THE CORRELATION BETWEEN ANXIETY AND MONEY MANAGEMENT

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Finances are frequently cited by college administrators as a top cause of college student stress and drop out. Positive financial behaviors can help prevent financial stress and possibly help with college student retention rates. According to past research, financial behaviors can be predicted based on certain demographic characteristics, resource availability, and financial knowledge. One of the gaps in the literature revolves around the impact that anxiety plays in positive and negative financial behaviors. Students who are anxious are sure to be experiencing a high degree of stress. Using primary data collected from students attending a large Midwestern university, results indicate that anxiety has a significant effect on three financial behaviors. Implications suggest that college financial counseling and mental health programs collaborate to provide holistic services to students which may help to retain students due to financial stress and anxiety.

Keywords: Mental Health Distress, Financial Therapy, Financial Behaviors

Introduction

According to McCormick (2009), an increasing number of financial stressors for individuals and families have been created due to the recession, such as rising fuel and food prices, mortgage and credit crises, increased unemployment, increased bankruptcy filings, and a reduction in savings. Financial distress has been described as an individual's reaction to the condition of their personal financial situation (Prawitz, Garman, Sorhaindo, O'Neill, Kim, & Drentea, 2006). Overdue notices from creditors, check writing with insufficient funds, late bill payments, family arguments about money, and lack of emergency preparedness are financial behaviors that may contribute to financial distress (O'Neill, Prawitz, Sorhaindo, Kim, & Garman, 2006). Furthermore, effects of financial distress have been found to include anxiety, insomnia, headaches, and depression (O'Neill, Sorhaindo, Xiao, & Garman, 2005c). Prolonged financial stress has been shown to produce a negative impact on physical and mental health (Kim, Garman, & Sorhaindo, 2003) and general sense of financial well-being (Weisman, 2002). The purpose of this study was to determine how anxiety is related to financial behaviors. Results provide support for the need for financial therapy since anxiety was found to be highly related to the manner in which people handle their money.

Literature Review and Conceptual Framework

The themes that have emerged in the literature as known predictors of financial behavior include background characteristics, resource availability, and financial knowledge. The unique contribution of this study is to determine how anxiety influences financial behaviors. Positive and negative financial

habits that form when individuals transition to adulthood are likely to continue throughout their adult years (Shim, Barber, Card, Xiao, & Serido, 2009). Since college is considered a transitional time where students face many challenges, including those regarding financial issues, this study concentrates on the impact anxiety might ultimately have on college students' financial behaviors. The extent of financial behaviors is far reaching. For purposes of this study, the following six behaviors were of interest due to their applicability to college students: (a) awareness of debt load, (b) spending more than is earned, (c) difficulty paying bills, (d) paying credit card bills on time, (e) reaching the maximum limit on credit cards, and (f) using cash advances.

Anxiety

According to Klontz and Klontz (2009), when individuals are stressed and feel anxiety, fear, or shame, they feel off-balance and the human brain will attempt to repair or rebalance it by seeking out substances or behaviors, which may include food, nicotine, alcohol or a wide range of human behaviors, including financial behaviors. Research shows a clear relationship between economic distress and reduced mental health status (Voydanoff & Donnelly, 1989; Irwin, LaGory, Ritchey, & Fitzpatrick, 2008), although surprisingly little research has been conducted on the relationship among anxiety and financial behaviors in more recent years. A clinical study by Klontz, Bivens, Klontz, Wada, and Kahler (2008a) focused on lasting mental health improvement and better financial health of participants from a six day treatment program designed to resolve financial and mental health concerns. They found that the treatment program did result in better mental health and financial status of participants immediately after the program and three months after the program ended. Nevertheless, the question regarding whether mental health status, anxiety in particular, is related to specific financial behaviors, such as spending more than is earned or reaching the maximum limit on credit cards, appears to remain unanswered in the literature.

