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Examining Financial Knowledge Levels of Students of Color Versus White Students

Anecia Flewellen

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by

Anecia Flewellen

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Approved by:

Melanie Leuty, Ph.D., Thesis Advisor,
School of Psychology

Sara Jordan, Ph.D., Director,
School of Psychology

Sabine Heinhorst, Ph.D., Dean
Honors College

ABSTRACT

Social Cognitive Career Theory (SCCT) focuses on the way that cognitive factors such as self-efficacy interact with contextual factors, like race, to predict goal setting behaviors (Lent, 2013). The SCCT framework has shown to predict academic goal setting like intention to graduate, with higher academic self-efficacy resulting in higher graduation intention (White & Parrone-McGovern, 2017; Wu, 2018). One contextual factor that has an ability to affect academic self-efficacy is financial stress, which includes student debt (White & Parrone-McGovern, 2017). Students who are Black, Indigenous, and people of color (BIPOC) have more debt on average and a harder time paying off that debt (NCES, 2021; Education Data Initiative, 2022); this pairs with lower rates of college degree attainment among BIPOC individuals (Hirschman, 2016). Financial aid, which is a way to reduce financial stress, has been shown to have positive impacts on student retention and graduation intention (Cabrera et al., 1992; Hagedorn et al., 2001), yet research points to a lack of financial knowledge among students to obtain financial aid (Norvilitis et al., 2003). While financial knowledge is related to student debt, the relationship between financial knowledge and race has been explored to examine if this plays a role in lower college attainment for BIPOC students. In a sample of 275 college students, we examined if financial knowledge differs by race. Furthermore, we also explored if race and financial knowledge moderated the relationship between self-efficacy and desire to finish college to further understand these connections and identify possible areas for intervention. Results showed that financial literacy differed by race, but not as it relates to number of types of financial aid students applied. Furthermore, financial literacy did not moderate self-efficacy and desire to finish college, but number of financial aid types did.

There was a significant three-way interaction between race, self-efficacy, and financial aid applied for that affected desire to finish college.

Keywords: College students, financial aid, Social Cognitive Career Theory, BIPOC students, persistence, financial literacy

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LIST OF ABBREVIATIONS

BIPOC	Black, Indigenous, and People of Color
CSEI	College Self-Efficacy Inventory
CSEI-C	College Self-Efficacy Inventory-Course subscale
SCCT	Social Cognitive Career Theory
USM	The University of Southern Mississippi

CHAPTER I: EXAMINING FINANICAL KNOWLEDGE LEVELS OF STUDENTS OF COLOR VERSUS WHITE STUDENTS

There is a racial wealth gap that exists in the United States (Aladangady, & Forde, 2021).. Research conducted by Aladangady and Forde for the Federal Reserve (2021) shows that Black and Latinx households earn about half as much as White households. There are numerous factors that play into the racial wealth gap ranging from disparities in home attainment to disparities in financial assistance. Disparity in the debts held by households also adds to the racial wealth gap (Harris & Wertz, 2022).

One area of racial disparity in debt is with student loans. According to the National Center for Education Statistics (2022) Black and Hispanic students take out more federal loans than White students. Eighty-six percent of Black students take out federal loans, while 70.1% of Hispanic students and 67.7% of White students take out loans. These statistics are troubling as student loan debt is generally already on the rise for all students. According to the Peter G. Peterson Foundation (2021) federal student debt increased from $187 billion in 1995 to $1.4 trillion in 2017. Not only are more students of color taking out more loans than White students, but they are also more likely to have more issues with paying off those loans. According to the Education Data Initiative, 48% of Black students owe 12.5% more than they borrowed four years after graduating while White students, within the same time period, owe 12% less than what they borrowed (Hanson, 2023). This disparity is only helping to widen the racial wealth gap.

One of the possible causes for these loan disparities is a general lack of financial knowledge surrounding financial aid and the options to finance college. One of the ways

that can help to decrease the amount that a student may have to take out in loans is finding alternative funding for higher education like scholarships. However, racial disparities still exist in the United States. According to College Stats.org (n.d.), White students are 40% more likely to receive private scholarships than minority students. This trend continues with state-based merit scholarships. Students of color received state-based scholarships less often than their White counterparts. Some of the reasons behind these differences included differences in the quality of schools due to funding differences and disparities in the quality of academic preparation that were not considered in the awarding of these scholarships (Heller & Marin, 2004).

