Financial Anxiety Among College Students: The Role of Generational Status

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Both financial anxiety and first-generation student status have been linked to negative academic outcomes, mental health issues, and poor social adjustment among college students; however, each factor has been studied in isolation. This article examines the predictors of financial anxiety, including generational status, using the Roy Adaptation Model and ordinary least squares (OLS) regression analysis on data from a large, Midwestern public university. First-generation student status was positively associated with financial anxiety in multivariate modeling. Proxies for students' self-concepts, including financial comparisons to peers and perceived mastery, had the largest contribution to the model. Financial counseling programs geared toward first-generation college students may impact their self-concepts and reduce financial anxiety.

Keywords: college student finances, financial anxiety, first-generation college students, Roy Adaptation Model

College students face unique financial circumstances, often leading to financial stress and anxiety. Students face tuition rates that are rising faster than general inflation, high levels of debt, and uncertain job prospects during a period of emerging adulthood (Worthy, Jonkman, & Blinn-Pike, 2010). For many with this newfound financial responsibility, money is depleted prior to the end of the semester with little success in reducing expenditures or increasing income (Choi, Gudmunson, Griesdorn, & Hong, 2016). Students commonly report a lack of savings, high credit card debt, inadequate income to cover expenses, delays in making monthly payments, and over drafting of accounts (Choi et al., 2016). These circumstances may be anxiety-inducing for any college student; however, first-generation students seem particularly prone to financial anxiety and its associated negative impact on financial behavior, academic progress, and general health (Bennett, McCarty, & Carter, 2015).

Financial anxiety and first-generation student status have each been linked with reduced student academic performance, poor social adjustment, and poor mental and physical health (Bennett et al., 2015; Jenkins, Belanger, Connally, Boals, & Durón, 2013; Northern, O'Brien, & Goetz, 2010; Padgett, Johnson, & Pascarella, 2012). While separate analyses of the outcomes associated with financial anxiety and first-generation status have been conducted, the aim of this article is to further explore the factors associated with financial anxiety. Given that anxiety has been correlated with reduced academic achievement, identifying contributors to financial anxiety will likely assist college administrators with facilitating better student academic outcomes. Specifically, this study will address two research questions: What factors are associated with college student financial anxiety? How does first-generation student status affect financial anxiety?

Financial anxiety among first-generation students has received limited attention from scholars, but important insights have been drawn from previous work that has been conducted. Research has shown that first-generation students receive less monetary support from parents, and instead tend to receive higher funding from scholarships, grants, loans, and other external sources of funding (Choy, 2001; Martinez, Sher, Krull, & Wood, 2009). First-generation students, on average, rely more heavily on loans than other sources of financing, and they believe that college is affordable through the use of debt (Lee &

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http://dx.doi.org/10.1891/JFCP-17-00033

Mueller, 2014). These students have a higher likelihood of indicating that their motives for attending college and incurring associated debt include boosting income for the family (Bui, 2002). The costs of financing a college education may contribute to the higher prevalence of financial anxiety among first-generation students (Bennett et al., 2015). The ramifications of financial anxiety are pertinent to college and university administrators as increased levels of unmet financial need have been associated with reduced academic performance, and financially anxious first-generation students have been shown to view their campus environment as less supportive (Mehta, Newbold, & O'Rourke, 2011; Mrozinske, 2016). Increased understanding of the unique challenges faced by first-generation students may equip academic administrators to better serve this population through revisions to university policy, increases in the availability of financial counseling, or additional financial education opportunities. This study comprehensively examines the demographic, financial, and psychographic characteristics that are tied to higher levels of college student financial anxiety, which may enable university personnel to design interventions aimed at reducing this anxiety and its detrimental effects.

Literature Review

Financial anxiety is characterized by unhealthy responses to negative financial stimuli (Burchell & Shapiro, 2012; O'Neill, Prawitz, Sorhaindo, Kim, & Garman, 2006). Financial anxiety is prevalent in modern society, as post-recession U.S. citizens have experienced fluctuating fuel and food prices, higher rates of mortgage foreclosure and bankruptcy, more stringent lending practices, and declines in savings (McCormick, 2009). Several negative financial behaviors have been associated with financial anxiety. First, the financially anxious are more avoidant of financial topics (Burchell & Shapiro, 2012). Additionally, spending that exceeds income, difficulty in paying bills, and reaching credit card maximums are negative behaviors that are associated with financial anxiety (Sages, Britt, & Cumbie, 2013).