Background Characteristics

Using their publically available Financial Fitness Quiz, O'Neill and Xiao (2003) determined that older respondents report better financial behaviors, such as having enough money to pay bills, having insurance, engaging in comparison shopping, and having goals. Financial anxiety, financial illiteracy, and financial ill-preparedness are concerns for both men and women. Although men and women face basically the same issues related to money, they view them in different contexts. Women are typically more anxious about their future financial security and are more intimidated than men about financial issues (Anthes & Most, 2000). Borden, Lee, Serido, and Collins (2008) found that female college students exhibited lower levels of financial knowledge than their male counterparts. In addition, women tend to report lower financial knowledge than men (Chen & Volpe, 1998; Chen & Volpe, 2002), which may indicate that women also engage in more negative financial behaviors. O'Neill and Xiao confirmed this hypothesis by finding that men reported better financial behaviors on almost all measures of the Financial Fitness Quiz. In general, the most commonly reported best practices of O'Neill and Xiao's sample were having a bank account and having enough money to pay bills. However, the least often practiced financial behaviors included having a will and written financial goals. In certain areas, such as credit card use, it appears that women might hold more positive attitudes towards the use of credit cards (Hayhoe, Leach, & Turner, 1999) or show no difference in their attitude of use of credit cards compared to men (Joo, Grable, & Bagwell, 2003). Women also appear to be better at having and following a written budget than men (Hayhoe, Leach, Turner, Bruin, & Lawrence, 2000).

Ethnicity also may play a role in the determination of financial behaviors. Grable and Joo (2006) found that, when all other factors were held constant, African-American students carried higher credit card balances and reported less desirable financial behaviors than non-Hispanic White students. These behaviors contributed to higher stress levels for African-American students. In a study of college students and their use of credit cards, African-Americans and/or Hispanics were more likely to have difficulty making credit card payments (Lyons, 2004).

Resource Availability

Ability to successfully accomplish positive financial behavior is often measured by income, debt load, and net worth. As noted by Norvilitis, Merwin, Osberg, Roehling, Young, and Kamas (2006), many students incur significant levels of debt while in school. Norvilitis et al. also found that students who experienced higher amounts of debt also experienced greater stress levels and lower perceived financial well-being. Credit card debt is a main concern among college students. Joo, Grable, and Bagwell (2003) reported that 70.7 percent of college students surveyed held one or more credit cards and that slightly over half of the students did not pay their credit cards in full each month. According to Perry and Morris (2005), higher income levels are associated with more responsible financial management behavior. More exploratory research has found that being employed as a student is not related to reporting better financial behaviors (Borden et al., 2008).

Financial Knowledge

Prior literature suggests that knowledge increases positive financial behaviors (Chen & Volpe, 1998; Hilgert, Hogarth, & Beverly, 2003; Perry & Morris, 2005; Bell, Gorin, & Hogarth, 2009). However, conflicting research suggests that participating in seminars does not always increase financial behaviors—at least not immediately (Kim et al., 2003) or that objective financial knowledge, in general, is associated with better financial behaviors (Borden et al., 2008). Objective and subjective financial knowledge have been found to influence financial behaviors, however, subjective knowledge has been found to have a larger impact (Robb & Woodyard, 2011; Shim et al., 2009; Xiao, Tang, Serido, & Shim, 2011). To summarize, this study hypothesizes that background characteristics, resource availability, financial knowledge, and anxiety influence financial behaviors.

Methods

Data

The data used for this study were obtained from college students who sought assistance from an on-campus financial counseling center at a large mid-western university. A total of 312 respondents completed the survey.

Dependent Variables

The specific financial behaviors of interest in this study were (a) awareness of debt load, (b) spending more than is earned, (c) difficulty paying bills, (d) paying credit card bills on time, (e) reaching the maximum limit on credit cards, and (f) using cash advances. Items (a) and (d) indicate positive financial behaviors, whereas the remaining four items indicate unhealthy financial behaviors. The six behaviors were asked on a five point scale where 1=almost never, 2=seldom, 3=sometimes, 4=often, and 5=almost always.

