

College Students and Financial Distress: Exploring Debt, Financial Satisfaction, and Financial Anxiety

Kristy L. Archuleta, Anita Dale, and Scott M. Spann

The impact of financial concerns on overall mental health has become a popular topic among researchers and practitioners. In this exploratory study, possible associations of financial anxiety were explored using a sample of 180 college students who sought services at a university peer financial counseling center in a Midwestern state. Of particular interest was the influence of debt on student financial anxiety. To measure financial anxiety, a new scale was developed, the Financial Anxiety Scale (FAS), that can be used as a tool for financial planners, counselors, and educators to identify individuals who are experiencing increased levels of financial distress that may call for a referral to an appropriate professional. Results from two hierarchical regressions indicated that financial satisfaction, student loans, and gender are associated with financial anxiety.

Key Words: financial anxiety, financial counseling, financial satisfaction, financial scale, student debt

Introduction

Financial mental health has recently become a growing topic of interest among researchers. However, practitioners have long been encountering clients who have financial problems that impact their cognitive, emotional, and relational well-being. The most recent research on the topic of financial mental health has been related to financial disorders and money scripts (Klontz, Britt, Archuleta, & Klontz, 2012; Klontz, Britt, Mentzer, & Klontz, 2011; Klontz, Kahler, & Klontz, 2008). Financial disorders that have been identified to date include: a) financial enabling, b) compulsive buying disorder, c) compulsive hoarding, d) pathological gambling, e) workaholism, f) financial dependence, g) financial infidelity, and h) financial enmeshment (Klontz et al., 2008; Klontz et al., 2011). Financial stress and anxiety can also be seen as aspects of financial mental health. Although sparse, research has linked financial stress and anxiety with college student debt (Grable & Joo, 2006; Joo, Grable, & Bagwell, 2003; Norvilitis et al., 2006; Perna, 2008). The current study explained the existing literature related to students' financial mental health. More specifically, the purpose of the study was to explore the associations of students' financial anxiety, in particular the influence of debt.

Literature Review

The period of young adulthood is commonly associated with an increased risk of mental health problems (Hunt & Eisenberg, 2010; Zivin, Eisenberg, Gollust, & Golberstein, 2009). It is also a period of significant life transition typically marked by an increase in financial responsibility. A review of existing literature on debt and mental health of college students suggested there should be an increased focus on the study of financial and psychological well-being of college students. Roberts et al. (2000) identified a link between adverse financial situations of college students and the negative impact on mental and physical health. Andrews and Wilding (2004) found that financial stressors were positively associated with increased anxiety and depression levels among college students in the United Kingdom. Financial stress has also been linked to academic performance (Joo, Durband, & Grable, 2008). Another study of British university students found that poor mental health status was related to financial stressors such as having difficulty paying bills on time (Roberts, Golding, Towell, & Weinreb, 1999). In addition, students who considered leaving their academic programs prior to finishing due to financial strain reported poorer psychological health. Research has indicated a moderate association between debt and mental health problems such as anxiety

Kristy L. Archuleta, Ph.D., LMFT, Editor, Journal of Financial Therapy, Associate Professor, Personal Financial Planning, School of Family Studies and Human Services, Kansas State University, 316 Justin, Manhattan, KS 66506, (785) 532-1474, kristy@ksu.edu

Anita Dale, Ph.D. Candidate, Kansas State University, 3283 E 425 N, Lebanon, IN 46052, akdale@ksu.edu

Scott M. Spann, CFP®, Kansas State University, 316 Justin, Manhattan, KS 66506, (785) 532-1474, sspann@ksu.edu

and depression (Drentea, 2000; Jenkins et al., 2008; Roberts et al., 1999). Furthermore, debt has been associated with a decreased sense of financial well-being and higher reported levels of overall stress (Norvilitis et al., 2006).

Debt

College students encounter a series of complex financial decisions as they determine how to fund their college education (Goetz, Cude, Nielsen, Chatterjee, & Mimura, 2011). Student loans and credit cards have been the two major types of debt receiving attention in scholarly literature pertaining to college students. According to the College Board (2011), the cost of pursuing higher education continues to outpace inflation, with the 2011-2012 published total cost of tuition, fees, and room and board averaging \$17,131 for an in-state public institution and \$28,500 for private colleges and universities. The Project on Student Debt (2011) estimated that two thirds of college seniors from the Class of 2010 who graduated with student loan debt had an average debt load of over \$25,000.

A 2008 study by Perna found that students from mid- and low-resource schools had deep concerns about borrowing to pay for school, seeing school loans as debt rather than an investment in future earnings. These findings were consistent with those by Callendar and Jackson (2008) who found British students avoided college debt by selecting colleges close to home and in low cost of living areas as well as locations that offer employment opportunities. A similar study by Mangan, Hughes, Davies, and Slack (2010) found a significant association between fear of debt and location as being positively associated with university selection in Great Britain. Fenske, Porter, and DuBrock (2000) found that federal financial aid is the major source of financial assistance among American college students. O'Brien and Shedd (2001) reported that student loans were the most common source of aid for low-income students. However, financial aid is most often not enough to offset students' financial needs. In these cases, students often turn to credit cards to pay the difference (Nora, Barlow, & Crisp, 2006).

