Financial Stress and Financial Counseling: Helping College Students

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This study had two distinct purposes. First, to determine the predictors of financial stress among college students who sought free peer-based financial counseling from a large Midwestern university (N = 675). Secondly, to determine the effectiveness of the particular financial counseling center from a subsample of those who sought help (N = 97). Results of the regression analysis indicate that students more likely to experience financial stress include freshmen, those with low perceived mastery and net worth, and those with median student loan debt as compared to those with no student loan debt. Results of t-test analyses suggest that financial counseling had positive effects on subjective financial knowledge and financial attitudes and mixed effects on financial behaviors.

Keywords: financial anxiety, financial stress, mastery, social cognitive theory, student loan

Financial education and counseling are often considered to be methods for improving financial behaviors with the assumption that financial education and counseling lead to increased financial knowledge and consequently improved financial behaviors. For the most part, this assumption has gone untested, particularly for long-term knowledge and improved behavior retention. An important exception is from Collins and O'Rourke (2010) who reviewed over 40 studies showing that financial education and counseling hold promise in improving financial knowledge and facilitating behavior change among adults. Peer counseling appears to be especially effective at changing behaviors (Newton & Ender, 2010).

This study has two objectives—first, to determine what factors are most predictive of students with the highest financial stress and secondly, to compare baseline and two month responses to financial knowledge, attitudes, stress, and behavior questions of college students who sought help from a free financial counseling center on-campus. The unique aspect of this study is being able to utilize data collected two months post-session to evaluate changes in clients' knowledge, attitudes, stress, and behaviors. Determining the effectiveness of financial counseling efforts is critical from a budgetary and personnel decision-making process. University administrators have reported that more students drop out of college due to financial stress than from academic failure (Borden, Lee, Serido, & Collins, 2008). Financial stress has even been tied to suicide (Holub, 2002) and reduced mental health status (Roberts,

Golding, Towell, & Weinreb, 1999) in some university settings. If financial counseling efforts are associated with improvements to financial behaviors and reductions in financial stress, the case will be made for further counseling and education programming.

Financial Counseling Center Operations

For generalizability purposes, it is necessary to understand how the particular financial counseling center used in this study operates. The financial counseling center is a free, peer-based program located in the center of a Midwestern university campus. Peer influence on financial behavior has been noted in a variety of formats. Peers can influence positive retirement savings behavior—if peers are saving, it is likely that individual savings will increase as a result (Duflo & Saez, 2002). In a college setting, Newton and Ender (2010) noted that peer counseling is effective because peers can relate on a generational level and show positive behavior through example (i.e., positive peer pressure).

The center is directed by a full-time professional who provides training for students to become peer financial counselors. Students are made aware of the financial counseling center through new student orientation, a visit from a staff member during one of their classes, posters around campus, or word of mouth. Students are not mandated to attend financial counseling, so all students who receive counseling do so voluntarily. Students schedule their counseling session

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online, indicate their "presenting issue" or primary reason for scheduling the appointment, and complete a brief intake questionnaire. The top three presenting issues included student loan questions, budgeting advice, and questions about saving for the future. Students are then matched with a trained peer financial counselor who has knowledge in the presenting issue indicated on the intake questionnaire. Other data gathered on the intake questionnaire include personal and financial background information.

Students are required to give consent for their intake questionnaire (stripped of identifying information) to be used for research purposes. Approximately 55% of clients elected to have their data used for research and analysis, which is the sample retained for this study. There is a possibility that students who elected not to have their data used for research purposes differ from the sample retained for research analysis, although it is not possible to test this hypothesis because the researchers did not have access to any data for the 45% of clients who opted not to have their data used for research. Also worth noting is that approximately 96% of clients did not return for a follow-up appointment.

The typical counseling session length was one hour or less and was primarily educational in nature (i.e., the financial counselor provided education regarding the presenting issue indicated on the form). After the appointments, students were asked to complete a two page evaluation form (evaluation data was not analyzed in this study). Two months after the initial appointments, clients were sent an electronic follow-up survey nearly identical to the intake questionnaire to assess for changes in financial knowledge, attitudes, and behaviors. An interval of two months was selected in order to allow enough time for the development of potential changes and to ideally follow a student within the same semester. Approximately 14% of the participants who elected to have their data used in research completed the two month follow-up survey. Comparison response rates are difficult to obtain given the unique nature of an in-person meeting and survey assessment, followed by a two month follow-up Internet survey. No known studies have collected data in this same manner.

Literature Review

Financial counseling and financial education are two distinct concepts. Financial counseling is typically administered on a one-on-one basis where the counselor gives specific and personal advice to a client, which is the method used in this study. Financial education is generally referred to as a program that provides financial information (Collins &

O'Rourke, 2010). In practice, counseling and education do overlap. Counseling may incorporate educational topics and materials and educators may address individual questions or concerns about a specific person's situation. However, the goal of an education program is to educate someone on financial matters, while counseling is designed to address specific areas regarding one's financial situation. The literature review that follows focuses on the key variables used in the data analysis centered on financial counseling outcomes.