Independent Variables

Background Characteristics. Ethnicity and gender were used to control for background characteristics in which the respondent has no control. Whites were coded 1 and all others were coded 0. Gender was coded 1 = male and 0 = female. No formal hypotheses were developed in regards to the influence of ethnicity and gender on financial behaviors.

Resource Availability. The respondents' income, amount of credit card debt, amount of student loan debt, and self-perceived net worth were used to proxy resource availability. Gross monthly income, and amount of credit card and student loan debt were measured continuously. It was hypothesized that respondents' higher income and less debt exhibit better financial behaviors. Self-reported net worth was measured by asking respondents to answer the following question: "Suppose you were to sell all of your major possessions (including your home), turn all of your investments and other assets into cash, and pay all your debts. Would you be in debt, break even, or have something left over?" A 10 point stair-step scale was used, with a response category of 1 indicating the respondent would be in serious debt, a response of 5 or 6 indicating the respondent would about break even, and a response of 10 indicating the respondent would have money left over. It was hypothesized that respondents who reported a higher level of net worth would exhibit better financial behaviors. All missing resource availability items were recoded with the median score for that item.

Financial Knowledge. This study controlled for subjective and objective financial knowledge. Subjective financial knowledge was measured by the score respondents indicated on a 10-item scale to the following question: "How knowledgeable do you think you are about personal finances compared to others?," with 10 being the most knowledgeable. Missing scores were recoded with the median subjective financial knowledge score.

Objective financial knowledge was measured by the summated score of the following five true or false questions: (a) you may obtain a free copy of your credit report each year (respondent received 1 point if they answered true); (b) higher insurance deductibles lead to lower insurance premiums (respondent received 1 point if they answered true); (c) an annuity is a contract issued by a financial institution that guarantees a series of payments for over a lifetime (respondent received 1 point if they answered true); (d) a mutual fund is an investment company that invests its shareholders' money in a diversified portfolio of securities (respondent received 1 point if they answered true); (e) Social Security and company pension plans are sufficient to meet retirement needs (respondent received 1 point if they answered false); and (f) over 20 years, you will earn more money to invest in bonds compared to stocks (respondent received 1 point if they answered false). It was hypothesized that respondents with higher levels of subjective and objective financial knowledge would have better financial behaviors.

Anxiety. Respondents were asked to report their level of general anxiety, difficulty sleeping, their ability to concentrate on school and/or work, their level of irritability, their difficulty in controlling worries, their level of muscle tension, and their level of fatigue experienced as a result of their financial situation. Questions were asked using a scale of 1 to 7, where 1 = they never experience the above symptoms and 7 = they always experience the above symptoms. Responses to the seven items were summed to create a scale of anxiety. Missing scores were recoded with the median score. It was hypothesized that respondents with greater anxiety would exhibit worse financial behaviors.

Data Analysis

An ordinary least squares regression was conducted for each of the six dependent variables. The sample size for each regression indicates the number of respondents who answered that particular financial behavior item. A correlation matrix of all variables is provided in the Appendix.

Results

Descriptive Statistics

Table 1 displays the descriptive results for the sample. More females (61%) than males

Table 1. Sample characteristics (*n* =307)

Sample Characteristic and Code	%	Mean	Range
Female	61.24%		
Male	38.76%		
White	76.55%		
Other	23.45%		
Monthly gross income		$595.52	$0-$7,440
Credit card debt		$843.28	$0-$24,000
Student loan debt		$16,456.56	$0-$187,700
Perceived net worth		3.02	0-5
Subjective financial knowledge		4.73	0-10
Objective financial knowledge		3.75	0-6
Anxiety score		19.34	7-49

(39%) completed the survey and the majority of the sample was white (77%). Although not used as a predictor variable in the regression due to the cohort effect of all respondents being college students, the mean age of the student sample was 24 years. The respondents earned a modest monthly income of $596, on average. Participants had fairly high debt loads with an average credit card balance of $843 and an average student loan balance of $16,457. The mean self-reported net worth of the sample was marginally above "break-even" (i.e., response category 3 of a possible range of 1 – 5). The mean subjective financial knowledge score indicated that respondents felt about as knowledgeable as their peers (M = 4.73, Range = 0 – 10). Respondents answered 3.75 objective financial knowledge questions out of 6 correctly. Subjective and objective financial knowledge were not highly correlated (r = .21, p < .001), which was expected based on prior research results (see Robb & Woodyard, 2011).