Much of the financial literature pertaining to college students is related to credit card usage and students' attitudes and behaviors. In 2001, Henry, Weber, and Yarbrough stated that students were on the brink of a financial disaster due to credit card debt and poor financial management behaviors, such as the lack of a budget. Joo, Grable, and Bagwell (2003) confirmed Henry et al.'s (2001) assertion and found that credit card debt was positively related to

negative financial behaviors and financial stress. In addition, they found that the majority of students thought it was acceptable to borrow money to pay for school-related items, costs related to illness, and living expenses. High levels of debt have a negative psychological impact on college students. Lange and Byrd (1998) found that high debt levels were associated with lower self-esteem and a decreased sense of ability to manage personal finances. Furthermore, debt has been found to be related to lower perceived financial well-being and higher stress levels among college students (Norvilitis et al., 2006; Norvilitis, Szablicki, & Wilson, 2003).

Financial Satisfaction

Financial satisfaction is an integral component of overall life satisfaction and well-being (Plagnol, 2011). Norvilitis et al. (2003) demonstrated that perceived financial well-being is related to one's overall psychological well-being. Financial well-being has been commonly measured by one's overall level of satisfaction with their financial situation. Although rarely studied in the college student literature, financial satisfaction has been generally defined as perceived satisfaction of one's income, ability to handle financial emergencies, ability to meet basic necessities, debt level, amount of savings, and money for future financial needs and life goals (Hira & Mugenda, 1998). Due to the fact that financial satisfaction includes both objective and subjective measures of financial status, it is necessary to look at both material and non-material aspects of one's total financial situation (Joo & Grable, 2004). Researchers have demonstrated the influential role that financial satisfaction has both directly and indirectly with a variety of factors such as marital stress, financial solvency, income, financial knowledge, education, and financial stress levels (Joo & Grable, 2004).

Financial Knowledge

Research studies typically operationalize financial knowledge through measures related to either general financial knowledge or specific areas of financial knowledge (e.g., credit card annual percentage rate). Financial knowledge is associated with a variety of financial behaviors such as cash-flow management, credit management, saving, and investing (Hilgert, Hogarth, & Beverley, 2003; Perry & Morris, 2005). Norvilitis and MacLean (2010) found that college students' financial knowledge was a predictor of debt and overall financial well-being. Another study by Norvilitis et al. (2006) found that lower financial knowledge was significantly related to increased debt levels. Robb and Sharpe (2009) suggested that college students

have relatively low levels of financial knowledge. Contrary to previous research, their study found that higher financial knowledge was significantly related to higher levels of credit card debt.

Personal Factors

Personal factors, such as age, gender, ethnicity, marital status, and income, have been associated with aspects of financial mental health and student debt. Sources of stress have been shown to differ based on age. According to a study by Wrosch, Heckhausen, and Lachman (2000), health was a more significant source of stress in older individuals with financial stress being mentioned more often by young adults and middle aged individuals.

In a 2000 study by Hayhoe, Leach, Turner, Bruin, and Lawrence, gender was found to be a significant variable in credit card usage patterns among college students. Specifically, gender was a significant factor in financial practices and the nature of goods purchased with credit. Women were more likely to have regret for a purchase and more likely to write a check with insufficient funds in this study.

Numerous studies have examined wealth differences based on race and ethnicity (Grable & Joo, 2006; Harrison, Edlund, & Larson, 2005; Mossakowski, 2008; Yao, Gutter, & Hanna, 2005). For example, Grable and Joo (2006) found that African-American students were more likely to hold higher amounts of credit card debt and report higher levels of financial stress than other students. In regards to marital status, Robb and Sharpe's (2009) study found married students had unique debt characteristics. Specifically, married students were found to carry larger balances versus single students but were found to be no more likely to revolve credit balances. Marital status was also found to be a factor in financial practices such as having a written budget, keeping bills and receipts, planning spending, shopping with a list, and saving regularly (Hayhoe et al., 2000).

Research has indicated that individuals with higher income levels and total assets displayed an increased likelihood of reporting satisfaction with overall financial well-being (Bonke & Browning, 2009; Porter & Garman, 1992). Likewise, Plagnol (2011) reported that income was positively associated with financial satisfaction. Additional research indicated that significant reductions in financial well-being occurred as personal debt levels increased (Norvilitis et al., 2006).

Individual income has been found to highly correlate with the presence of mental health problems (Gresenz, Sturm, & Tang, 2001; Jenkins et al., 2008). Households with lower income levels have been found to be at an increased risk for several mental disorders across the life span (Sareen, Afifi, McMillan, & Asmundson, 2011). In addition, students coming from low-income families were more likely to use federal student loans as a main source of aid to finance college (Fenske et al., 2000). According to Jenkins et al. (2008), debt and socioeconomic factors may mediate the relationship between income and mental health.

The purpose of this exploratory study was to examine the influence of debt on students' financial mental health. Based on a review of the literature, the following hypotheses were developed:

- H₁: Financial satisfaction is negatively associated with financial anxiety.
- H₂: Total debt is positively associated with financial anxiety.
- H₃: Student loan debt is positively associated with financial anxiety.
- H₄: Other debt, including credit cards, auto loans and installment debt, is positively associated with financial anxiety.
- H₅: Financial knowledge is negatively associated with financial anxiety.
- H_{6a}: Age is positively associated with financial anxiety.
- H_{6b}: Females will have higher financial anxiety.
- H_{6c}: Non-Whites will have higher financial anxiety.
- H_{6d}: Married students will have higher financial anxiety.
- H_{6e}: Income is negatively associated with financial anxiety.