Moreover, this lack of financial support for students of color seeking to pursue higher education can act as a barrier for students pursuing and persisting in higher education. This is reflective of the racial gap in college completion, with White students obtaining a college degree at a rate higher than students of color (Hirschman, 2016). Investigating possible barriers to persistence of students of color is important. Given the link between financial aid and college completion (Nora et al., 2006), it is important to identify what factors could be affecting what financial aid that students of color are aware of and applying for, as well as receiving. Moreover, Social Cognitive Career Theory (SCCT, Lent, 2013) outlines that high self-efficacy leads to goal setting and completion. A meta-analysis of research on college persistence and performance using the SCCT model has supported the links between increased academic self-efficacy and academic goals and persistence (Brown et al., 2008). However, there is little research on how a lack of financial aid information may create a barrier to persistence in college, despite

increased self-efficacy. Thus, this study seeks to examine racial differences in financial knowledge and how this could factor into persistence through higher education.

Lack of Financial Knowledge amongst College Students

College tuition has been consistently rising and outpacing the cost of living, making it more and more difficult for college students to afford their education (Taylor, et al., 2011). Due to this, the number of college students graduating with debt has also increased (Taylor et al., 2011). This includes college students who graduate with unmanageable debt, which is higher for racial minority students (Brooks & Harrington, 2021). Debt of all sorts, from student loans to credit card debt, is on the rise for college-aged individuals (Hanson, 2023). Credit card debt has also been rising among college students to help finance college and daily living expenses (Curtis, 2008). Outside of the increasing cost of college, a lack in financial understanding and negative attitudes towards debt seem to also add to financial stress (Solberg, et al. 1993; Norvilitis et al. 2003). A study conducted by Norvilitis et al. (2003) researched the rising prevalence of credit card debt among college students and factors that were believed to be a part of the cause and effect of credit card debt. Specifically, they assessed personality, financial knowledge, and demographic factors to examine risk indicators for credit card debt and examined to what extent these factors play into the accumulation of debt. The study found that one of the strongest indicators to whether a college student was at risk for credit card debt was financial knowledge.

The lack of financial knowledge amongst college students was also echoed as a concern in the results of a study from Mangan, Hughes, and Slack (2010) that focused on the changes made to England's student finance systems and how these changes required

students to have additional knowledge on financing a college education. In 2006 to 2007 the changes made to the student financial systems replaced up-front tuition fees with variable tuition fees of up to 3,070 euros. In response to this change additional financial aid for poorer students was made available in the form of income dependent loans and grants, as well as bursaries/scholarships with different eligibility requirements. While the government intended for these changes to better benefit students from lower socioeconomic statuses, some researchers questioned if the changes would negatively affect students from these backgrounds who tended to be more debt-adverse and lacking knowledge on financial opportunities. The study aimed to see what role students' beliefs on how they would finance their education played in their decision-making process. The study found that while perceived costs affected students' decision-making, with things like whether they could live at home to save money or work a part-time job, most students did not consider other financial support options like grants or scholarships. Participants also reported a lack of knowledge relating to funding opportunities. This lack of financial knowledge can increase the stress that students face as they try to fund their education. This also means that students are possibly missing opportunities for financial aid, which could have a negative effect on overall college persistence given the positive link between financial aid and college retention rates (Cabrera et al, 1992).

The perceived affordability of college affects students' overall decision making regarding their education (Mangan et al., 2010). Financial aid can help to make college more affordable for students when it is able to be obtained. Unfortunately, there is a lack of financial literacy amongst prospective college students (Mangan et al., 2010, Norvilitis

et al. 2003). This can also affect students' financial assistance due to not being sure how to begin the process of seeking financial aid.

A lack of information related to finances is related to the idea of social capital (Coleman, 1988). Social capital includes a variety of factors that share two elements; they cause action by the actor within the structure, and they contain some element of a social structure. Three types of social capital include; obligations and expectations, information channels, and social norms (Coleman, 1988). Most relevant to financial knowledge is social capital based on information channels. Information channels have the potential for assisting individuals in finding or receiving information that can help to promote action. This information normally comes from social relationships with people who have specific information. Thus, prospective college students who have information channels that include people with information on how to seek out a variety of financial aid are in a better position to navigate the financial stress associated with funding a college education. This can particularly harm historically disenfranchised student populations like students of color and first-generation students who may lack these information channels.

A study done by Mishra (2020) examined if social networks, social capital, and social support, an aspect of social capital, played a role in student success in higher education with a focus on underrepresented students. Mishra found that students with a higher level of information performed better, with higher grade point averages (GPAs) throughout their programs. Furthermore, the largest indicator of information-related social capital is the educational attainment level of parents which also has been shown to have a positive impact on college completion (Ashtiani & Feliciano 2018). This finding

highlights a disadvantage for students of color since only 20.6% of the Hispanic population has a bachelor's degree, followed by 28.1% for the Black population. While 41.9% of the White population holds a bachelor's degree, Asian Americans have the highest percentage with 61% of the population holding a bachelor's degree (U.S. Census Bureau, 2022). A lack of financial knowledge, or awareness of financial aid options, can lead to increased levels of financial stress among students (Cabrera et al., 1992), which ultimately negatively affect their persistence through college.