Characteristics of People With High Financial Anxiety

From a demographic standpoint, those with a high level of financial anxiety are older, predominantly female, often married, non-White, possess fewer financial resources, and have lower net worth (Archuleta, Dale, & Spann, 2013; Bennett et al., 2015; Britt, Canale, Fernatt, Stutz, & Tibbetts, 2015; Joo, Durband, & Grable, 2008). Psychographic measures show the financially anxious to possess lower levels of mastery, maintain negative perceptions of their financial position relative to peers, and have higher subjective interpretations of their financial knowledge (Britt et al., 2015; Britt, Mendiola, Schink, Tibbetts, & Jones, 2016).

College Student Financial Anxiety. Financial anxiety among college students has received much attention from researchers interested in the relationship between anxiety and academic performance or college persistence. Financial anxiety has been found to be prevalent in the college student population, with some reports that up to 71% of students experience stress from personal financial issues (Heckman, Lim, & Montalto, 2014). In fact, the American College Health Association (2013) reported that financial issues are one of the leading causes of stress among college undergraduates, with nearly 35% experiencing financial anxiety within the last 12 months. Several specific student characteristics have shown a significant association with financial anxiety.

Financial and Academic Characteristics. Students suffering from financial anxiety experience a multitude of negative consequences. Financially anxious students have been found to undertake more student loan debt, own more credit cards, and show a lower likelihood of paying credit card balances in full each month (Archuleta et al., 2013; Britt et al., 2015; Joo et al., 2008). Financial anxiety may also alter student priorities, as those experiencing it are more likely to work in addition to their schooling, and they work longer hours than their counterparts (Bennett et al., 2015; Joo et al., 2008). This may help explain prior research that has indicated that academic performance wanes in the presence of college student financial issues. Financial anxiety has been tied to reduced course loads, temporary or permanent school dropout, and longer times to degree completion (Joo et al., 2008; Letkiewicz et al., 2014).

Social and Health Characteristics. Financial anxiety also has social ramifications. First, financially strained college students are less likely to live on campus than their peers (Joo et al., 2008). Second, financial anxiety—though mediated by students' perceived stress—is linked to negative social integration issues among college students, including feelings of social isolation, unfamiliarity with the campus, and conflict between academic and social demands

(Adams, Meyers, & Beidas, 2016). Finally, mental health—including aspects of lower student self-esteem, anxiety disorders, depression, and suicidal thoughts—has also been linked to college student financial anxiety (Eisenberg, Gollust, Golberstein, & Hefner, 2007; Joo et al., 2008).

First-Generation College Students

Despite the attention paid to financial anxiety among college students in general, less research has been conducted to examine its role within the first-generation college student population. First-generation students are a population that exhibit their own unique circumstances and challenges.

Characteristics of First-Generation Students. These students are more likely to come from lower income families, be minorities, be non-traditional age students, be financially independent, and have dependent children of their own (Shultz, 2013; Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996). Their unique qualities have important implications for work-school balance, social life, mental health, and academic performance.

This group of students exhibits the tendency to prioritize working over academics and is more likely to be working in general while in school (Terenzini et al., 1996; Warburton, Bugarin, & Nunez, 2001). Often times employment is off campus, which may limit time available to utilize campus resources and interact with peers (Terenzini et al., 1996).

Social and Health Characteristics. Accordingly, social behavior of first-generation students differs from that of students who are second generation or beyond. Prior research has shown that first-generation students were less involved with their peers and teachers in high school (Terenzini et al., 1996). This behavior appears to carry over into college, as first-generation students report that they receive less support and have less interaction with peers during college (Terenzini et al., 1996). Additionally, first-generation students are less likely to disclose that they are experiencing stressful life events to family, friends from school, or friends from home (Barry, Hudley, Kelly, & Cho, 2009). With less social support, first-generation students report lower life satisfaction and have higher rates of depression (Jenkins et al., 2013).

