reveal threshold points for each of these levels of compulsive buying behavior, and can be referred to for identifying the severity of an individual's compulsive spending patterns.

One limitation of this study is that the compulsive buying sample is composed of **self**-**identified** compulsive spenders, who are likely to be in a later stage of addiction, and who obviously are no longer in denial of their problem. Although retrospective accounts were requested from the members of the sample, it is not clear that respondents always complied with the instructions. However, in an area of research in its infancy, such as that of compulsive buying research, it is necessary in an empirical study to be certain that compulsive spenders are represented. The only means of ensuring that a large number of compulsive spenders were included in this study was to survey self-identified compulsive buyers.

The "general population" sample is composed of 78 persons from the general Ann Arbor/Ypsilanti area augmented by 23 respondents from undergraduate evening students, and therefore may not be representative of a general population in actuality. However, this sample was intended primarily for making comparisons between compulsive spenders and non-compulsive spenders, and the comparison group so chosen should be sufficient for these purposes.

Understanding the predisposing and concurrent factors that indicate a tendency for compulsive buying can help in intervention strategies aimed at correcting this growing problem. Credit counseling may enable compulsive spenders to establish a financial plan for extricating themselves from debt, but generally does not address the roots of the problem, which may be a general predisposition to compulsive tendencies and compulsions, or serious, deep psychological feelings of unworthiness and emptiness which trigger the anxiety from which compulsive behaviors are usually an escape, albeit temporary. Support groups similar to

Alcoholics Anonymous, which use twelve step programs and deal with compulsive buying as an addiction and with the underlying psychological causes of compulsive buying, provide one source of aid for persons afflicted by addictive buying behavior. Therapists increasingly are recognizing that many different behaviors actually can become addictions, and are now viewing individuals who exhibit such behaviors as addicted or addiction-prone, and develop treatment plans accordingly.

This paper discusses a measurement scale developed to measure levels of the compulsive spending tendency. This scale can be used as a measure of the dependent variable for models intended to predict compulsive buying tendencies. The compulsive spending scale is adequately reliable, and construct validity was established by a statistically significant confirmatory factor analysis model and by a comparison of scores on the scale for the compulsive spending sample and the non-compulsive spending sample. Application of the scale to a larger validation sample is required in order to further assess the scale and its predictive ability.

Financial counselors may be enabled, by using the scale results for individuals, to recommend psychological treatment, as well as to concentrate on teaching the individual how to manage money in light of compulsive spending tendencies.

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