Method

Sample

The sample ($N = 180$) was comprised of student clients who sought services at a Midwestern university's peer financial counseling center. Upon receiving services, clients were asked to complete an intake form and whether or not they would like to participate in a research study. The intake form asked demographic and financial information such as age, marital status, current monthly income, how

much debt they owed, and reasons for their visit. If student clients chose to participate in the research study, they completed a survey that asked questions about financial behaviors, mental health, financial stress, financial satisfaction, risk tolerance, and financial knowledge.

The sample consisted of 37.2% males and the mean age for student clients in the study was 23.77 years. Both marital status and ethnicity were transformed into dichotomous variables. For marital status, 87.8% reported being single or engaged. In regards to ethnicity, 28.3% reported being non-White (see Table 1 for reported percentages of each variable's attributes). Average gross income was \$559.18 per month ($SD = \916.49). Missing data were replaced with the median of \$310, which is a common method used when the number of missing data is small (Field, 2005; Rubin, 1987). A base 10 logarithm was used in the analysis for gross income. The sample characteristics and codes for each variable are reported in Table 1.

Measures

The current study explored the predicting variables on students' financial mental health. Financial anxiety served as the dependent variable and debt (i.e., student loans, credit cards, auto loans, and installment loans), financial satisfaction, financial knowledge, and demographic information (i.e., age, ethnicity, marital status, gross income, and gender) served as independent variables. The following is a discussion of the measurements used in the study.

Outcome variable

Financial anxiety was measured using the newly developed Financial Anxiety Scale (FAS). The FAS was developed by adapting Generalized Anxiety Disorder diagnostic criteria set forth by DSM-IV-TR (APA, 2000) to one's financial situation. Generalized Anxiety Disorder is characterized by excessive anxiety or worry that occurs for six months or longer about events or activities. To be diagnosed with Generalized Anxiety Disorder, one must have

Table 1. Sample Characteristics

Sample characteristic and code	%	<i>M</i>	<i>SD</i>
Age		23.77	6.23
Relationship status			
Single	83		.33
Engaged	7		
Married	2		
Separated	1		
Divorced	7		
Gender			.49
Female = 0	63		
Male = 1	37		
Primary ancestry			
White	74		.45
Hispanic	7		
Native American	1		
African American	10		
Asian	2		
Other	6		
Gross income/month		559.18	916.50
Financial satisfaction		4.25	2.36
Student loans		12297.59	23866.74
Other debt		2845.69	6030.55
Total debt		15143.28	24993.06
Financial knowledge		4.63	1.80

difficulty controlling worry and one's anxiety or worry must be associated with three or more of the following symptoms: a) restlessness or feeling keyed up or on edge, b) being easily fatigued, c) difficulty concentrating, d) irritability, e) muscle tension, and f) sleep disturbances, such as trouble falling asleep or staying asleep. One also must display symptoms severe enough to impair social, occupational, or other important areas of functioning.

The FAS asked participants to rate their reaction to seven items on a 7-point Likert-type scale, ranging from 1 (never) to 7 (always). Missing data were replaced with the median for each item. Once items were summed, scores on the FAS can range from 7 to 49. The mean score for this sample was 19.88 ($SD = 17.0$). Example items on the FAS included: a) I feel anxious about my financial situation, b) I have difficulty sleeping because of my financial situation, and c) I am irritable because of my financial situation. See Table 2 for a complete list of scale items.

At this time, FAS cannot be used as a diagnostic tool because it does not provide cut-off scores to establish if one is clinically financially anxious. Also, there are no set criteria for an established diagnosis of financial anxiety. However, FAS can be helpful in assessing one's current self-reported level of financial anxiety. Further use of FAS can be found in the discussion section. To analyze the validity of the scale, a maximum likelihood factor analysis, using direct oblimin rotation was performed. Field (2005) stated that factor analysis identifies commonalities among groups of variables. According to Field, direct oblimin rotation is useful when there are theoretical reasons to believe that factors are correlated. In this case, it is assumed that the factors are correlated because the

items were borrowed from a set of established criteria in the DSM-IV-TR (APA, 2000). Factor loadings for the scale achieved .72 and above (see Table 2), which supported the construct validity of the scale. Internal reliability, using Cronbach's alpha, was found to be high ($\alpha = .94$).

Independent variables

Financial satisfaction was measured by using a single question similar to the one used by Prawitz et al. (2006). This single item measurement is commonly used in the financial satisfaction literature such as Archuleta, Britt, Tonn, and Grable (2011). The question asks, "How satisfied are you with your overall current financial situation?" Scores could range on a 10-point Likert-type scale from 1 to 10, where 1 implies *very dissatisfied* and 10 is associated with *very satisfied*. On average, financial satisfaction was 4.25 ($SD = 2.36$) for student clients.

