EFFECTIVE PRACTICES OF FINANCIAL EDUCATION FOR COLLEGE STUDENTS: STUDENTS' PERCEPTIONS OF CREDIT CARD USE AND FINANCIAL RESPONSIBILITY

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Abstract
The purpose of this quasi-experimental nonequivalent control group study was to determine the influence that a financial education intervention administered in First Year Experience courses had on students' perceptions of their financial behavior such as compulsive spending and credit card use. This study utilized the five-point Likert-type scales: Compulsive Buying Scale (d'Astous, Maltais, & Roberge, 1990) and the Degree of Irrational Credit Use Scale (d'Astous, 1990) to assess a student's predisposition to spend compulsively and to make unwise decisions with credit cards. This study included 502 students who were enrolled in a First Year Experience course at a mid-sized land-grant Great Plains university. The data were analyzed using t tests and analysis of covariance to determine if a significant difference existed between the groups. There were significant differences in the Compulsive Buying Scale pretest scores between the men and women, indicating that women may have a higher propensity to compulsively spend than men. Analysis of covariance found significant differences between the control group and both treatment groups for many individual questions on the Compulsive Buying Scale posttest as well as the composite posttest score (p < .05). This revealed that the inclusion of financial education in first-year seminars makes a positive difference on the student's perception of their financial behavior regarding compulsive spending decisions.

There are more college students who have credit card debt than have student loan debt (Bradley, 2005). It is clear that American college students are lacking a strong background in financial responsibility (Bittiker, 2010; Johnson, 2005; Tan, 2003). Multiple studies address the issue of college students obtaining credit card debt and the ramifications of the inability to manage the debt. A 2002 survey at the Ohio State University reported 67.1% of the university students dropped out of college due to credit card debt. A study by Shim, Xiao, Barber, and Lyons (2009) found that students who had accumulated high amounts of debt had low academic performance (Shim et al., 2009). Adams and Moore (2007) found a relationship between high-risk credit card behavior...
and individuals who reported being in an abusive relationship or being assaulted. The same study also showed a significant relationship between drug and alcohol abuse and high credit card debt (Adams & Moore, 2007).

Shim et al. (2009) believed that the crucial time to provide financial education to individuals is between the ages of 18-25 or during emerging adulthood. According to Arnett (2000), the college years include developmental phases such as dating potential spouses, developing character, and lifetime personality traits. This time period may also include developing the competencies necessary to be financially responsible. College students revealed that one crucial component of which they identify themselves as an adult is the ability to be financially independent from their parents (Arnett, 2000). The financial practices which students develop during their college years are likely to become habits that will continue throughout adulthood (Arnett, 2000).

Richins (2011) believed the key to finding a way to educate students on becoming financially responsible is to first address the ability to control compulsive spending. Compulsive spending is defined, according to d'Astous, Maltais, Roberge (1990) as, "the incontrollable urge to buy" (p. 306). Compulsive spending can be the cause of the misuse of credit cards and cause college students to amass credit card debt that they struggle to manage (Richins, 2011). According to d'Astous (1990), if impulse control is the main issue of being financially irresponsible, then teaching delayed gratification could be the method to creating financial responsibility among college students.

The U.S. federal government recognized the need to regulate the credit card industry and enacted the Credit Card Accountability Responsibility and Disclosure Act or CARD Act of 2009. This provides federal regulations that specify a minimum age of 21 to open a credit card and bans credit card solicitors from college campuses (United States Federal Reserve, 2009). Some institutions also considered the impact that financial well-being has on a student psychologically, socially, and academically, and choose to create an atmosphere that seeks to improve a student's financial behaviors by offering money management workshops and personal finance courses (Shim et al., 2009).

The research extensively covers the issues college students face when mismanaging their finances and the effects it can cause on their current and future financial situations. One shortcoming in the literature is a lack of solutions to the college student debt problem by determining the most effective method of teaching financial management skills in institutions of higher education. Goetz, Cude, Neilsen, Chatterjee, and Mimura (2011) explored three different methods of educating college students on financial responsibility. The three delivery methods studied were an on-campus financial counseling center, online financial education, and an in-person financial workshop. The results of the Goetz et al., (2011) study concluded that multiple methods of financial responsibility education must be taught during higher education in order to reach all populations of students. Many students choose not to seek financial education on their own, unless they have already experienced a crisis within their personal finances (Goetz et al., 2011). It is important for institutions to proactively educate students by offering the best method for students to learn financial responsibility (Goetz et al., 2011).