The primary variable of interest for this study was anxiety related to one's personal financial situation. The anxiety score (M = 19.34, Range = 7 – 49) frequency distribution indicate that respondents are currently experiencing, on average, two elements of anxiety, sleeplessness, lack of concentration, irritability, worry, tension, or fatigue related to their personal financial situation. Nearly 10 percent of the sample indicated experiencing all symptoms more than just "sometimes" while only 3 percent of the sample indicated never experiencing any of the symptoms (not shown in table).

Each of the six dependent variables was self-assessed on a five point Likert-type scale as shown in Table 2. Responses for the financial behavior items represented overall positive financial behaviors. Respondents are likely to be aware of the total amount of money they owe (M = 3.81, SD = 0.99), seldom to sometimes have difficulty paying bills because of not enough income (M = 2.26, SD = 1.34), often pay their credit cards in full and avoid finance charges (M = 3.71, SD = 1.51), seldom reach the maximum on their credit cards (M = 2.15, SD = 1.61), and only rarely obtain cash advances to pay money toward other credit balances (M = 1.73, SD = 1.49). However, respondents did display slightly negative financial behavior by sometimes spending more money than they earn (M = 2.30, SD = 1.18).

Table 2. Financial behavior statistics

Financial Behavior Item	n	Mean	SD
I make myself aware of the total amount of money I owe.	296	3.81	0.99
I spend more money than I earn.	292	2.30	1.18
I have difficulty paying bills because of not enough income.	294	2.26	1.34
I pay my credit card bills in full and avoid finance charges.	266	3.71	1.51
I reach the maximum limit on my credit cards.	267	2.15	1.61
I obtain cash advances to pay money toward other credit balances.	281	1.73	1.49
1=almost never, 2=seldom, 3=sometimes, 4=often, 5=almost always			

Regression

An ordinary least squares regression analysis was conducted on each of the six dependent variables. Full results and statistical significance of each regression are reported in Table 3. Anxiety was significantly associated with three of the six financial behaviors (i.e., spending more than is earned, having difficulty paying bills, and reaching the maximum limit on credit cards).

Twenty percent of the variance among individuals who were aware of the total amount of debt owed was explained by the independent variables. Being white (b = .34, p < .05) with higher levels of subjective (b = .15, p < .001) and objective financial knowledge (b = .09, p < .05) was statistically associated with being more aware of the amount of money owed. Having higher credit card (b = -.05, p < .01) and student loan (b = -.04, p < .01) debt loads was negatively associated with knowing how much money a respondent owed.

The predictor variables, including anxiety, were able to explain 16 percent of variance in respondents tendency to spend more money than they earn. Higher levels of anxiety were positively associated with spending too much (b = .02, p < .05). Higher credit card balances was also positively associated with spending too much (b = .10, p < .001). The financial knowledge variables had opposing results. Subjective financial knowledge was negatively associated with spending more than what was earned (b = -.12, p < .01), whereas objective financial knowledge was positively associated with spending more than what was earned (b = .13, p < .01).

Twenty-five percent of the variance in individuals who have difficulty paying their bills due to insufficient income was explained in the third regression model. Once again, higher levels of anxiety was positively associated with a negative financial behavior (b = .06, p < .001). A similar result was also noted for subjective financial knowledge where respondents with lower levels of subjective financial knowledge were positively associated with having difficulty paying bills (b = -.10, p < .05).

A large percent of the variance (48%) in survey respondents who pay their credit card bills in full each month was explained by the independent variables. White respondents have a statistically positive association with paying credit card bills in full (b = .83, p < .001) and, not surprisingly, those with high credit card balances have a negative association with paying credit card bills in full (b = -.27, p < .001).