The survey asked student clients several questions about debt. Students were asked to write in how much revolving credit card debt, student loans, auto loans, and installment debt they currently owe. For the purposes of the current study, debt was analyzed using three different variables: student loans, other debt, and total debt. Other debt included credit cards, auto loans, and installment loans. Total debt equaled student loans plus other debt. The average debt for student loans was \$12,297.59 ($SD = \$23,866.74$), and other debt was \$2,845.69 ($SD = \$6,030.55$). On average, clients in the survey held \$1,065.01 in credit card debt, \$1,550.91 in auto loan debt, and \$229.78 in installment loan debt. The average total debt owed by student clients in the survey was \$15,143.28 ($SD = \$24,993.06$). Missing data for clients who indicated they had student loans, but did not fill in the blank of how

Table 2. Factor Loadings for Financial Anxiety Scale

Financial anxiety scale ($\alpha = .94$)	Factor scores
I feel anxious about my financial situation.	.72
I have difficulty sleeping because of my financial situation.	.78
I have difficulty concentrating on my school/or work because of my financial situation.	.84
I am irritable because of my financial situation.	.83
I have difficulty controlling worrying about my financial situation.	.90
My muscles feel tense because of worries about my financial situation.	.90
I feel fatigued because I worry about my financial situation.	.88

much student loan debt they owed were replaced with the median of \$5,000. Missing data for credit card debt, auto loans, and installment loans were replaced with 0 because there was no other way for students to indicate if they had these types of debt. Base 10 logarithms for the debt variables were used in the regression model.

Perceived financial knowledge was measured using a single item question, “How would you rate your financial knowledge level?” Clients could respond on a scale from 1 (lowest level) to 10 (highest level). Clients reported having a mean score of perceived financial knowledge of 4.63 ($SD = 1.80$).

Data Analysis

Prior to conducting two hierarchical regressions, a correlation matrix was performed to examine collinearity among the independent variables. None of the variables were moderately or highly correlated with one another. The results from the correlation analysis, which displays all of the variables, are reported in Table 3. It is important to note that while there was a high correlation between student loans and total debt ($r = .88$), the two variables were used in different regression models. Collinearity diagnostics were also performed in SPSS, revealing no multicollinearity among the variables.

Two hierarchical multiple regression analyses were conducted using SPSS 19.0 to test the influence of the independent variables on the dependent variable financial anxiety. As suggested by Field (2005), independent variables were entered into the hierarchical regression in order of significance supported by the literature. In the first hierarchical regression, financial satisfaction was entered into the first step, total debt was entered into the second step, financial knowledge was entered into the third step, and demographic factors (i.e., age, gender, ethnicity, marital status, and gross income) were entered into the fourth step. When entered into the second step, total debt was not found to be significant at the $p < .05$ level, rather at the $p < .08$ level, indicating that total debt was an important factor in determining one’s financial anxiety. Because total debt was found to be important, a second hierarchical regression was performed to test how two different types of debt influenced financial satisfaction. In the second hierarchical regression, the same independent variables were used as in the first regression analysis, but total debt was eliminated from the model and student loans and other debt (i.e., credit card debt, auto loans, and installment debt) were entered as two separate steps. In other words, financial satisfaction was entered into the first step, student loans was entered into the second step, other debt was entered into the third step, financial knowledge was entered into the fourth step, and demographic variables were entered in the fifth step.

Table 3. Correlations Among all Variables

Variables	1	2	3	4	5	6	7	8	9	10	11
Financial anxiety scale	-										
Gross income (log10)	.03	-									
Marital status	.03	.18**	-								
Age	.09	.21**	.53***	-							
Gender	-.08	-.04	-.08	.02	-						
Ethnicity	-.13*	.00	-.07	-.09	.05	-					
Student loans (log10)	.24**	-.03	-.01	.01	-.04	-.02	-				
Other debt (log10)	.15*	.23***	.23**	.30***	-.04	.02	.23**	-			
Total debt (log10)	.27***	.07	.12	.15*	-.07	.03	.88***	.47***	-		
Financial satisfaction	-.55***	-.01		-.02	-.09	-.05	.16*	-.20**	.27***	.30***	-
Financial knowledge	.03	.063		.20*	.07	.09	-.11	.18**	.18**	.17*	.13*

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

Results

Results from the first hierarchical regression, using total debt as a predicting variable are shown in Table 4. Step 1, which included the financial satisfaction variable, was significant ($F = 77.10$; $p < .001$) and predicted 30% of the variance of financial anxiety. Hypothesis 1, “financial satisfaction is positively associated with financial anxiety,” was supported.

Step 2 added total debt to the model and indicated that financial satisfaction was still a significant factor ($p < .001$). Step 2 accounted for 31% of the explained variance of financial anxiety ($F = 40.51$; $p < .001$). Total debt was an interesting variable as it was not significant at the $p < .05$ level, but an important factor in predicting financial anxiety ($p = .08$). Therefore, Hypothesis 2 was partially supported.

In Step 3, financial knowledge was included in the model. The model remained significant and accounted for 32% of the explained variance ($F = 27.71$; $p < .001$). However, financial satisfaction remained the only significant predictor ($p < .001$) and Hypothesis 5 was rejected.

The final model (i.e., Step 4) accounted for 34% of the overall variance of financial anxiety and was significant ($F = 10.80$; $p < .001$). After controlling for demographic variables, the only significant ($p < .05$) factors were financial satisfaction and gender. Therefore, only Hypotheses 1 and 6_b were fully supported.