Financial Stress

Financial stress is defined by researchers as the inability to meet one's economic responsibilities and is influenced by attitudes, beliefs, and other psychological factors (Northern, O'Brien, & Goetz, 2010). Financial stress is a known contributor to college student attrition (Borden et al., 2008), academic performance (Crocker & Luhtanen, 2003), student retention (Joo, Durband, & Grable, 2008-2009), and general health and well-being of college students (Northern et al., 2010). Recent research suggests that students with higher levels of financial stress are more likely to seek professional financial counseling as compared to students with lower stress levels (Lim, Heckman, Letkiewicz, & Montalto, 2014), which may help to mitigate some of the negative effects of financial stress on academic achievement and student well-being.

According to Drentea (2000), anxiety about finances is highest among younger consumers because of their high debt-to-income ratio with credit card debt being especially stressful (Kim, Garman, & Sorhaindo, 2003). A 2006 USA Today/ National Endowment for Financial Education (NEFE) poll of young adults found that of those with debt, 30% worried about it often, 29% decided to put off or not further their education because of debt, and 22% took a job that they otherwise would not have because of debt (Lusardi, Mitchell, & Curto, 2010).

Financial stress has been linked to negative consequences across many aspects of life including health, well-being, academics, and relationships (Northern et al., 2010). Prolonged financial stress over credit issues can have negative effects on physical and mental health (Drentea & Lavrakas, 2000). Positive financial behaviors such as a reduction in day-to-day expenses were found to be associated with lower stress levels. Lower stress levels will presumably have a positive effect on one's health; whereas, high levels of stress can cause or exacerbate physical illnesses like high blood pressure, migraine headaches, ulcers, ulcerative colitis, and insomnia (U.S. Department of Health and Human Services, 1991).

Financial Knowledge and Literacy

Financial knowledge and literacy are intended outcomes of financial counseling, although they are not the same concept (Huston, 2010). Financial literacy implies that an individual has the ability and confidence to use their financial knowledge to make financial decisions. Financial education is intended to increase one's human capital, specifically their financial knowledge and the subsequent application of that knowledge which constitutes financial literacy (Huston, 2010).

Many college students have low exposure to personal financial management (i.e., have little to no job experience or have not independently managed household bills). As students progress through college, studies have shown increases in financial literacy, which may be associated with increased exposure to personal financial matters (Chen & Volpe, 1998; 2002). In terms of gender, male respondents tend to score higher than females on financial literacy assessments (Chen & Volpe, 1998; Goldsmith & Goldsmith, 2006), but are less likely to maintain and follow a budget (Henry, Weber, & Yarbrough, 2001).

Although a certain demographic of students may be more financially knowledgeable, it does not necessarily translate to positive financial behaviors. Some studies have shown correlations between increased financial knowledge and improved financial behaviors in terms of higher credit scores (Hilgert, Hogarth, & Beverly, 2003) and better planning and saving for retirement (Lusardi & Mitchell, 2006), while others have found little or no correlation between knowledge and behavior. For instance, Robb and Sharpe (2009) found that college students with the highest level of objective financial knowledge are more likely to carry credit card balances. There is also evidence to suggest that subjective and objective financial knowledge can have different effects on financial attitudes and behaviors (Sages, Britt, & Cumbie, 2013). The current study analyzed the role of both subjective and objective financial knowledge in the effectiveness of financial counseling and the financial stress of college students.

Financial Attitudes

Young adults learn attitudes and behavior, in part, through the observation and imitation of role models they come in contact with, especially their parents (Bandura, 1977). Financial habits that are formed during the transition to adulthood are likely to persist throughout adulthood. College students with stronger intentions to perform positive behaviors were more pleased with their financial situation and less likely to incur debt (Shim, Barber, Card, Xiao, & Serido, 2010). According

to Xiao, Tang, and Shim (2009), positive financial behaviors were associated with financial satisfaction, which led to positive academic performance, which then led to college students reporting they were more satisfied with life. Lowering financial anxiety and increasing financial satisfaction are key ingredients to improved academic performance and retention.

Financial Behaviors

Shim et al. (2010) defined healthy or positive financial behavior indicators as the set of desirable behaviors that help young adults achieve the financial, economic, and interpersonal goals that are important to them. Behaviors such as awareness of debt owed, checking for the lowest interest rate before borrowing, saving, budgeting, and keeping financial goals have been shown to be positively related to lower reported levels of financial stress and increased financial well-being (Gutter, Garrison, & Copur, 2010; Xiao, Sorhaindo, & Garman, 2006). College students who reported practicing positive financial behaviors also reported being more satisfied with their personal financial situation (Xiao et al., 2009). There is also some evidence to suggest that one's perceived mastery and/or sense of control is linked to better financial behaviors (Perry & Morris, 2005). College students who believe that outside forces determine their future outcomes tend to exhibit worse financial behaviors, such as difficulty paying monthly obligations (Britt, Cumbie, & Bell, 2013).