Henry, Weber, and Yarbrough (2001) stated that college students do not understand the ramifications of their financial choices and do not see the need to learn money management. Avard, Manton, English, and Walker (2005) found that the majority of first-year college students lacked
a basic understanding of financial concepts. Davtyan (2010) stated that personal finance is an important skill that is not often taught in college. In summary, college students lack financial awareness and do not see a need to learn how to be financially responsible, yet the skills needed for managing money are not often taught during higher education.

**Research Purpose**

This study adds to the current literature by focusing on an intervention strategy for the college student debt problem by determining the most effective method of teaching financial management skills in institutions of higher education. This research increases awareness among higher education professionals on the issue of college student credit card use, compulsive spending, and methods to help educate students to make wise choices with their money. The purpose of this quasi-experimental nonequivalent control group study was to determine the influence that a financial education intervention had on first-year students' perceptions of their own financial behavior such as compulsive spending and credit card use.

**Method**

This was a quasi-experimental nonequivalent control group study that investigated which method of financial education intervention was most effective at creating a change in perception of financial behaviors among first-year undergraduate students using quantitative methodology.

**Participants**

The population was a convenience sample of 502 first-year students from a mid-sized land-grant Great Plains University who were enrolled in a first-year experience course. Of the students in the sample, a majority of students were 18 years of age, 45.7% (n=204). The next most common age was 19, 37.4% (n=167) and finally, 16.9% (n=75) reported an age of 20 or older. The majority of the participants were female 64.0% (n=286) and 36.0% (n=161) were male. According to the National Center for Education Statistics (2011), the undergraduate enrollment of the institution studied was 60.4% women and 53.8% men. The majority of respondents (94.1%, n=415) indicated they were White or Caucasian. Only 5.9% (n=53) indicated they identified with one of the following ethnicities: black or African American, Hispanic American, Asian American, American Indian, Alaska Native, or Native Hawaiian, multiracial, or chose the option of “other” to best describe their identity. The frequencies of each ethnicity were very low; therefore all were compiled into a category called “non-white” in order to analyze the data. According to the National Center for Education Statistics (2011), the ethnicity of undergraduate students enrolled at the institution was 91.1% white and 8.9% total Black, American Indian, Hispanic, Native Hawaiian, Pacific Islander, two or more ethnicities, or other.

**Instruments**

The data collection instrument for this study is a pretest and posttest questionnaire that was developed by the researcher based on the Compulsive Buying Scale by d'Asstous, Mallais, and Roberge (1990), and the Degree of Irrational Credit Card Use scale by d'Asstous (1990). The Compulsive Buying Scale (d'Asstous, 1990) had an alpha of .78 for the authors and .70 in Roberts (1998). The Degree of Irrational Credit Card Use scale (d'Asstous, 1990) had an alpha of .66 for the author and .63 in Roberts (1998). Both scales are, according to Roberts (1998), “highly reliable, one-dimensional, and valid,” (p. 305). By utilizing a developed questionnaire the researcher developed a 25 question survey to be used pre-intervention. The post-intervention surveys contained 23 questions for the control
group, 24 questions for the lecture group and 28 questions for the social media group. The number of survey questions varied due to specific questions addressing the particular intervention. Items in the questionnaire included compulsive spending and purchasing behavior, credit card use, and demographic information like age and gender. The posttest survey included an optional section for students to comment on their purchasing and compulsive spending to gain qualitative data.

**Procedures**

Prior to instrument distribution and intervention, permission was gained from the course instructors to administer the pretest, posttest, and financial interventions to 19 class sections of First Year Experience and gained informed consent from the students who were willing to participate. The survey included multiple-choice answers, Likert-type scales, and room for additional thoughts and comments at the end. There were no incentives provided to the participants. Student participants created an identification number on the pretest and posttest to ensure anonymity. The course sections were randomly assigned into three groups: a control group, a lecture intervention group, and a social media intervention group. The control group received the pretest and posttest, but received no intervention.

The First Year Experience course content did not originally contain a financial education component. The lecture intervention group received a presentation focused on recognizing and controlling compulsive spending as well as techniques to make responsible choices regarding credit card use. Participants in this group were exposed to traditional lecture regarding financial responsibility.