Predicting College Student Persistence

There are numerous theories for understanding persistence of college students, but Social Cognitive Career Theory is one model of career choice and goals that has strong empirical support for predicting persistence (Brown et al., 2008; da Silva Cardoso et al., 2013; Lent, 2013). There are numerous different factors that can affect persistence and SCCT is a model that allows for an examination of cognitive and social factors that can aid or hinder a person's persistence (Lent, 2013).

Social Cognitive Career Theory

Social Cognitive Career Theory (SCCT) is a framework for understanding people's educational and occupational behavior that is applicable to diverse students and workers (Lent, 2013; Lent et al., 1994). The core basis for the SCCT model follows Bandura's Social Cognitive Theory which focuses on the way that people and their environment tend to influence each other. SCCT focuses on how factors, such as self-efficacy and outcome expectations, affect the development of interests and goals. Self-efficacy is a person's beliefs about their own capabilities in executing actions that will result in a desirable outcome. Outcome expectations are the beliefs that people hold about

what the outcome of certain behaviors will be. Since self-efficacy is focused on beliefs about one's own abilities it can affect what activities a person feels confident in pursuing, which would lead to them setting more goals in relation to that activity. Similarly, if people have high expectations and believe that something good will result from a set of behaviors (i.e., positive outcome expectations), they are more likely to pursue them as long as it is not contradicting with their own perceived self-efficacy. These factors also can affect a person's behavior in relation to vocational or educational goals (Lent, 2013). A study examining student persistence in STEM programs looked at the way that student achievement goals, autonomy support, and self-efficacy effected persistence and achievement in STEM programs (Simon et al., 2015). The study found that students with higher self-efficacy had higher grades and students with both high self-efficacy and high autonomy had higher affect. Both higher affect and higher grade achievement contributed to greater persistence (Simon et al., 2015). Another study examined social-cognitive predictors of STEM career interest and persistence for college students with disabilities from racial and ethnic minority backgrounds. The study found that academic self-efficacy was the second strongest predictor of persistence in STEM. Outcome expectations, advanced placement courses, and social support were all significant predictors for persistence as well (da Silva Cardoso et al., 2013).

Furthermore, according to SCCT, development of one's self-efficacy and outcome expectations, and their prediction of goals, is related to contextual factors such as socioeconomic status, gender, race, and ethnicity (Lent, 2013). These factors can create barriers between people and the facilitation of goal completion. For example, if a person has a goal of attending a university, a low socioeconomic standing can serve as a

barrier to entry. However, higher income may facilitate easier completion of goals as one would have means to continue financing college despite other setbacks. For example, a study conducted by Lee and fellow researchers (2015) tested the SCCT academic persistence model with White and Latinx male and female engineering students. The study found support for the relationship between cognitive ability, past academic performance, goals, and self-efficacy with persistence amongst engineering students, supporting SCCT propositions (Lee et al., 2015). However, while there were no significant group differences across ethnicity, there were significant differences by gender, in which women's goals relating to engineering were related to persistence. Men's goals, on the other hand, did not relate to their persistence (Lee et al., 2015).

A study done by Kantamneni and fellow researchers (2018) examined 142 participants who were all identified as coming from a low-income household and were participating in a college preparatory program. The study examined how parental support, ethnic identity, and perceived barriers predicted self-efficacy and vocational outcome expectations. They found that support from both mothers and fathers, and ethnic identity were all able to predict Vocational Outcome Expectations (VOEs). Father support, ethnic identity, and perceived barriers predicted self-efficacy, while mother support and VOEs could predict student engagement. In sum, contextual factors such as parent support and ethnic identity, that related to both self-efficacy and outcome expectations, had an effect on student engagement. Contextual factors also were examined in a study conducted by Fitzpatrick and fellow researchers (2022). They investigated self-efficacy and contextual factors and their impact on engineering graduate student persistence. The study found that academic self-efficacy related to intention to persist in engineering but feeling

welcomed (a contextual factor) also played a role in persistence intentions (Fitzpatrick et al., 2022). Thus, these studies highlight that to fully understand the relationship between self-efficacy and college persistence, contextual factors must also be considered.