The second hierarchical multiple regression is shown in Table 5, where two types of debt, student loans and other debt, were included and total debt was excluded. Step 1

Table 4. Hierarchical Multiple Regression Analysis Using Total Debt as a Predictor of Financial Anxiety

Predictor	ΔR^2	<i>B</i>	<i>SE</i>	β
Step 1				
Constant	.30***	29.32	1.23	
Financial satisfaction		-2.22	.25	-.55***
Step 2				
Constant	.01	26.77	1.91	
Satisfaction		-2.08	.26	-.52***
Total debt		.627	.36	.11
Step 3				
Constant	.007	25.31	2.20	
Satisfaction		-2.15	.27	-.53***
Total debt		.52	.37	.10
Financial knowledge		.45	.34	.09
Step 4				
Constant	.02	24.97	3.57	
Satisfaction		-2.16	.28	
Total debt		.46	.38	-.53***
Financial knowledge		.51	.35	.08
Demographic variables				.10
Age		.07	.12	.05
Gender		-2.19	1.25	-.11
Ethnicity		-.74	1.36	-.04
Marital status		-1.26	2.19	-.04
Gross income		.02	.47	.00

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

Table 5. Hierarchical Multiple Regression Using Student Loans and Other Debt as Predictors of Financial Anxiety

Predictor	ΔR^2	<i>B</i>	<i>SE</i>	<i>B</i>
Step 1	.30***			
Constant		29.32	1.23	
Financial satisfaction		-2.22	.25	-.55***
Step 2	.02*			
Constant		26.82	1.67	
Financial satisfaction		-2.11	.26	.52***
Student loans		.72	.33	14*
Step 3	.00			
Constant		26.98	1.77	
Financial satisfaction		-2.13	.26	-.53***
Student loans		.73	.34	.14*
Other debt		-.10	.35	-.02
Step 4	.01			
Constant		25.55	2.07	
Financial satisfaction		-2.21	.27	-.55***
Student loans		.65	.34	.12*
Other debt		-.20	.36	-.04
Financial knowledge		.47	.34	.09
Step 5	.02			
Constant		24.11	3.59	
Financial satisfaction		-2.22	.28	-.55***
Student loans		.64	.35	.12
Other debt		-.33	.39	-.06
Financial knowledge		.52	.36	.10
Demographic variables				
Age		.10	.12	.07
Gender		-2.26	1.25	-.12
Ethnicity		-.511	1.35	-.02
Marital status		-.93	2.19	-.03
Gross income		.15	.48	.02

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

consisted of financial satisfaction and explained 30% of the overall variance of financial anxiety ($F = 77.10$; $p < .001$). Hypothesis 1 was again supported.

Step 2 added student loans to the model. The model remained significant ($F = 41.72$; $p < .001$), and student loans produced a significant R^2 change score of .02 ($p < .05$). Hypothesis 3 was supported.

In Step 3, other debt (i.e., credit cards, auto loans, and installment debt) was added to the model, resulting in the model being significant ($F = 27.70$; $p < .001$) and accounting for 31% of the total variance. However, other debt was not found to be a significant predictor of financial anxiety and Hypothesis 4 was rejected.

In Step 4, financial knowledge was included. Although financial knowledge was not a significant predictor of financial anxiety, the model remained significant ($F = 21.30$; $p < .001$). Hypothesis 5 was not supported. The final model consisted of all of the independent variables together with the demographic variables. The final model accounted for approximately 35% of the overall variance of financial anxiety ($F = 9.93$; $p < .001$). After controlling for all variables, only financial satisfaction and gender were found to be significant predictors of financial anxiety, resulting in Hypotheses 1 and 6_b being fully supported.

Discussion

The results of the current study can help researchers and practitioners understand the concept of financial anxiety among college students. In this study, the Financial Anxiety Scale (FAS) was developed and implemented as a measurement of financial mental health with high reliability ($\alpha = .94$). Financial anxiety can be described as feeling anxious or worried about one's financial situation. As mentioned previously, the FAS cannot be used as a diagnostic tool for anxiety; however, it can be useful for practitioners and researchers to explore individuals' anxiety concerning money. More specifically, practitioners can use the FAS to gain understanding and insight into clients' poor financial decision making, reasons as to why clients have become stagnant in the financial planning or counseling process, or identify barriers to clients' successful achievement of goals. Researchers can obviously use this scale to further explore aspects of financial mental health.

In predicting financial anxiety, financial satisfaction was found to be the most significant predictor, as one might

expect, regardless of the type of debt a student held. Initially, total debt, including student loans, credit cards, auto loans, and installment debt, were found to be moderately important in predicting financial anxiety. However, when all independent variables were accounted for, total debt was no longer important. It is very likely that the reason that total debt neared significance was because of the large amount of student loans. Therefore, when student loans were separated from other types of debt, it was the only type of debt that produced a significant increase in financial anxiety initially, accounting for approximately a 2% increase in the explained variance. Nevertheless, after controlling for demographic variables, student loans were no longer significant.

The significant association between financial satisfaction and financial anxiety makes sense; the higher one's financial satisfaction, the lower one's financial anxiety. Our findings are consistent with previous research examining the impact of financial satisfaction on financial stress and financial well-being (Joo & Grable, 2004). However, the associations between debt loads, regardless of the type of debt, did not appear to be an important factor for financial anxiety, which is perplexing. Two sources of debt, credit cards and student loans, have been studied the most. The rising cost of college education was found by Lyons (2004) to be associated with increased credit card debt as student loans were not perceived to be adequate in providing for the costs associated with attending college. Students who are from low to middle income families, financially independent students, and minorities were more likely to find themselves financially at-risk due to these loans after graduation. Once students graduate from college, they find student loans to cost more and take longer to pay off than expected according to research by Hayhoe (2002). With student loan debt now over \$1 trillion dollars, student loans now exceed credit card debt in the United States for the first time (Kantrowitz, 2012). Student loan debt creates specific challenges, particularly in a struggling economic climate. It is estimated that 60% of bachelor's degree recipients borrowed money to fund their education and average debt per borrower has increased to more than \$25,000 (College Board, 2008; The Project on Student Debt, 2011). With 50% of new college graduates unemployed or underemployed, the first loan payment may come due before the first paycheck is received. In addition, student loan debt cannot be discharged through bankruptcy (Domowitz & Sartain, 1999), resulting in the debt obligation continuing, in some cases well into mid-life and occasionally even into old age creating additional financial