Reaching the maximum limit on credit cards was statistically related to being male (b = .42, p < .05), having low levels of objective financial knowledge (b = -.24, p < .001), and having a high degree of anxiety (b = .04, p < .001). This regression model explained 16 percent of the variance in reaching credit card maximum limits.

Finally, 16 percent of the variance among individuals who obtain cash advances to pay

Table 3. Statistically significant parameter estimates for OLS regression results

	I make myself aware of the total amount of money I owe.	I spend more money than I earn.	I have difficulty paying bills because of not enough income.	I pay my credit card bills in full and avoid finance charges.	I reach the maximum limit on my credit cards.	I obtain cash advances to pay money toward other credit balances.
Male					0.42*	
White	0.34*			0.83***		
Log gross income						-0.06*
Log credit card debt	-0.05**	0.10***		-0.27***		
Log student loan debt	-0.04**					
Perceived net worth						
Subjective financial knowledge	0.15***	-0.12**	-0.10*			
Objective financial knowledge	0.09*	0.13**			-0.24***	-0.29***
Anxiety		0.02*	0.06***		0.04***	
N	251	247	249	231	233	241
F	6.63***	5.18***	83.89***	22.76 ***	4.74***	4.80*
R^2	.20	.16	.25	.48	.16	.16

* $p < .05$, ** $p < .01$, *** $p < .001$

other credit balances was explained by the model. Lower income (b = -.06, $p < .05$) and objective financial knowledge (b = -.29, $p < .001$) levels were associated with engaging in this negative financial behavior.

Discussion

The purpose of this study was to determine the relationship of anxiety with personal financial management behaviors. Financial distress has been linked to anxiety in past literature (O'Neill et al., 2005c). The current study contributes to the literature by establishing how specific financial behaviors are linked to anxiety among college students. College students endure a number of stressors as they encounter a variety of new experiences, which could have negative impacts on their college success. The results of this study demonstrate that anxiety was significantly related to three of the six personal financial behaviors that were examined. Specifically, spending beyond earnings, difficulty in paying bills due to inadequate income, and reaching the maximum spending limit on credit cards were all behaviors significantly associated with anxiety.

Prior research has focused on the role that background characteristics, resource availability, and financial knowledge play in affecting personal financial behaviors. Whereas acquiring financial knowledge and

strengthening resource availability may be beneficial in ameliorating personal financial decision-making, individuals experiencing symptoms of anxiety, as defined in this research study, may have reason to seek the professional services of a financial therapist. Financial therapy is a process of exploring interior finance concepts, or the way individuals relate to money emotionally, as opposed to the more traditional and better-known personal financial planning process, or exterior finance, which constitutes the mechanics of money and wealth management (Klontz, Kahler, & Klontz, 2008b). As noted by Klontz and associates, interior finance consists of a three-pronged analysis and integration of past money beliefs and experiences, coupled with clarity and awareness of the present, to define and achieve future dreams, goals, and possibilities. The process of financial therapy principally explores stories, beliefs, and experiences from an individual's past that shape actions, behaviors and attitudes, or money scripts, toward current and future personal financial decision-making (Klontz et al., 2008b).

Viewed from the perspective of a preventive approach, financial therapy, in addition to or in lieu of financial counseling, may prove beneficial in managing, reducing or eradicating feelings of anxiety. Shim et al. (2009) found that financial habits formed during the transition to adulthood are likely to persist into and throughout adulthood. As noted by Kim and associates (2003), physical and mental health can be adversely affected by prolonged financial stress. Given the mean age of the cohort examined in this research study, prompt identification of financially induced anxiety emanating from overspending and debt levels, coupled with subsequent early treatment of this condition may prove beneficial in curbing undesirable financial habits. Accordingly, future research is needed to explore how exposure to financial therapy closer to the beginning of the adult life cycle may affect future financial behaviors and financial well-being. Further, future research may be needed to identify standards or stages of financial anxiety that may suggest the need for a more focused financial therapy approach that extends beyond financial counseling.