Conceptual Framework

If students who participate in financial counseling are increasing their financial knowledge, adjusting their financial attitudes, and increasing their positive financial behaviors as an outcome of their interaction, it can be posited that it was something about the social interaction of the counseling experience that initiated the change. Social cognitive theory asserts on a macro level that learning is a social process influenced by cognitive, behavioral, and environmental factors (Bandura, 1977). With the literature illustrating a generally positive relationship between subjective financial knowledge and lower levels of financial stress levels in college students (Joo & Grable, 2004), it can be asserted that the amount of knowledge a student believes he or she has is related to his or her ability to mediate financial stressful situations. Social cognitive theory would label this as self-efficacy, which is an important tenant of this framework. From this theoretical perspective, an individual's belief in his or her ability to achieve desired outcomes (e.g., low stress) is a function of efficacy expectations derived from past success, vicarious experience, verbal persuasion (i.e., being told that you can be successful at tasks even if you were not successful in

past attempts), and emotional arousal (i.e., having negative emotions decreases efficacy; Bandura, 1977).

Helping individuals feel that they can improve their financial situation through providing opportunities for successful money management, observing how to successfully manage money, having conversations about successful money management, and defusing emotional arousal are likely to result in reduced financial stress according to a social cognitive perspective. Feelings of self-efficacy may even be more important than actual resources, cognitive or developmental stage, and family structure (Pajares, 2002). So while it is important to control for financial resources and financial knowledge in predicting financial stress of college students, it appears that subjective measures of knowledge and well-being, as well as a measure of self-efficacy may be equally as important. The conceptual framework used to model financial stress is based on Bandura's (1977) social cognitive theory. As shown in Figure 1, resources, developmental stage, family structure, and perceptions are all hypothesized to influence financial stress.

Methods

Data

The data used in this study was obtained from a sample of 675 college students who sought free financial counseling from an on-campus financial counseling center at a large Midwestern university between November 2009 and December 2013. Students filled out an intake questionnaire that provided

socioeconomic and financial standing information as well as the presenting issue (e.g., budgeting assistance, credit repair, credit establishment, debt repayment, savings questions, and other topics). Given the variety of presenting issues, this sample represents what we consider to be a general financial counseling process versus a specific financial counseling program (e.g., debt management programs).

Ninety-seven respondents (14% of the sample) completed a follow-up survey two months after counseling. Whether or not the characteristics of students who responded to the follow-up survey are similar to the characteristics of students who did not respond was examined, and is discussed in the results section. Demographic data shown in Table 1 are based on the two samples retained for this study—those who completed the initial survey (N = 675) and those who completed the follow-up survey (N = 97). The initial sample is fairly representative of the college campus of over 24,000 students as shown in the last column of Table 1.

Women are over-represented in the samples and first generation students, freshmen, and sophomores are under-represented in the samples relative to the university population. There was a slightly higher percentage of men in the smaller sample (35%) versus the larger sample (29%). In both samples, the average age of respondents was 23 years old (SD = 4.68 to 4.81) with a range of 17 to 60 years old. The majority of the initial sample were White (80%), single (91%),

Figure 1. Conceptual Model. This figure illustrates how the concepts of resources, developmental stage, family structure, and perceptions are hypothesized to influence financial stress.
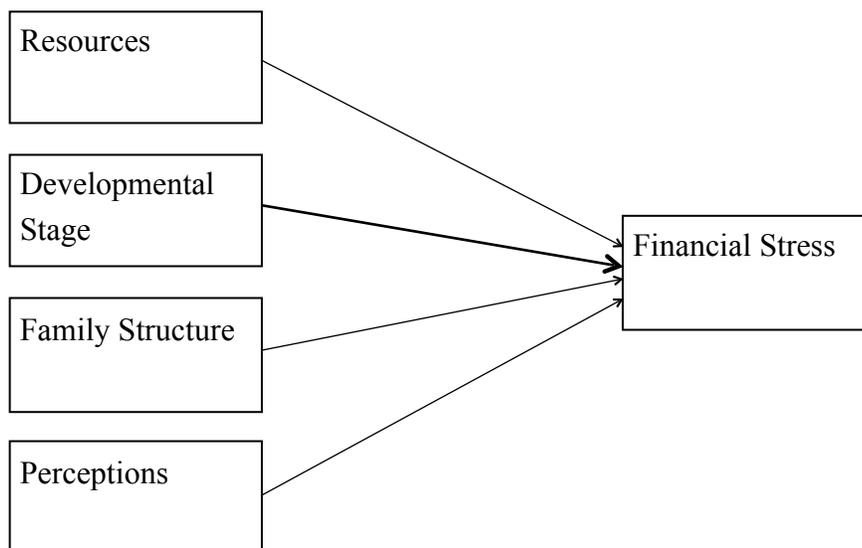
Table 1. Student Client Profile (n = 675)