constraints. These statistics may make any college student anxious, but the results of this study do not confirm that debt is a significant factor of college students' financial anxiety. Instead, financial anxiety may not occur until after graduation when recent graduates face the realization of their debt and its impact on their financial situation. Testing associations among debt, financial satisfaction, and financial anxiety of recent college graduates may be the next step to further understanding this phenomenon.

Recent literature has placed an increased emphasis on college students' financial knowledge and the importance of financial education in general. Although financial knowledge has been associated with credit card debt (Robb & Sharpe, 2009), credit card behavior (Robb, 2011), and financial well-being, it was not found to be significantly associated with financial anxiety. This particular sample reported being moderately knowledgeable about finances, which may indicate the less students think they know, the less they worry about it because they do not know that they should be anxious.

A number of reasons may exist as to why the outcomes of this study produced such perplexing results. First, the sample is comprised of student financial counseling clients who completed a survey prior to receiving services. It is not uncommon for student financial counseling clients to not know exactly how much debt they actually owe and while engaging in financial counseling services, they discover that the amount they owe is much higher than they estimated on the survey. Second, these students may have been naïve about the implications of their debt on their credit and their ability to pay off both student loans and other types of debt, which would have reflected lower financial anxiety scores. Utilizing the Nellie Mae survey of student loan borrowers in repayment, Baum and O'Malley (2003) found student loan debt implications reach beyond early adulthood, with borrowers having a reduced ability to purchase a home by 0.2 percentage points for every \$1000 borrowed. It would be interesting to collect data after students' first financial counseling meeting to identify if amount of debt, satisfaction, knowledge, and anxiety scores changed as a result of having a more accurate picture of their financial situation.

Limitations

Several limitations should be taken into consideration in this study. One of the major limitations that could have influenced the outcomes in this study is generalizability of the sample. The sample was taken from one U.S.

Midwestern university, where the majority of the sample was White. Second, the sample consisted of self-selected college students seeking financial counseling services. These students may have been experiencing above normal levels of anxiety in regards to their financial situation compared with the average college student. Students seeking financial counseling services may have had different types of coping capabilities, causing higher or lower levels of financial anxiety than students who experienced similar problems but chose not to seek help or chose to seek help elsewhere.

Third, only perceived financial knowledge was considered in this study. Future studies should consider objective financial knowledge rather than only perceived financial knowledge to understand how one's financial understanding is associated with financial anxiety and if it has a different influence than perceived financial knowledge. Fourth, because of the brief nature of the survey given to the financial counseling clients, one-item measurements were used for both perceived financial knowledge and financial satisfaction. The one-item measurement of financial satisfaction has been used repeatedly in studies. It is unknown as to whether multi-item financial satisfaction and perceived financial knowledge scales would have produced different results in comparison to the one-item measurement used in this study.

Implications

The results of this study suggest implications for further research and practice. Financial satisfaction has been sparsely studied with college students. This study found that it was the most significant factor in lowering financial anxiety. Factors impacting college students' financial satisfaction should be investigated along with further exploration of how it impacts financial mental health. Prior to this study, more attention had been pointed to credit cards and college students' financial well-being. These results indicate further investigation should be devoted to how student loans relate to attitudes, behaviors, and financial well-being as students appear to be in some way impacted emotionally from the amount of student loans they are incurring. For example, the vast majority of students receiving loans believe student loans significantly increased their "access to and choice among postsecondary institutions" (Baum & O'Malley, 2003) and researchers have also found student loan debt is associated with early career occupational choice (Rothstein & Rouse, 2011). Decisions about taking on student loan debt and occupational choices on financial anxiety of college students could be a topic of exploration.

Furthermore, emotional and spirituality variables might have an impact on the ways different students handle financial anxiety. This would be an interesting topic to explore in future research. Currently, no theory exists in the area of financial mental health. Theory related to the development and treatment of financial disorders should be developed. The findings of this study can help develop theory by bridging economic/finance research on debt with financial therapy related topics such as financial satisfaction/well-being and financial mental health.

Regardless of the type of debt a student held, having higher financial satisfaction was found to be a significant factor in keeping financial anxiety lower. Financial planners, counselors and educators working with college students, their spouses, or their parents should be aware of the potential factors impacting their financial mental health. Because student loans were at least initially found to be significant in this study, professionals should recognize emotional behaviors students carrying larger amounts of student loans might display. When students decide to attend college, they should be presented with all of the options for financing their education and the potential emotional impact of carrying student loan debt. Educating current and future college students about the availability of mental health services on their college campuses or hometowns should they begin feeling anxious about their debts and before the stress impacts their academic performance could help keep college students in school. If college students have incurred student loan debt and begin displaying symptoms of distress, like anxiousness, worry, irritability, and trouble sleeping, they should be referred to a professional experienced in working with emotional and behavioral disorders related to financial issues.