Academic Performance. Finally, first-generation status has been tied to reduced academic performance. First-generation students tend to have lower grade point average (GPAs), and they are more likely than other students to drop out of school or reduce their course load (Choy, 2002; Nunez & Cuccaro-Alamin, 1998; Warburton et al., 2001). One researcher estimated that first-generation students have a 71% greater risk relative to their peers of dropping out in their first year when controlling for other demographic variables (Ishitani, 2003). Lower academic expectations may even arise preceding entry into college. Many first-generation students enter college with lower educational aspirations than their peers (Choy, 2001; Terenzini et al., 1996). As early as seventh grade, prospective first-generation college students may have negative academic outcome expectations and higher perceived barriers to college education (Gibbons & Borders, 2010).

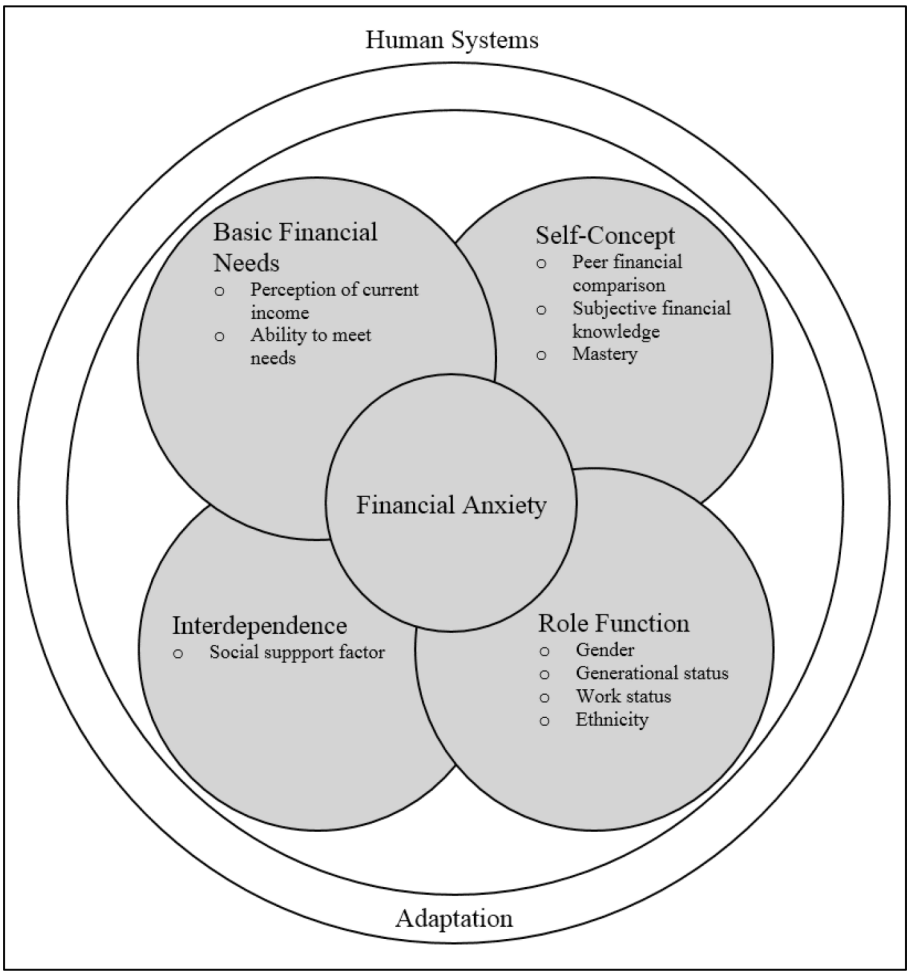
Theoretical Framework

The Roy Adaptation Model (RAM) has been used recently by personal finance scholars to identify factors that are associated with college student financial anxiety (Heckman et al., 2014). This research expands upon previous work by incorporating additional RAM constructs and evaluating the role of first-generation student status.