Variables	Initial Sample (N = 675) Mean (SD)	Follow-up Sample (N = 97) Mean (SD)	University Population (N = 24,581) Mean[a]
Male	.35 (0.48)	.29 (.46)	0.51
Age	22.61 (4.68)	23.05 (4.81)	Under 20 = .28
	Range 17-60	Range 18-56	20-24 = .51
			25-39 = .17
			Over 39 = .04
Race			
White	.80 (.40)	.82 (.38)	0.76
Hispanic	.07 (.25)	.03 (.17)	0.05
Black	.06 (.24)	.02 (.14)	0.04
Asian	.03 (.17)	.03 (.17)	0.01
Other	.03 (.17)	.04 (.20)	0.05
Single	.91 (.29)	.85 (.35)	0.63
Have children	.05 (.22)	.05 (.22)	Not available
Year in school			
1=Freshman	.14 (.35)	.09 (.29)	0.22
2=Sophomore	.13 (.34)	.10 (.31)	0.18
3=Junior	.17 (.37)	.10 (.31)	0.18
4=Senior	.35 (.48)	.31 (.47)	0.31
5=Graduate student	.21 (.40)	.33 (.47)	0.15
Academic college			
Agriculture	.14 (.34)	.18 (.38)	0.13
Arch., Plan., and Design	.02 (.15)	.00 (.00)	0.03
Arts and Sciences	.26 (.44)	.32 (.47)	0.33
Business Administration	.12 (.33)	.10 (.31)	0.12
Education	.06 (.23)	.04 (.20)	0.08
Engineering	.13 (.34)	.08 (.28)	0.17
Human Ecology	.19 (.39)	.16 (.36)	0.13
Veterinary Medicine	.07 (.24)	.06 (.24)	0.01
First generation student	.19 (0.39)	.22 (.41)	0.32
Monthly income	$575 ($874)	$516 ($461)	Not available
	Range $0-7,440	Range $0-1,840	
Have a credit card	.65 (.48)	.16 (.36)	Not available
Balance (if applicable)	$3,525 ($4,793)	$2,531 ($3,929)	
	Range $1-24,000	Range $200-16,000	
Have student loans	.52 (.50)	.55 (.50)	Not available
Balance (if applicable)	$32,431 ($41,619)	$26,235 ($31,565)	
	Range $300-300,000	Range $331-187,700	

[a]Amounts do not total 100% due to unreported data or students reporting more than one category. Data obtained from the university Office of Planning and Analysis.

Table 2. Descriptive Statistics of Regression Variables (n = 456)

Variables	M	SD	Range
Financial Stress	5.05	2.34	1 – 10
Resources			
Monthly Income ($0)	0.24	0.43	0 – 1
Below median	0.28	0.45	0 – 1
Median ($401 - $700)	0.18	0.38	0 – 1
Above median	0.22	0.42	0 – 1
Student Loans ($0)	0.28	0.45	0 – 1
Below median	0.22	0.41	0 – 1
Median ($12k - $30k)	0.22	0.41	0 – 1
Above median	0.21	0.41	0 – 1
Credit Card Debt ($0)	0.75	0.43	0 – 1
Below median	0.07	0.25	0 – 1
Median ($701 - $3k)	0.07	0.25	0 – 1
Above median	0.05	0.23	0 – 1
Developmental Stage			
Age	22.26	3.71	17 – 60
Freshman	0.10	0.30	0 – 1
Sophomore	0.15	0.36	0 – 1
Junior	0.17	0.38	0 – 1
Senior	0.37	0.48	0 – 1
Graduate student	0.20	0.40	0 – 1
Objective Financial Knowledge			
Credit reports	0.88	0.33	0 – 1
Insurance deductibles	0.64	0.48	0 – 1
Annuities	0.64	0.48	0 – 1
Mutual funds	0.86	0.34	0 – 1
Retirement needs	0.83	0.38	0 – 1
Investing	0.62	0.49	0 – 1
Family Structure			
Single	0.92	0.27	0 – 1
Have children	0.05	0.21	0 – 1
First generation student	0.17	0.37	0 – 1
Perceptions			
Subjective Financial Knowledge	4.68	1.80	1 – 10
Mastery	30.69	3.99	7 – 35
Perceived net worth	3.05	1.50	1 – 5

and had no children (95%). The follow-up sample was more over-represented with Whites (82%), but a smaller percentage of singles (85%) participated in the follow-up survey. Juniors had the highest percentage drop in participation from the initial survey to the follow-up survey (17% and 10%, respectively) and graduate students were most likely to continue their participation in the follow-up survey. Although first generation students are under-represented in the samples relative to the university population, there was an increase in percentage of first generation students who participated in the initial survey (19%) as compared to the follow-up survey (22%).

The average monthly income of respondents who completed the initial survey was $575 (*SD* = $874). For the 65% of students who own a credit card, their balance was, on average, $3,525 (*SD* = $4,793). For the 52% of students who have student loans their balance was on average, $32,431 (*SD* = $41,619). Although this average student loan balance seems high, the sample includes graduate students who may carry higher balances. The mean income remained largely the same for the follow-up sample. However, only 16% of the follow-up sample had a credit card and for those students their balance was lower (M = $2,531; *SD* = $3,929) than the average balance of the initial sample. A slightly higher percentage of the follow-up sample had a student loan balance (55%), but their balance was lower, on average (M = $26,235; *SD* = $31,565), than the initial sample.

Measurement of Analysis 1 Items: Predictors of Financial Stress

The outcome variable of financial stress was measured by responses to the following question, "How stressed do you feel about your personal finances?" Scores could range from 1 to 10 where 1 represents low financial stress and 10 represents high financial stress. Predictor variables selected for the regression analysis were guided by social cognitive theory (descriptive statistics are shown in Table 2).

Resources. Resources (or lack of financial resources) were measured by income, student loan debt, and credit card debt. Given that a number of college students do not have jobs, student loans, or credit card debt, the three items were split into four categories. The first categories captured respondents with no income, no student loan debt, and no credit card debt, which served as the reference groups for the regression analysis. The median values of income, student loan debt, and credit card debt were then calculated for the remaining sample with a balance. Respondents with a non-zero response were split into three equal groups: (a) income/debt below the median, (b) income/debt around the median, and (c) income/debt above the median.