The social media intervention group was introduced to the website, http://yourcashcounts.com and the Money Management Facebook page. The website http://yourcashcounts.com is a project funded by the Consumer Financial Education Development Award. Your Cash Counts (2012) was developed specifically for college-age students to provide financial responsibility education in an interactive website. Through the website, students were able to choose education topics that were of interest to their current lifestyle including the exploration of financial implications when making a decision and methods to cope with consequences of poor financial choices.

Students in the social media intervention group were asked to participate by following the Money Management Facebook page, created by the researcher, during the fall 2012 semester. Throughout the semester, the researcher posted messages and discussion items on the Facebook page to encourage students to control compulsive spending and to make responsible financial decisions. Toward the end of the fall semester, the researcher returned to the same class sections and administered a posttest to all of the class sections.

**Results and Discussion**

**Descriptive Analysis**

The data collected from the First Year Experience students was categorized in terms of quantitative data. Any additional comments students added to the end of the survey were categorized in terms of qualitative data. The quantitative data was analyzed using descriptive and inferential statistics. Descriptive statistics such as means, percentages, standard deviation, frequencies, and t tests were calculated for each of the variables. To analyze potential differences in students’ perceptions of their financial behavior based on ethnicity and family income, one-way analyses of variance (ANOVA) were used. A significance level of .05 was used. Any findings from ANOVA that suggested significant differences were followed with post-hoc test, Tukey’s procedure, to examine differences among subgroups.
Analysis of Covariance (ANCOVA) was used to determine if there were significant differences between the lecture intervention group, the social media intervention group, and the control group. A significance level of .05 was used. Any findings from ANCOVA that suggested significant differences were followed with post-hoc test, Tukey’s procedure to examine differences among subgroups.

The mean and standard deviation was also calculated for individual survey items. A t test was used to determine if there were differences in students’ perceptions of their financial behavior based on gender. To analyze potential differences in students’ perceptions of their financial behavior based on ethnicity and family income, one-way analyses of variance (ANOVAs) were used. A significance level of .05 was used. Any findings from ANOVA that suggested significant differences were followed with post-hoc test, Tukey’s procedure, to examine differences among subgroups.

In total, only 14 out of 151 students joined the Money Management Facebook group. Participants were asked the reason they chose not to join the Money Management Facebook group in the posttest. The number one response was “I forgot” with 84.8% (n=123) students indicating that response. Only 4.1% (n=6) indicated that they chose not to follow the Facebook page because they had no interest in learning money management, while the smallest number, 2.1% (n=3), responded that they chose not to follow the Facebook page for personal reasons. A few students 4.1% (n=6) were unable to locate the Money Management Facebook page and 4.8% (n=7) reported that they do not have a Facebook account. A majority of students (85.5%, n=141) also indicated that they never visited the Your Cash Counts website.

In spite of the low numbers on the Facebook page and visits to the Your Cash Counts website, this study found many statistically significant differences. One difference was found between the means of the men and means of the women on the Compulsive Buying Scale pretest (t(443) = -4.772, p = .004). The scale allowed participants to rank their frequency of compulsive spending behaviors on a scale from one if they never compulsively spent, through five if they always compulsively spent in different scenarios. The men were significantly lower (M = 2.32, SD = .533) than the women (M = 2.61, SD = .651) on the Compulsive Buying Scale pretest indicating that men were less likely to be compulsive spenders than women, prior to any intervention.

A statistically significant difference between the groups was also found for individual questions on the Compulsive Buying Scale, indicating compulsive buying tendencies among participants. The question, “Shopping is a way of relaxing and forgetting my problems,” revealed that the control group was statistically significantly higher (M=2.15, SD=1.13) than the social media intervention group (M=1.93, SD=1.0) and the lecture intervention group (M=1.84, SD=.90). On the same Likert-type scale where the number one indicates never feeling this way and five indicates always feeling this way, these results reveal that students who received the social media and lecture interventions perceived they were less likely to use shopping as a way of relaxing and forgetting problems than students in the control group.

A statistically significant difference between the groups was also found for the question, “There are times when I have a strong urge to buy,” F(2,447)=3.656, p =.027. Participants again chose on the scale from one through five, where one indicates always feeling this way and five indicates never feeling this way. A Tukey post-hoc test revealed that the control group was statistically significantly higher (M=3.00, SD=.82) than the social media intervention group
and the lecture intervention group (M=2.83, SD=.85). This reveals that students who received the social media and lecture interventions perceived they were less likely to have a strong urge to buy than students in the control group.