Financial planners, counselors, and educators can take advantage of the Financial Anxiety Scale presented in this paper to assess a student's anxiety related to their financial situation. In its initial development, the scale purports high reliability and strong construct validity. Further research should be conducted with a broader, more diverse sample and additional analyses should be conducted to provide additional support of the scale. Higher scores assessed on the scale may raise concern about a student's well-being; the scale can serve as a screening tool to identify individuals who could benefit from a referral to an appropriate professional, like a mental health clinician. In these cases, a best practice would be to make a referral and then collaborate with the professional to help lower the client's financial anxiety, increase financial satisfaction, and ultimately, increase financial well-being.

References

- American Psychiatric Association. (2000). *Diagnostic statistical manual-IV-TR*, 4th ed., Washington, DC: Author.
- Andrews, B., & Wilding, J. M. (2004). The relation of depression and anxiety to life-stress and achievement in students. *British Journal of Psychology*, *95*, 509-521.
- Archuleta, K. L., Britt, S. L., Tonn, T. J., & Grable, J. E. (2011). Financial satisfaction and financial stressors in marital satisfaction. *Psychological Reports*, *108*(2), 563-576.
- Baum, S., & O'Malley, M. (2003). College on credit: How borrowers perceive their education debt. *NASFAA Journal of Student Financial Aid*, *33*(3), 7-19.
- Bonke, J., & Browning, J. (2009). The distribution of financial well-being and income within the household. *Review of Economics of the Household*, *7*, 31-42.
- Callendar, C., & Jackson, J. (2008). Does the fear of debt constrain choice of university and subject of study? *Studies in Higher Education*, *33*(4), 405-429.
- College Board. (2008). *Trends in Student Aid*. Retrieved from <http://professionals.collegeboard.com/profdownload/trends-in-student-aid-2008.pdf>
- College Board. (2011). *Trends in College Pricing*. Retrieved from http://trends.collegeboard.org/downloads/College_Pricing_2011.pdf
- Domowitz, I., & Sartain, R. (1999). Determinants of the consumer bankruptcy decision. *Journal of Finance*, *54*(1), 403-420.
- Drentea, P. (2000). Age, debt and anxiety. *Journal of Health and Social Behavior*, *41*(4), 437-450.
- Fenske, R., Porter, J., & DuBrock, C. (2000). Tracking financial aid and persistence of women, minority, and needy students in science, engineering, and mathematics. *Research in Higher Education*, *41*, 67-94.
- Field, A. (2005). *Discovering statistics using SPSS*. Thousand Oaks, CA: Sage Publications.
- Goetz, J., Cude, B. J., Nielsen, R. B., Chatterjee, S., & Mimura, Y. (2011). College-based personal finance education: Student interest in three delivery methods. *Journal of Financial Counseling and Planning*, *21*(1), 27-42.
- Grable, J. E., & Joo, S. (2006). Student racial differences in credit card debt and financial behaviors and stress. *College Student Journal*, *40*(1), 400-408.
- Gresenz, C. R., Sturm, R., & Tang, L. (2001). Income and mental health: Unraveling community and individual level relationships. *Journal of Mental Health Policy and Economics*, *4*, 197-203.