The RAM is a framework explaining individuals' responses to environmental stressors and their resulting adaptation or maladaptation (Roy, 2009). The theory helps explain the factors that shape individuals' responses to anxiety-inducing stress (Roy, 2009). While portions of an individual's ability to govern anxiety stem from neural, chemical, and hormonal activities in the RAM's regulator subsystem, the cognator subsystem describes anxiety regulation in less biological terms (Roy, 2009). Each person has four modes of adaptation, including physiologic needs, self-concept, role function, and interdependence. As depicted in Figure 1, each of these four modes influences adaptation to stressors and subsequent anxiety (Roy, 2009).

The physiologic mode within the RAM pertains predominantly to the basic biological functions necessary for survival, such as oxygenation, nutrition, and rest (Roy, 2009). However, the RAM also acknowledges the need for adequate fiscal resources in order to limit anxiety, and this mode of adaptation is associated with the basic need for

Figure 1. Predictors of financial anxiety.



Source: Adapted from RAM conceptual framework.

what is termed "operating integrity." Specifically, the theory mentions that fiscal resources available to families must be sufficient to cover food, clothing, shelter, and significant but infrequent purchases like those arising from healthcare. Therefore, while the physiologic mode may include biological processes, measures of the ability to cover basic necessities, like food, clothing, housing, medical care, and transportation, are suitable means to assess the ability to meet critical financial needs. Therefore, it is hypothesized that:

> **H1:** Access to basic financial needs (perceptions of current income and ability to meet financial needs) will be negatively associated with financial anxiety.

The self-concept mode within the RAM is shaped by one's internal perceptions of oneself. It involves beliefs and feelings about the self, including personal values, self-esteem, and cultural identification (Roy, 2009). Heckman et al. (2014) operationalized this construct in the financial realm by measuring financial self-efficacy and financial optimism among college students, finding that higher levels of each measure were associated with reduced likelihood to report financial stress. Thus, it is hypothesized that:

> **H2:** Respondents' self-concepts (perceived mastery, financial standing relative to peers, and subjective financial knowledge) will be negatively associated with financial anxiety.

Role function within the RAM refers to one's sense of expectations about how they should relate to others based

on social and societal norms. The underlying need of the role function mode of adaptation is for social integrity (Roy, 2009). Demographic background and personal development stage help form one's social identity within this construct (Roy, 2009). These roles help shape commitments to others and expected tasks to complete within a group setting. Role functions help form expectancies about wage earning, resource sharing within a family, and provision of care to family members (Roy, 2009). The role of first-generation student status is of particular interest in this study; however, students may also be influenced by gender roles, ethnicity, or employment status during their studies. A limited body of prior research has shown that those with higher levels of financial anxiety tend to be female, non-White, employed during schooling, and first-generation students (Bennett et al., 2015). Therefore, it is hypothesized that:

> **H3a:** First-generation student status will be positively associated with financial anxiety.
> **H3b:** Being male will be negatively associated with financial anxiety.
> **H3c:** Being White will be negatively associated with financial anxiety.
> **H3d:** Being employed as a student will be positively associated with financial anxiety.

Finally, interdependence focuses on interactions with others and the giving and receiving of social support (Roy, 2009). Relationships with others are said to influence an individual's sense of purpose, structure, and development of future relationships. There is an underlying need for relational integrity, or feelings of being valued and supported, within this mode of adaptation (Roy, 2009). Within the financial planning context, the availability of social support in the presence of financial stressors may play an important role in adaptation responses to financial anxiety. Thus, it is hypothesized that:

> **H4:** Interdependence will be negatively associated with financial anxiety.

Methods

Data

Data were obtained from undergraduate college students enrolled in 6 credit hours or more during the spring 2014 semester at a large public university in the Midwest. Demographic data were obtained with permission of Kansas State University's Institutional Review Board for Research with Human Subjects (IRB protocol #7129) and linked with Qualtrics survey data in spring 2014 and again in spring 2015. A total of 16,675 emails were successfully sent with the survey link, and 3,339 surveys were returned as useable. Respondents were eligible to receive a small gift and were entered for a drawing for a $250 gift card and 18 smaller prizes, which were selected the day after the survey closed. Approximately 15% of sample respondents were freshmen, 25% were sophomores, 22% juniors, and 38% were seniors. Seven academic colleges were represented—agriculture (16%), arts and sciences (30%), architecture (2%), business (13%), education (8%), engineering (14%), and human ecology (15%).