A statistically significant difference between the groups was found for the question, "There are some things I buy that I do not show to anybody because I fear people will think I made a foolish purchase or that I wasted my money," F(2, 445)=6.629, p=.001. This question also utilized the scale from one to five where choosing the number one indicated never feeling this way through five which indicated always feeling this way. A Tukey post-hoc test revealed that the control group was statistically significantly higher (M=2.20, SD=1.31) than the social media intervention group (M=1.83, SD=.89) and that the control group was also statistically significantly higher than the lecture intervention group, (M=1.77, SD=.90). This reveals that the students who received either the social media intervention or the lecture intervention perceived they were less likely to hide purchases than the control group students.

The posttest included the open-ended question, "An individual whose shopping behavior includes the incontrollable urge to buy is considered a compulsive buyer. What about compulsive spending do you personally struggle with?" There were 272 students who chose to respond to this question. A majority of the respondents (60.3%, n=164) indicated that they struggle with compulsive spending in at least one way. Another 39.7% (n=108) were placed in the category of, "I struggle in multiple ways with compulsive spending." These comments ranged from simply stating, "I struggle a lot," to more specific answers like, "When I walk into a store I want everything so I can be up to date on the newest trends and styles. I can't control myself sometimes, but I am getting better."

Multiple students replied that they shop when they are experiencing stress or have had a bad day. Some responses show a genuine sign of compulsive buying behavior. One student responded, "I want want want all of the time," and another stated, "If I want something, I get it." Finally, one student commented that they believe that walking through a store and leaving without making a purchase is rude and a waste of time.

Student responses also indicated they enjoyed spending money. On the Likert-type scale of one through five post-test, the control group was statistically significantly higher (M=2.98, SD=1.0) than the social media intervention group, (M=2.66, SD=.95) and the control group was also statistically significantly higher than the lecture intervention group (M=2.67, SD=.95). This reveals that students who received the social media and lecture interventions perceived they were less likely to enjoy spending money than students in the control group.

Finally, a statistically significant difference between groups was found for the composite mean for Compulsive Buying Scale post-test, F(2, 444)=5.253, p=.006. A Tukey post-hoc test revealed that the control group was statistically significantly higher (M=2.52, SD=.66) than the social media intervention group (M=2.30, SD=.64) and that the control group was also statistically significantly higher than the lecture intervention group (M=2.31, SD=.56). This reveals that students who received the social media and lecture interventions perceived they had fewer tendencies to compulsively spend than the control group.

**Conclusion**

The introduction of financial responsibility issues, rather than the specific content, appeared to have an impact on the students' decision-making. Of the 168 students who were participants in the Social Media experimental group, only 14 joined the Facebook page and
Table 1 The Significant Differences on the Compulsive Buying Scale

| Question                                                                 | Control Mean n=108 | Lecture Mean n=172 | Social Media Mean n=168 | F Value | df | p    
|--------------------------------------------------------------------------|---------------------|---------------------|--------------------------|---------|----|------
| Q3: Shopping is a way of relaxing and forgetting my problems.            | 2.15                | 1.84                | 1.93                     | 3.26    | 2  | .039* 
| Q5: There are times when I have a strong urge to buy.                    | 3.00                | 2.83                | 2.71                     | 3.66    | 2  | .027* 
| Q7: I would call myself a collector of items or gadgets and purchase items for my collections. | 2.20                | 1.77                | 1.83                     | 6.63    | 2  | .001* 
| Q11: I like to spend money.                                              | 2.98                | 2.67                | 2.66                     | 4.40    | 2  | .013* 
| Compulsive Buying Scale Total score                                      | 2.52                | 2.31                | 2.30                     | 5.25    | 2  | .006* 

* p < .05

24 reported that they visited the website Your Cash Counts on their own. In class, students received a hand-out with instructions to the Facebook page and website and brief introduction to both the website and the Facebook page. After the first week of low responses to the Facebook page, the course instructors were contacted and asked to send students an email with a direct link to the Facebook page and Your Cash Counts website. While these actions did not increase visits to the website or the Facebook page, these students demonstrated a statistically significant reduction on their tendencies to be compulsive spenders compared to the control group. It appeared that by simply introducing these students to money management in their first-year seminar class, awareness of the subject matter was raised, regardless of the fact that few students visited the sites on their own.