- Harrison, K. M., Edlund, M. J., & Larson, S. (2005). Racial and ethnic differences in mental health problems and the use of mental health care. *Medical Care*, 43(8), 775-784.
- Hayhoe, C. R. (2002). Comparison of affective credit attitude scores and credit use of college students at two points in time. *Journal of Family and Consumer Sciences* 94(1), 71-77.
- Hayhoe, C. R., Leach, L. J., Turner, P. R., Bruin, M. J., & Lawrence, F. C. (2000). Differences in spending habits and credit use of college students. *The Journal of Consumer Affairs*, 34(1), 113-133.
- Henry, R. A., Weber, J. G., & Yarbrough, D. (2001). Money management practices of college students. *College Student Journal*, 4, 244-247.
- Hilgert, M. A., Hogarth, J. M., & Beverly, S. G. (2003). Household financial management: The connection between knowledge and behavior. *Federal Reserve Bulletin*, 89(7), 309-322.
- Hira, T. K., & Mugenda, O. M. (1998). Predictors of financial satisfaction: Differences between retirees and non-retirees. *Financial Counseling and Planning*, 9(2), 75-83.
- Hunt, J., & Eisenberg, D. (2010). Mental health problems and help-seeking behavior among college students. *Journal of Adolescent Health*, 46, 3-10.
- Jenkins, R., Bhugra, D., Bebbington, P., Brugha, T., Farrell, M., Coid, J., Fryers, T.,...Meltzer, H. (2008). Debt, income and mental disorder in the general population. *Psychological Medicine*, 38(10), 1485-93.
- Joo, S., Durband, D. B., & Grable, J. (2008). The academic impact of financial stress on college students. *Journal of College Student Retention*, 10(3), 287-305.
- Joo, S., & Grable, J. (2004). An exploratory framework of the determinants of financial satisfaction. *Journal of Family and Economic Issues*, 25(1), 25-50.
- Joo, S., Grable, J. E., & Bagwell, D. C. (2003). Credit card attitudes and behaviors of college students. *College Student Journal*, 37, 405-419.
- Kantrowitz, M. (2011). *Student loan debt clock*. Retrieved from <http://www.finaid.org/loans/student-loandebtclock>
- Klontz, B., Britt, S. L., Archuleta, K. L., & Klontz, T. (2012). Disordered money behaviors: Development of the Klontz Money Behavior Inventory. *Journal of Financial Therapy*, 3(1).
- Klontz, B., Britt, S. L., Mentzer, J., & Klontz, T. (2011). Money beliefs and financial behaviors: Development of the Klontz Money Script Inventory. *Journal of Financial Therapy*, 2(1), 1-22.
- Klontz, B., Kahler, R., & Klontz, T. (2008). *Facilitating financial health*. Cincinnati, OH: National Underwriter Company.
- Lange, C., & Byrd, M. (1998). The relationship between perceptions of financial distress and feelings of psychological well-being in New Zealand university students. *International Journal of Adolescence and Youth*, 7, 193-209.
- Lyons, A. C. (2004). A profile of financially at risk college students. *Journal of Consumer Affairs*, 38(1), 56-80.
- Mangan, J., Hughes, A., Davies, P., & Slack, K. (2010). Fair access, achievement and geography: Explaining the association between social class and students' choice of university. *Studies in Higher Education*, 35(3), 335-350.
- Mossakowski, K. N. (2008). Dissecting the influence of race, ethnicity, and socioeconomic status on mental health in young adulthood. *Research on Aging*, 30(6), 649-671.
- Nora, A., Barlow, L., & Crisp, G. (2006). Examining the tangible and psychosocial benefits of financial aid with student access, engagement, and degree attainment. *American Behavioral Scientist*, 49(12), 1636-1651. doi: 10.1177/0002764206289143
- Norvilitis, J., & MacLean, M. (2010). The role of parents in college students' financial behaviors and attitudes. *Journal of Economic Psychology*, 31(1), 55-63.
- Norvilitis, J. M., Merwin, M. M., Osberg, T. M., Roehling, P. V., Young, P., & Kamas, M. M. (2006). Personality factors, money attitudes, financial knowledge, and credit-card debt in college students. *Journal of Applied Social Psychology*, 36, 1395-1413.
- Norvilitis, J. M., Szablicki, P. B., & Wilson, S. D. (2003). Factors influencing levels of credit card debt in college students. *Journal of Applied Social Psychology*, 33, 935-947.
- O'Brien, C., & Shedd, J. (2001). *Getting through college: Voices of low-income and minority students in New England*. Washington, DC: Institute for Higher Education Policy.
- Perna, L. (2008). Understanding high school students' willingness to borrow to pay college prices. *Research in Higher Education*, 49(7), 589-606.
- Perry, V. G., & Morris, M. D. (2005). Who is in control? The role of self-perception, knowledge, and income in explaining consumer financial behavior. *Journal of Consumer Affairs*, 39(2), 299-313.
- Plagnol, A. C. (2011). Financial satisfaction over the life course: The influence of assets and liabilities. *Journal of Economic Psychology*, 32(1), 45-64.

- Porter, N., & Garman, E. T. (1992). Testing a conceptual model of financial well-being. *Financial Counseling and Planning*, 4, 135-164.
- Prawitz, A. D., Garman, E. T., Sorhaindo, B., O'Neill, B., Kim, J., & Drentea, P. (2006). The InCharge Financial Distress/Financial Well-being Scale: Development, administration and score interpretation. *Financial Counseling and Planning*, 17, 34-50.
- Robb, C. (2011). Financial knowledge and credit card behavior of college students. *Journal of Family and Economic Issues*, 32, 690-698.
- Robb, C., & Sharpe, D. (2009). Effect of personal financial knowledge on college students' credit card behavior. *Financial Counseling and Planning*, 20(1), 25-43.
- Roberts, R., Golding, J., Towell, T., Reid, S., Woodford, S., Vetere, A., & Weinreb, I. (2000). Mental and physical health in students: the role of economic circumstances. *British Journal of Health Psychology*, 5(3), 289-297.
- Roberts, R., Golding, J., Towell, T., & Weinreb, I. (1999). The effects of economic circumstances on British students' mental and physical health. *Journal of American College Health*, 48(3), 103-109.
- Rothstein, J., & Rouse, C. (2011). Constrained after college: Student loans and early-career occupational choices. *Journal of Public Economics*, 95(1-2), 149-163.
- Rubin, D. B. (1987). *Multiple imputation for non-response in surveys*. New York: Wiley.
- Sareen, J., Afifi, T. O., McMillan, K. A., & Asmundson, G. J. G. (2011). Relationship between household income and mental disorders: Findings from a population-based longitudinal study. *Archives of General Psychiatry*, 68(4), 419-427.
- The Project on Student Debt. (2011). Student debt and the class of 2010. Retrieved from <http://projectonstudentdebt.org/files/pub/classof2010.pdf>
- Wrosch, C., Heckhausen, J., & Lachman, M. E. (2000). Primary and secondary control strategies for managing health and financial stress across adulthood. *Psychology and Aging*, 15(3), 387-399.
- Yao, R., Gutter, M. S., & Hanna, S. D. (2005). The financial risk tolerance of Blacks, Hispanics, and Whites. *Financial Counseling and Planning*, 16(1), 51-62.
- Zivin, K., Eisenberg, D., Gollust, S. E., & Golberstein, E. (2009). Persistence of mental health problems and needs in a college student population. *Journal of Affective Disorders*, 117, 180-185.