Variables

Dependent Variable. Financial anxiety was measured with a 7-item scale regarding physical and mental stress related to one's financial situation (Archuleta et al., 2013). The scale was originally developed by adapting the *Diagnostic and Statistical Manual of Mental Disorders*, Fourth Edition (*DSM-IV-TR*) Generalized Anxiety Disorder diagnostic criteria to the field of finance (Archuleta et al., 2013). In the current study, respondents indicated the frequency with which they experience financial anxiety symptoms, where 1 = never and 7 = always. Scores ranged from 7 to 49, with higher numbers indicative of higher levels of financial anxiety (M = 20.94; α = .96). Only respondents who answered all items within the scale were included in the final sample.

Basic Financial Needs. Basic financial needs were operationalized using variables that measured students' perceptions of current income and ability to meet financial needs. Perception of current income was a categorical variable developed in prior research (Britt et al., 2016). Respondents were asked, "To what extent do you think your current income is enough for you to live on?" Those who answered that they could only meet the most basic necessities or that they could not meet necessities at all were coded as not having enough to live on. Those who answered that they could afford some, but not all, of the things that they wanted were deemed to have just enough. Finally, those who could afford everything or nearly everything that they wanted were considered to have more than enough to live on.

Respondents' ability to meet needs was measured by the sum of answers to 15 questions regarding the consistency

with which participants can pay for common household expenses, including food for two meals a day, a house or apartment, clothes for self or family, money to pay bills, medical care, dependable transportation, and other essentials. Responses were measured on a Likert-type scale where 2 = not at all adequate and 6 = almost always adequate (1 = does not apply). This produced a variable that ranged from 15 to 90, and higher values corresponded to higher ability to meet financial needs (α = .90).

Self-Concept. The self-concept mode within the RAM pertains to individuals' perceptions of self. In the domain of college student personal finance, self-concept was operationalized via three variables measuring different aspects of self-perception. Specifically, perceptions of financial standing relative to peers, subjective financial knowledge, and mastery were included. To capture the categorical peer financial comparison variable, respondents were asked: "compared to my friends, I am worse, the same, or better off financially" (Britt et al., 2016). Subjective financial knowledge was measured by asking respondents to rate their financial knowledge relative to peers on a scale of 1–10, where 1 = *lowest level* and 10 = *highest level*. Pearlin, Menaghan, Lieberman, and Mullan's (1981) 7-item scale was used to measure mastery, with a range of 7 for those with low mastery to 35 for participants with higher mastery (α = .81).

Role Function. Respondents' role functions within their families and society were measured in multiple ways. Primarily, first-generation student status was measured via a binary variable indicating generational background. Additional role function variables were composed of demographic factors including gender, race, and employment status. Race was coded as a binary variable referring to White or non-White. Respondents were determined to be employed if their self-reported, take-home pay was greater than zero. Workers were coded as full-time if their monthly take-home pay was greater than what an employee would make working 20 hours a week while making minimum wage in the state of data collection ($462). Those making less than that figure were labeled as part-time workers, and all others were coded as non-workers.

Interdependence. The sum of responses to three items that pertained to social interactions served as a measure that aligned with the RAM's construct of interdependence. These three items, developed by the authors, asked participants about availability of time to be with friends, availability of someone to talk to, and frequency with which they interact with friends and family. These items were measured on a Likert-type scale, where higher values indicated greater interdependence (M = 13.34, standard deviation [SD] = 2.74, α = .73).

Controls. Additional controls were included for age and class year. Age was treated as a continuous variable, while class year was a categorical variable with freshman, sophomore, junior, or senior designations.