Other interesting results show that males are more likely to reach the maximum limit on their credit cards, Whites are more likely to make themselves aware of the amount of money they owe and pay their credit card bills in full each month, and those with lower income are more likely to obtain cash advances to pay off other credit obligations. It is not surprising that debt level is negatively associated with knowing how much total debt is owed and avoidance in paying credit card bills in full each month whereas debt levels (particularly credit card debt) is positively associated with spending more than what is earned. Students who reported a high subjective and objective financial knowledge report knowing how much total debt they owe. It is interesting to note that students with low subjective financial knowledge (i.e., they believe they do *not* think they know a lot about finances) spend more money than they earn, but students with high objective (actual) financial knowledge also spend more than they earn. Students with high objective financial knowledge may be operating from a life cycle hypothesis perspective which states that people are happiest when they smooth their consumption over their lifetime, which means borrowing in younger years/college, saving and repaying debt in the middle years, and spending down saving in older years (Ando & Modigliani, 1963). If students are operating from a life cycle hypothesis, it does make sense to accumulate higher amounts of "good" debt (i.e., student loans) in college. Other evidence for the life cycle hypothesis is found in that students with high financial knowledge are not maxing out their credit cards or using cash

advances, which both have excessively high annual percentage rates. Also of interest is that students with low subjective knowledge have difficulty paying their bills. This could be related to a lack of understanding of basic budgeting concepts and/or compound interest.

Conclusion and Implications

Although the findings from this study are of great use to the college financial counseling centers and college administrators, it is important to note several limitations associated with the research that was undertaken. Results were based on a sample that may not be fully representative of the broader United States population. Second, longitudinal studies focusing on levels of anxiety pre- and post-financial therapy sessions, as well as the efficacy of financial counseling on modifying future personal financial behaviors, is desirable and needed. Last, and perhaps most important, the sample in this study consisted of individuals who self-identified as candidates for personal financial counseling, and who may therefore have biased the sample with an anxious precondition. With those limitations in mind, the sample does appear to be representative of college students who self-identify as wanting additional financial education and counseling.

This research study is among the first to explore the role that anxiety plays in personal financial decision-making. Recent national events underscore the need to enhance financial behaviors and strengthen personal financial well-being. Increased focus on college campuses of integrated financial counseling and mental health counseling programs may play an increasingly important role in the nation's quest for personal financial literacy and improved well-being among college students. A more holistic "financial therapy" approach is sure to be valuable to students and administration wanting to increase graduation rates.

Author Note

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The survey used to collect the data was modified midway through data collection. The original version of the survey coded financial behaviors on a four point scale where 1=never, 2=sometimes, 3=usually, and 4=always. The data from the original version of the survey were recoded to 1=1, 2=3, 3=4, and 4=5. This method of recoding was selected to minimize the number of cases affected by the recoding (there were only 75 cases that used the old coding).

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APPENDIX

Correlation Matrix

	Owe	Spend	Bills	CC	Limit	Advance	Male	White	Income	CC Bal.	SL Bal.	NW	SFK	OFK
Aware of money owed														
Spend more than earn	-.12*													
Difficulty paying bills	-.15**	.33***												
Pay credit card in full	.19**	-.28***	-.23***											
Reach limit on credit cards	-.16*		.29***											
Obtain cash advances	-.16**	-.17**	.16**	.25***	.69***									
Male														
White	.15*			.25***										
Income				-.13*		-.18**								
Credit card balance	-.16**	.19**	.12*	-.44***					.22***					
Student loan balance					-.17**	-.17**		.13*	.13*					
Net worth		-.14*	-.16**	.14*							-.42***			
Subjective financial knowledge	.28***	-.13*	-.12*											
Objective financial knowledge	.19**	.13*			-.31***	-.37***		.18**	.19**		.22***	-.16**	.21***	
Anxiety		.19**	.16***	-.19**	.21***		-.13*			.13*		-.18**		