The brief introduction of making responsible financial decisions and ways to identify compulsive spending may have encouraged students to consider their own money management behavior and actions. While the social media group, in particular, had a very small intervention, the mere mention of considering your personal finances may have been enough to encourage students to reconsider their spending habits and use of credit cards. This confirms the need addressed by Davtyan (2010) and Wounded Head (2012) for institutions to offer financial education in multiple ways throughout the students' years in college. By increasing awareness on the subject of money management, a student's behavior may change. Kruger (2013) stated that social networking sites can be a tool to connect college students with similar interests and be used to achieve learning outcomes outside of the classroom. If students followed social media sites that taught ways to control compulsive spending, it may build a community of students who believe in making financially responsible decisions.

According to survey responses, many students in this study enjoy spending money. d'Astous, Maltais, and Roberge (1990) revealed that most individuals receive pleasure from immediate spending; however, this joy may be short-lived depending on whether the purchase was compulsive and whether
the student identified the behavior as compulsive. As stated in the findings, many students felt that shopping is a way for them to relieve stress; however, comments revealed that these compulsive spending actions caused additional stress when the student realized that their behavior may be out of control.

Women may be more likely to compulsively spend than men. As the college enrollment of women surpasses men, it is important for higher education administrators to understand the implications this has on the majority population of students (National Center for Education Statistics, 2011). This information may imply that women are using shopping as a recreational activity or as a way to cope with stress more than men are.

Shim et al. (2009) discussed the importance of learning financial life skills during college so that they become habits as adults. If coping mechanisms for stress or emotional upset were taught at the college level, it could encourage students to become financially independent from their parents. It could also help students handle difficult situations without spending money compulsively.

In the commentary section of the survey, the student participants listed specific items they tend to compulsively purchase. This demonstrated that students are able to identify their behavior if taught to recognize certain actions. This is the first step to controlling compulsive tendencies. These results are in line with Roberts (1998) who demonstrated that introducing the concept of compulsive spending to students can cause them to reflect on their own behavior. Even the participants who claimed they do not have compulsive spending tendencies were able to identify at least one item that they may compulsively purchase. If a student can recognize what items trigger them to compulsively spend, these students can be educated to make wise decisions with money.

Of the students who noted a specific item they tended to compulsively purchase, approximately one-third of the participants stated that food and beverages were items they tended to purchase on impulse. One student commented, “I compulsively spend money on food even though I have a meal plan at school.” Many specifically mentioned compulsive spending at restaurants, however, based on the average age of the students in the sample, they would have a campus meal plan. Even with the access of a campus meal plan, these students still compulsively purchased food and drink at off-campus locations such as grocery stores and restaurants. Student comments included, “I compulsively buy food more often than anything,” and, “Sometimes I buy food just because I am bored.”

What is particularly interesting about students making the compulsive decision to go out to eat is that they do not need to prepare their own meal because they can go to any dining option on campus, yet many mentioned they can be easily swayed to make the unplanned decision to leave campus to eat at a restaurant. Students admitted that they let their rational thought that they have a meal plan that provides them with enough food be overruled by their urge to go out. Another student acknowledged that the meal plan enabled compulsive spending by stating, “I compulsively purchase expensive food but with flex dollars it doesn’t matter how much I spend.”

This study did have limitations due to the convenience sample population; therefore results may be different with a sample that includes a high percentage of older students or a diverse student population. Additional findings may be produced with upper-class, traditional-age students who are managing their own money in an off-campus living situation or with non-traditional students or graduate students who have been managing
their own money for a longer time. This study should also be replicated at a college or university with a higher percentage of diverse ethnic and racial backgrounds or a higher population of low-income students. This study did not have a diverse population; therefore, future research could address the need to provide specific financial interventions for minority and low income populations, a need which is mentioned in the literature on financial education.

The findings demonstrated that students can identify ways in which they practice compulsive spending. This study also revealed that women may have a higher propensity to compulsively spend than men. Students who use shopping as a way of relaxing or who have made a purchase they were later ashamed of, may develop better coping mechanisms for stress following a financial intervention. The inclusion of financial education in first-year seminars makes a difference on the students' perception of their financial behavior regarding compulsive spending decisions.

References


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