Results

Descriptive statistics are shown in Table 1. First-generation students reported approximately 4.5 points higher financial anxiety than non-first-generation students [$t(1357) = -8.77$, $p < .001$]. First-generation students generally reported lower values for meeting basic financial needs. Half of the first-generation respondents indicated that they did not have enough income to live on, and they reported having just enough or more than enough at a lower rate than their non-first-generation counterparts. They also exhibited lower mean values on the ability to meet needs scale relative to later-generation students (M = 66.02, SD = 13.73, α = .91; M = 69.80, SD = 13.71, α = .90, respectively). Within the self-concept construct, the student populations differed in terms of peer financial comparison, as first-generation students reported being worse off than peers at a higher rate rather than perceiving themselves as better off or about the same financially as their peers. Notable differences also emerged among measures of students' role functions. First-generation students, on average, were more likely to be of minority ethnicity. Additionally, 38% of first-generation students reported working full time, while only 30% of non-first-generation students did so. Finally, first-generation students reported lower values on the interdependence scale, as well (M = 12.82, SD = 2.78, α = .73; M = 13.65, SD = 2.58, α = .71, respectively).

A series of t tests revealed statistically significant differences in mean values among first-generation and non-first-generation students for most of the measures in the model. Perception of current income, ability to meet needs, peer financial comparison, subjective financial knowledge, perceived mastery, age, White, full-time work status, and interdependence each yielded significant differences in means

TABLE 1. Descriptive Statistics

	First-Generation		Non-First-Generation		
Predictor	***M***	***SD***	***M***	***SD***	***t value***
Anxiety[a]	23.92	11.94	19.43	10.52	−8.77***
Basic Financial Needs					
Perception of Current Income					
Just enough	0.39	0.49	0.47	0.50	3.59***
Not enough	0.50	0.50	0.40	0.49	−4.86***
More than enough	0.10	0.30	0.13	0.34	1.95^
Ability to meet needs[b]	66.02	13.73	69.80	13.71	6.16***
Self-Concept					
Peer Financial Comparison					
About the same	0.48	0.50	0.56	0.50	3.89***
Better off	0.20	0.40	0.28	0.45	4.14***
Worse off	0.32	0.47	0.16	0.37	−8.39***
Subjective financial knowledge	6.50	1.73	6.22	1.80	−3.42***
Perceived mastery[c]	28.28	4.77	28.99	4.56	3.41***
Role Function					
Male	0.36	0.48	0.38	0.49	*ns*
White	0.75	0.44	0.87	0.34	6.90***
Non-workers	0.21	0.41	0.27	0.44	*ns*
Part-time work status	0.41	0.49	0.43	0.50	*ns*
Full-time work status	0.38	0.49	0.30	0.46	–3.89***
Interdependence[d]	12.82	2.78	13.65	2.58	6.87***
Controls					
Age	21.92	3.96	20.64	2.30	–8.19***
Freshman	0.14	0.34	0.15	0.36	*ns*
Sophomore	0.23	0.42	0.26	0.44	*ns*
Junior	0.23	0.42	0.21	0.41	*ns*
Senior	0.40	0.49	0.37	0.48	*ns*
N	755		1,491		

Note. *ns* = non significant; *SD* = standard deviation.
[a]α = .96. [b]α = .90–.91. [c]α = .81. [d]α = .71–.73.
*p < .05. **p < .01. ***p < .001.

among the two groups. Only male, part-time work status, and class year variables failed to generate statistically significant differences in *t* tests.

Data were analyzed via ordinary least squares regression utilizing the continuous financial anxiety measure as the dependent variable and predictor variables comprised of measures of each of the four modes of adaptation in the RAM model. Variance inflation factors (VIFs) were calculated in order to test for multicollinearity, with the highest VIFs associated with the dummy variables indicating class year. The highest VIF was equal to 2.79, and most fell well below 2.50. Given that the highest VIFs were associated with categorical variables, multicollinearity is not considered an issue (Allison, 2012). Model R^2 equaled 0.45.