Developmental Stage. Age was measured continuously and grade was grouped into five categories of freshmen, sophomores, juniors, seniors, and graduate students. Freshmen served as the reference category. Objective financial knowledge is something that is gained over time and is therefore used to help proxy developmental stage. Objective financial knowledge was measured by correct responses to six separate items. Respondents received one point for correctly answering each of the following questions.

(a) You may obtain a free copy of your credit report each year (true);

(b) Higher insurance deductibles lead to lower insurance premiums (true);

(c) An annuity is a contract issued by a financial institution that guarantees a series of payments over a lifetime (true);

(d) A mutual fund is an investment company that invests its shareholders' money in a diversified portfolio of securities (true);

(e) Social security and company pension plans are sufficient to meet retirement needs (false); and

(f) Over 20 years, you will earn more money if you invest in bonds compared to stocks (false).

Family Structure. Given the data available, family structure was measured by marital status (1 = single, 0 = not single), the presence of financial dependents in the household (1) or not (0), and whether the respondent was a first generation student (1) or not (0).

Perceptions. Perceptions represent an individual's idea of where they are relative to peers. Perceptions are very influential in predicting outcomes from a social learning framework (Bandura, 1977; Pajares, 2002). Perceptions of how knowledgeable respondents think they are, or subjective financial knowledge, was measured with a one item question where respondents were asked how knowledgeable they were about personal finances compared to their peers. The response options ranged from 1 to 10 with 10 indicating a high level of subjective financial knowledge. This single item of subjective financial knowledge has been used in previous literature (Sages et al., 2013).

Mastery was measured with a seven item scale (Pearlin, Menaghan, Lieberman, & Mullan, 1981). Respondents were asked to indicate their level of agreement where 1 = strongly disagree and 5 = strongly agree to the following statements:

(a) There is really no way I can solve some of my problems (reverse coded);

(b) I am being pushed around in my life (reverse coded);

(c) There is little that I can do to change the important things in my life (reserve coded);

(d) I can do anything I set my mind to;

(e) I am helpless in dealing with the problems of life (reverse coded);

(f) What happens to me in the future depends on me; and

(g) I have little control over the things that happen to me (reverse coded).

Five items were reverse coded as marked above and then the seven items were summated for a possible mastery score of 7 (indicating low mastery) to 35 (indicating high mastery). The Cronbach's alpha was .74. The mastery scale was added after 135 clients had already been served by the financial counseling center, which reduced the possible regression sample to 540. Missing data on other questions further limited the final regression sample size to 456.

Respondents were asked to indicate if they would be in serious debt (1), break even (3), have money left over (5), or be somewhere in between (2 or 4) if they were to sell all assets and pay back all debt to measure perceived net worth. While not a true continuous variable, it was treated as such for the regression analysis for ease of interpretation as a non-key variable. The results were not significantly different when it was treated as a categorical variable.

Measurement of Analysis 2 Items: Effectiveness of Financial Counseling
The same measures of objective and subjective financial knowledge used in the previous analysis were compared between the initial intake survey and the two month follow-up survey. Attitudinal variables included satisfaction with one's financial situation and financial anxiety. Financial satisfaction was assessed by asking respondents to rank their level of financial satisfaction on a 10-point scale where higher numbers represent greater satisfaction. The one item, 10-point measure for financial satisfaction, has been successfully used by previous researchers to measure financial satisfaction (Archuleta, Britt, Tonn, & Grable, 2011; Archuleta, Dale, & Spann, 2013). Financial anxiety was measured with one item that asked respondents how often they agree with the following statement: "I feel anxious about my financial situation." Options ranged from 1 to 7 where 1 indicates never and 7 indicates always. The item is part of a larger scale that was not retained for this study due to space constraints (Archuleta et al., 2013). The same financial stress item used in the regression was used in the *t*-test analysis.

For the financial behavior assessment, participants were asked to respond to the following five statements. The answers were measured on a five point Likert-type scale with choices ranging from 1 for almost never to 5 for almost always.

(a) I make myself aware of the total amount of money I owe;
(b) I spend more money than I earn (reverse coded);
(c) I have difficulty paying bills because of not enough income (reverse coded);
(d) I have a weekly or monthly budget that I follow; and
(e) I have specific short-term, mid-term, or long-term written financial goals.

After reverse coding items (b) and (c), the reliability of the items as a scale was low ($r = .58$). Therefore, the items were treated as individual items in the analyses.

Data Analyses
To address the first goal of determining the predictors of financial stress among college students who sought peer-based financial counseling, an ordinary least squares regression analysis was used with a single item of financial stress as the outcome. To address the second goal of determining the effectiveness of financial counseling, a series of paired samples *t*-tests were used to determine differences in financial knowledge, attitude, stress, and behavior scores from the initial client intake survey compared to the two month follow-up survey. Missing data were listwise deleted.

Results
Analysis 1: Predictors of Financial Stress
Table 3 shows the results of the regression, which accounted for 22% of the variance in financial stress of college students who sought financial counseling ($p < .001$). The results that follow are discussed in relation to the conceptual framework. In terms of importance to the model (as measured by the standardized beta), grade level was most important, followed by mastery, perceived net worth, and student loan debt.

The only financial resource that had a significant impact on financial stress was the amount of student loans reported. Students who reported a median amount of student loans compared to not having any student loans reported significantly higher financial stress ($B = 0.74$, $\beta = 0.13$, $p < .05$). Compared to students with no student loan debt, students with debt in the median group of $12,000 to $30,000 reported a .74 point increase in financial stress.

Developmental stage included college students' age, grade level, and objective financial knowledge. The only item that had a significant impact on financial stress was grade level. Sophomores, juniors, seniors, and graduate students all reported significantly lower financial stress compared to

Table 3. Regression Results Predicting Financial Stress (n = 456)

Variable	B	SE B	β
Resources			
Monthly Income ($0)			
Below median	-0.15	0.28	-0.03
Median ($401 - $700)	0.47	0.31	0.08
Above median	-0.13	0.30	-0.02
Student Loans ($0)			
Below median	0.47	0.29	0.08
Median ($12k - $30k)	.74*	0.32	0.13
Above median	0.52	0.35	0.09
Credit Card Debt ($0)			
Below median	0.58	0.41	0.06
Median ($701 - $3k)	0.30	0.43	0.03
Above median	0.31	0.49	0.03
Developmental Stage			
Age	-0.01	0.04	-0.02
Grade (freshman)			
Sophomore	-1.16**	0.41	-0.18
Junior	-1.47***	0.42	-0.24
Senior	-1.21**	0.4	-0.25
Graduate student	-1.01*	0.48	-0.17
Objective Financial Know.			
Credit reports	0.46	0.32	0.06
Insurance deductibles	-0.37	0.22	-0.08
Annuities	-0.01	0.21	0
Mutual funds	-0.13	0.3	-0.02
Retirement needs	0.03	0.28	0
Investing	-0.11	0.21	-0.02
Family Structure			
Single	-0.03	0.43	0
Have children	0.86	0.52	0.08
First generation student	0.39	0.28	0.06
Perceptions			
Subjective Financial Know.	0.05	0.06	0.04
Mastery	-.14***	0.03	-0.24
Perceived net worth	-.32***	0.08	-0.21
R^2		0.22	
F value		4.62***	

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

freshmen ($B = -1.16$, $\beta = -0.18$, $p < .01$; $B = -1.47$, $\beta = -0.24$, $p < .001$; $B = -1.21$, $\beta = -0.25$, $p < .01$; $B = -1.01$, β = -0.17, $p < .05$, respectively). In comparison to freshmen, sophomores reported a 1.16 point reduction in their financial stress. Juniors reported a 1.47 point reduction, seniors reported a 1.21 point reduction, and graduate students reported a 1.01 point reduction in financial stress compared to freshmen. No measures of family structure (i.e., being single, having children, or being a first generation college student) were statistically significant in predicting financial stress.

Within the concept of perceptions, students with high mastery and high perceived net worth reported lower financial stress scores. For each unit increase in perceived mastery, financial stress decreased by .14 points ($B = -0.14$, $\beta = -0.24$, $p < .001$). For each unit increase in perceived net worth, financial stress fell by .32 points ($B = -0.32$, $\beta = -0.21$, $p < .001$).

Analysis 2: Effectiveness of Financial Counseling
The two month follow-up Internet survey completion rate was 14% of the original sample. Given the low follow-up rate of return, the researchers sought to determine whether there were measurable differences in students who completed the follow-up survey versus those who did not. A generalized linear model (GLM) was used to assess for mean differences on demographic characteristics (i.e., gender, age, year in school, academic college, income, and credit card and student loan debt levels), financial knowledge (i.e., objective financial knowledge score and subjective financial knowledge), financial attitudes (i.e., financial satisfaction and financial anxiety), financial stress, and financial behaviors (i.e., awareness of debt owed, checking for lowest rate before borrowing, spending more than income, having difficulty in paying bills, keeping a spending plan, and keeping financial goals), and perceived mastery. Results indicated that the only statistically significant difference was for year in school ($F = 9.73$, $p = .002$). Tukey post-hoc tests showed the mean year in school for those who completed the follow-up survey to be 3.75 versus 3.29 for those who did not complete the follow-up survey. In other words, students who completed the follow-up survey tended to be slightly further along in their college career.

After determining that the students who completed the follow-up survey were essentially the same as those who did not, a series of paired samples *t*-tests were conducted with the initial survey results and the two month follow-up data. The sample size for the *t*-tests vary slightly due to missing data for some variables. The results are shown in Table 4.

Financial counseling had a statistically significant association with changes in objective financial knowledge as it relates to credit reports and investments, subjective financial knowledge, financial satisfaction, financial anxiety, and awareness of money owed. Respondents' average score on determining financial knowledge of credit reports fell between the initial appointment and the follow-up survey ($t(84) = 2.29$, $p < .05$), but objective financial knowledge in terms of investment returns increased slightly between the initial appointment and the follow-up survey ($t(73) = -2.60$,

$p < .05$). Regardless of changes in actual knowledge, students felt more knowledgeable after two months ($t(87) = -5.23$, $p < .001$), were more satisfied with their financial situations ($t(87) = -2.88$, $p < .05$), and felt slightly less anxious about their financial situation ($t(87) = 2.20$, $p < .05$). The remaining statistical significance was noted in a financial behavior. Respondents reported to be less aware of the amount of money they owe at the two month follow-up survey as compared to the initial appointment ($t(86) = 3.81$, $p < .001$).