The proxies for self-concept had the largest contribution to the model based on standardized beta values (see third column of data in Table 2). Students reporting themselves as better off financially than their peers demonstrated

TABLE 2. Predictors of Financial Anxiety Among College Students

Predictor	*B*	*SE B*	*β*
Basic Financial Needs			
Perception of Current Income (Just Enough)			
Not enough	3.00***	.40	.13
More than enough	−2.80***	.60	−.08
Ability to meet needs	−0.10***	.02	−.12
Self-Concept			
Peer Financial Comparison (About the Same)			
Better off	−4.39***	.45	−.17
Worse off	5.31***	.49	.19
Subjective financial knowledge	0.59***	.10	.09
Perceived mastery	−0.64***	.04	−.27
Role Function			
First-generation	1.29**	.39	.05
Male	–2.01***	.37	−.09
White	–0.71	.48	−.02
Part time work status (no work)	1.98***	.45	.09
Full time work status (no work)	2.75***	.50	.12
Interdependence	−0.19*	.09	−.05
Controls			
Age	0.12	.07	.03
Sophomore (Freshman)	0.51	.58	.02
Junior (Freshman)	0.29	.62	.01
Senior (Freshman)	1.11	.61	.05
Constant	39.90***		
Adjusted R^2	0.45		
F Value	106.88***		
N	2,246		

Note. *B* = unstandardized coefficient; *SE B* = standard error of coefficient; *β* = standardized coefficient.
*$p < .05$. **$p < .01$. ***$p < .001$.

lowers scores on the financial anxiety scale ($\beta = -.17$, $p < .001$), which has a range of 1–10. Those who felt worse off reported higher financial anxiety scores ($\beta = .19$, $p < .001$). Higher perceived mastery was associated with a −0.27 reduction in financial anxiety ($\beta = -.27$, $p < .001$). Interestingly, subjective financial knowledge was associated with an increase in financial anxiety ($\beta = .09$, $p < .001$). While this can be explored in greater depth in future research, it may be reasonable to speculate that students who are more aware of their financial position experience greater anxiety, particularly in a life stage where income is lower and debt is common.

Consistent with theory, perceptions of current income were significantly associated with financial anxiety. Students who reported not having enough income had a 0.13 increase in financial anxiety ($\beta = .13$, $p < .001$). Contrastingly, the perception of having more than enough income was correlated with a reduction in financial anxiety ($\beta = -.08$, $p < .001$). Higher reported ability to meet needs corresponded with a small, but significant reduction in financial anxiety ($\beta = -.12$, $p < .001$).

Several role function variables proved to be significant in the model, as well. Notably, first-generation

student status was associated with an increase on the financial anxiety scale ($\beta = .05$, $p < .01$). Males reported lower financial anxiety ($\beta = -.09$, $p < .001$), and full-time work status was associated with an increase on the anxiety scale ($\beta = .12$, $p < .001$). Part-time employment, too, raised anxiety ($\beta = .09$, $p < .001$). Ethnicity failed to be significant in the model.

Finally, the interdependence variable had a negative association with financial anxiety among students ($\beta = -.05$, $p < .05$). However, both the beta coefficient and the standardized beta of interdependence was generally smaller than those of the measures of other constructs.

In summary, measures of students' self-concepts had the largest contributions to the model. However, significant measures of each of the four modes of adaptation in the RAM were present. The model provided support for each of the four hypotheses developed from prior research and theoretical prediction.

Discussions, Limitations, and Implications

Discussions

Key findings from this study show that students' role functions and social interdependence are tied to their levels of financial anxiety. Notably, first-generation students experienced heightened financial anxiety, as did those students working either part time or full time. Conversely, students who maintained social relationships and adequate time to spend with family and friends experienced reductions in levels of financial anxiety.

Students' self-concepts appeared to be key determinants of financial anxiety. Students in this study compared their financial position to that of their peers and experienced increased anxiety when they felt worse off than their counterparts. Also, consistent with prior research, those who felt more in control of life's events had lower levels of anxiety (Heckman et al., 2014). Interestingly, subjective financial knowledge positively correlated with anxiety. One might hypothesize that this could be the effect of students overstating their financial capabilities relative to objective financial knowledge measures. Alternatively, it may indicate a heightened awareness of financial position that is anxiety inducing for students.

Meeting basic financial needs was also important to students as shown in the results of this study. Students experienced heightened anxiety when they perceived their income as inadequate and reductions in anxiety when income was viewed as sufficient. Also, the ability to afford basics, such as food, housing, medical care, clothing, and transportation, was associated with reduced financial anxiety.

Limitations

Some limitations must be considered when viewing these results. First, the collection of data from a single university limits generalizability. Next, providing incentives for participation may have attracted a different group of students to the survey. For instance, students who feel like they have greater luck may have been more likely to complete the survey in anticipation of winning some of the bigger prizes. Alternatively, students in more financial need may have been more likely to complete the survey for a chance to increase their financial resources. Another limitation of this study that should be considered is the lack of a clear indicator of family socioeconomic status and family financial assistance provided to students. Finally, as with most surveys, missing data may have influenced the interpretation of the results. Students who chose not to answer some questions may be different in ways from their peers that are included in the data. Despite these limitations, important insights can be gleaned from the results with implications for university personnel.

Implications

The findings of this study have important implications for university personnel and policy makers. First-generation students reported higher financial anxiety than non-first-generation students. As many schools increasingly house offices of diversity and inclusion, these departments may offer programs focused on the first-generation student population. Such programs may allow first-generation students to build a social support network among peers facing similar financial stressors.

Additionally, as students' self-concepts have shown to play a role in financial anxiety, programs that aim to change these self-concepts warrant exploration. Peer financial comparison was tied to levels of financial anxiety, with those who felt better off than their peers experiencing lower levels of financial anxiety. Future research may explore how

students determine who comprises their peer set when making financial comparisons. If students are comparing their financial situations to those of their classmates, then they may be forming their perceptions by evaluating a relatively homogenous set of people with the financial means to support the high costs of college education. First-generation students who do not have direct parental experience with college then may form unrealistic expectations based on a peer group of non-first-generation peers. Universities should design programs to acclimate first-generation students to college life if they do not already exist. The programs should incorporate personal financial planning into the curriculum, which can effectively raise financial literacy (Wagner, 2019).

Universities may also increase student access to service-learning opportunities that offer a dual benefit. Service-learning, whereby students provide a service to their community that is related to coursework, has been effectively implemented within financial planning courses in the past (Annis, Palmer, & Goetz, 2010). For example, students studying taxation have provided tax preparation services to low- and moderate-income families in communities surrounding a large southeastern university (Annis et al., 2010). Such programs not only aid the community, but these service-learning opportunities can also reframe students' perspectives on their own financial situations as they interact with lower income families in need of support.

Colleges and universities might also explore methods of increasing students' levels of mastery over financial matters. These methods might include subtle changes to the ways that financial information is presented to students as prior research has shown that students enact more positive financial behavior when loan interest rates are presented in a more salient manner (Festa, Holderness, Neidermeyer, & Neidermeyer, 2019). Alternatively, the development of more comprehensive on-campus financial counseling services would give students a means to discuss, comprehend, and plan their financial behavior. Doing so may be effective in increasing students' feelings of control over financial outcomes (Britt, Ammerman, Barrett, & Jones, 2017). Emerging research has also shown that some therapeutic techniques, such as solutions-focused therapy, may decrease financial anxiety and could be incorporated into campus financial counseling services (Klontz, Bivens, Klontz, Wada, & Kahler, 2008). Additionally, universities could consider mandatory financial education via coursework or extracurricular programming. Though subjective financial knowledge was associated with increased financial anxiety in this study, it may be the case that objective financial knowledge can decrease anxiety. Higher levels of objective financial knowledge might influence perceptions of financial mastery, and future research may explore the relationship among these variables.

Finally, another implication from this study stems from the findings that both part-time and full-time employment are positively associated with financial anxiety. Universities could experiment with methods of reducing work-related financial anxiety, such as providing mass transportation to large employment hubs or increasing availability of work-study programs that take place on campus and enable balance between work and academic responsibilities.

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Disclosure. The authors have no relevant financial interest or affiliations with any commercial interests related to the subjects discussed within this article.

Acknowledgments. This manuscript has not been published in any form. Findings were presented at the American Council on Consumer Interests academic conference in April of 2017.

Funding. The author(s) received no specific grant or financial support for the research, authorship, and/or publication of this article.