Discussion
Predictors of Financial Stress
The strong correlates of financial stress included grade level (sophomores and above reported lower stress than freshmen), mastery, perceived net worth, and median student loan debt as compared to no student loan debt. The fact that freshmen were statistically more likely to report higher levels of financial stress as compared to those in higher grades despite the fact that freshmen entering college have fewer credit cards and less debt than upperclassmen, on average (Robb & Sharpe, 2009), was surprising. This could be explained by the notion that college may be the first time freshmen have a need to manage their personal finances. The stress of paying rent, utilities, tuition, and buying textbooks and food could be overwhelming to the average 18 year old entering college. Help-seeking studies confirm that freshmen are more likely to seek help than more advanced students (Lim et al., 2014).

It was also surprising that respondents with student loan debt above the median level of $20,000 were not statistically more stressed about their financial situation than respondents with no student loan debt, although students with the median level of debt were more stressed than those with no student loan debt. Students with the highest level of debt could be in majors that have high expected salaries and therefore have more confidence in their ability to repay their loans after graduation. Another possible explanation could be that as students age and become more knowledgeable about credit, they may have more confidence in using credit for consumption (Lachance, 2012).

Not surprisingly, students with greater feelings of personal mastery and higher perceived net worth reported feeling less stressed about their financial situation. Perry and Morris (2005) support the notion that saving, budgeting, and ability to control spending of consumers is in part dependent upon their perceived level of control over outcomes as well as their knowledge and financial resources.

Table 4. T-Test Results of Initial Survey with Two Month Follow-Up Survey

Variables	N	M (SD) initial	M (SD) follow-up	*t* value	*p* value
Objective Financial Knowledge					
(1 = correct, 0 = incorrect)					
Credit report knowledge	85	0.86 (0.35)	0.74 (0.44)	-2.29	0.025
Deductible knowledge	82	.62 (.49)	.73 (.45)	1.58	0.118
Annuity knowledge	79	.63 (.49)	.66 (.48)	0.31	0.754
Mutual fund knowledge	84	.85 (.36)	.90 (.30)	1.30	0.199
Retirement knowledge	75	.89 (.31)	.90 (.29)	0.33	0.741
Investment knowledge	74	0.64 (0.48)	0.81 (0.39)	2.60	0.011
Subjective financial knowledge	88	4.52 (1.89)	5.35 (1.94)	5.23	< .001
(1=lowest level, 10=highest level)					
Financial Attitudes					
Financial satisfaction (1=lowest level, 10=highest level)	88	4.78 (2.32)	5.40 (2.32)	2.28	0.025
I feel anxious about my situation (1=never, 7=always)	88	4.44 (1.33)	4.12 (1.45)	-2.20	0.031
Financial Stress	88	5.31 (2.17)	5.05 (2.00)	-1.21	0.231
Financial Behavior					
(1=almost never, 5=almost always)					
I make myself aware of the total amount of money I owe	87	3.95 (0.91)	3.56 (0.77)	-3.81	< .001
I spend more money than I earn	88	2.22 (1.15)	2.07 (1.03)	-1.12	0.266
I have difficulty paying bills because of not enough income	88	2.18 (1.21)	1.97 (1.23)	-1.45	0.145
I have a weekly or monthly budget that I follow	88	2.59 (1.29)	2.39 (1.01)	-1.82	0.072
I have specific short-term, mid-term, or long-term written financial goals	87	2.31 (1.11)	2.34 (1.02)	0.27	0.789

Effectiveness of Financial Counseling

The results of this study indicate that peer-based financial counseling (a) had a positive effect on improved subjective financial knowledge, but limited improvements to objective financial knowledge, (b) resulted in improvements to financial attitudes, and (c) had limited impact on financial behaviors as reported two months after the initial appointment.

The lack of significance in several of the financial behaviors was not particularly surprising considering the difficulty of changing behavior in just a two-month period. Even after a year time frame or more, researchers have found no difference in financial behaviors of high school students who had taken a financial education course versus those who had not (Mandell & Klein, 2009). Beginning to follow a budget may take considerable effort and changes in lifestyle. What is less apparent are the reasons (a) why counseling did not increase respondents' efforts to remain aware of debt they

owe and (b) why some aspects of respondents' objective credit report knowledge decreased. The increased awareness of respondents' financial situation may have decreased their confidence in ability to repay or stay aware of the total debt they do owe. In regards to the second item, the financial counselors emphasized that students can receive a free copy of their credit report from three agencies, so respondents may have felt that the credit report question was inaccurate in that you can actually obtain more than one free report each year. A simpler explanation may be that the question wording was confusing to participants.

The financial stress results were not as encouraging as expected in that there was no permanent reduction in financial stress reported at the two month follow-up survey. This could possibly be related to students' increased awareness of their general financial situation. The financial counselors commonly noted that they had to help students determine their

student loan debt balance when reviewing their credit report. When reflecting on their appointment, students may feel a sense of increased stress related to their ability to manage their finances. Longer term follow-up surveys are needed to determine if students who sought financial counseling during college report lower financial stress when faced with repaying student loan debt compared to students who did not seek financial counseling. Despite the lack of statistical significance in reduced financial stress, students reported a greater satisfaction with their financial situation and lower financial anxiety two months after the appointment.

Limitations

While the results of the study are promising for on-campus peer financial counseling, it should be acknowledged that the sample was drawn from one university in the Midwest, which limits the generalizability to college students and student populations more broadly. Future studies should include sample student populations from across the nation and internationally as well. The sample was predominantly White; however, this does not deviate significantly from the school's population as a whole. Participants in the study were largely female (65%) as compared to the student body of only 49% female. The sample also contained higher participation among Veterinary Medicine (6.7%) and Human Ecology (19.5%) students than the university averages of .56% and 12.7% respectively. There were also fewer freshmen that participated in the study than the university average while a higher percentage of graduate students were included. A possible explanation is that freshmen may be turning to their parents for help versus seeking more formal financial counseling.

Participation in financial counseling was voluntary. While this is not a design flaw, it does raise some concern for self-selection bias in the sample. This concern is heightened given the fact that 55% of this self-selected group of students elected to have their information used for research purposes, and there is no way to assess for differences between these students and those who elected not to have their information used in research. The low response rate of 14% on the follow-up survey is also a concern. Students were given the choice to have their data used for research analysis. In testing for post-test differences, it is possible that those who made this election had some commonality which introduces the possibility of selection bias in the sample. In addition, in the two month follow-up it is also possible that elements of selection maturation contributed to the lack of statistical change in financial stress. Because participants self-selected they may have been more likely to benefit from the counseling

and therefore not show as much change in their stress levels as someone who may have been coerced to go to counseling. Despite this limitation, the data from this study is unique and informative to other peer-based financial counseling programs.

From a methodological standpoint, there are limitations of using an OLS regression with a dependent variable with 10 categories. Stress, as measured in this study, was by definition an ordinal variable. An ordinal logistic regression analysis was conducted to test for model differences. The statistically significant results remained the same, so OLS was retained for ease of interpretation. Because of the mix of independent variable measurement, it is helpful to account for the standardized beta in the interpretation of the results as shown in the last column of Table 3. Nevertheless, variables with greater variability will still have greater power in the analysis.

Regarding variable selection, it should be noted that this study focused on the effects of the specific domains of resources, developmental stage, family structure, and efficacy expectations on financial stress. Future studies should examine additional domains, such as social relationships which are important to college students (Xiao et al., 2009). Within the concepts measures for this study, the objective financial knowledge measure may need further consideration. Objective financial knowledge was measured using six questions, which may not be the best representations of necessary financial knowledge for college students. Additional research is needed to determine the most important financial knowledge markers of college students as they begin their independent financial lives.

Implications

Despite this study's limitations, insight has been gained and new questions have arisen regarding the predictors of financial stress and the effectiveness of peer financial counseling. We know from prior research that financial stress negatively affects college students' academic performance (Crocker & Luhtanen, 2003), retention, and health and well-being (Joo et al., 2008-2009), so it is imperative that services that can help reduce financial stress be researched and developed to best meet the needs of college students. The findings from the current study suggest that universities should give special attention to freshmen (i.e., those who are transitioning to new roles and responsibilities), because all other grade levels experienced lower financial stress than freshmen. Targeting freshmen—possibly through a form of mandated financial education—will likely help increase their financial satisfaction and reduce their anxiety around money. While more difficult

to track, students with lower perceived mastery and lower perceptions of net worth are also at risk for high financial stress.

Financial counseling has an effect on students' financial knowledge, attitudes, and behaviors. Students felt more knowledgeable two months after the initial appointment; however, increasing objective financial knowledge was not as measurable as we would have expected. Peer financial counseling was associated with a marked increase in investment knowledge, but a decrease in credit knowledge. The decline in credit knowledge may be associated with confusion in the question versus an actual drop in knowledge. Regardless, previous research suggests that subjective financial knowledge is more important than objective financial knowledge in predicting behavior (Robb & Woodyard, 2011; Xiao, Ahn, Serido, & Shim, 2014), which gives hope to the method of financial counseling used in this study. Longer-term follow-up surveys may yield different results because it takes time to put knowledge into practice (Serido, Shim, & Tang, 2013). Other research suggests that positive financial behavior intentions are associated with better financial outcomes, such as reduced credit card debt among college students (Xiao, Tang, Serido, & Shim, 2011). Future effectiveness studies should capture intentions in addition to actual behaviors to further assess this relationship.

In conclusion, peer financial counseling as described in this study is effective. Most notably, students who sought free financial counseling reported higher financial satisfaction two months after their initial appointment. Future efforts in peer financial counseling among college students should focus on students who are experiencing the highest levels of financial stress. Some characteristics are easier to identify (e.g., grade level, student loan balance) than others (e.g., perceived mastery and net worth), although efforts should focus on attracting those students to financial counseling. If they are representative of the students evaluated in this study, they should experience higher financial satisfaction, reduced anxiety, and higher perceived financial knowledge as a result of their financial counseling experiences.

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