The relationship between self-efficacy and goal setting or desire to finish college, however, could be complicated by other contextual factors such as lack of financial knowledge. A study conducted by White and Parrone-McGovern (2017) examined the role of first-generation status and financial strain on students' academic and career self-efficacy. They found that students experiencing financial strain had lower academic and career self-efficacy. Additionally, a study conducted by Brown and fellow researchers (2008) examined social cognitive predictors for college student academic persistence. The study found that academic self-efficacy predicted college persistence, with higher levels of academic self-efficacy leading to higher rates of persistence (Brown et al., 2008). Since financial strain leads to lowered academic self-efficacy, which can lead to lower persistence rates, it is possible that financial knowledge is also playing a role in this relationship.

The stress of ever surmounting debt can cause college students to drop out, fall behind academically, and elevate levels of depression (Curtis, 2008). However, financial aid has been shown to have positive effects on students' overall persistence in college. A study done by Nora, Barlow, and Crisp (2006) explored the ways in which receiving financial aid affects students' decisions such as staying enrolled and what college to attend. The study also examined the way access to financial aid affects student performance, the attainment of an undergraduate degree, and access/equity of obtaining a college education for students. Financial aid was shown to have a positive correlation

with persistence throughout college. Students who were receiving more aid tended to be more likely to persist to the next academic year. This increases the chance for a student's degree attainment as well. Nora and fellow researchers (2006) also found more intangible benefits that being awarded financial aid and scholarships can have on students, such as helping with stress levels due to lessening financial burdens and helping motivate students to maintain steady academic performance.

This idea also was echoed in the study conducted by Hagedorn, Maxwell, and Hampton (2001) that focused on the retention rate of African American male students in college. The study found that African American students who were enrolled full time, as well as having specific occupational goals, were more likely to persist. The article suggested that it is important to continue to provide students with financial aid to allow for students to enroll full time. However, if students are not aware of opportunities to receive this financial aid, then they will not be in a position to apply for it. Simply put, if BIPOC students are lacking in financial knowledge surrounding financial aid opportunities, then they will not be able to take advantage of resources that have been shown to assist in college persistence.

The Current Study

The rise in student debt amongst college students has been well documented. Clear evidence indicates that a general lack in financial literacy amongst college students exists (Norvilitis et al, 2003). However, there does not seem to be much available research on the role that race plays in access to financial knowledge. As such, the first research question is: Are there differences in knowledge of college financial aid by race?

Since BIPOC students typically have less access to social capital, it is predicted that White students will have higher financial knowledge than BIPOC students.

Similarly, there is research to support the idea that self-efficacy and positive outcome expectations are positive indicators of a student's goal or desire to finish college (Kantameni et al., 2016; Lent & Brown, 2019). Additional research highlights that access to financial aid also relates to college completion (Cabrera et al., 1992; Nora et al., 2006). Yet, BIPOC students may be at a disadvantage to knowing what financial aid exists given less access to social capital about college (Mishra, 2020). However, research investigating if a lack of financial aid knowledge affects the relationship between self-efficacy, outcome expectations, and college persistence, has not been explored. This leads to the second research question, does financial aid knowledge moderate the relationship between college self-efficacy and desire to finish college? Moreover, does race also moderate these relationships? Based on a review of current literature, the following hypothesis are proposed.

Hypothesis 1. BIPOC students will report less financial knowledge than White students.

Hypothesis 2. Financial aid knowledge will moderate the relationship between self-efficacy and desire to finish college.

Hypothesis 3. The relationship between self-efficacy and desire to finish college (i.e., goal intention) will be higher for those with more financial knowledge, particularly for BIPOC students.

CHAPTER II: METHODS

Participants

A total of 275 study surveys were analyzed. All participants identified as undergraduate students at the University of Southern Mississippi (USM). The majority of the participants were White/Caucasian (58.5%), followed by Black/ African American (32.7%). The remaining participants were Hispanic/Latinx (2.5%), Asian/Asian American (2.9%), American Indian (0.4%), multiracial (2.5%), and races not represented (0.4%). There were 81.1% of participants who identified as female while 15.3% identified as male. The rest of the participants identified as Non-binary/ Third gender (1.8%), Transgender (0.7%), Genderqueer (0.4%), or preferred to self-describe (0.4%). The average age of participants was 21.14 years (SD = 5.05). The majority of participants were first-year students (37.8%) followed by third-year students (24.0%), then second years (20.7%), and fourth years (14.9%). There also were 2.5% of participants that reported as being in college for five years or longer. Participants self-reported their overall college GPA based on categorical ranges. The majority of participants (37.1%) reported a GPA range of 3.25 to 3.75, while 35.3% reported having a GPA range of 3.75 and above. Additionally, 12% reported their GPA was in the range of 2.75 to 3.24, 8.7% reported a range of 2.25 to 2.74, 3.3% reported a range of 1.75 to 2.24 while 0.4% reported their GPA was 1.24 or below. The remaining 3.2% of participants reported in the categories of either “don’t know” or that they would report their GPA differently.

Measures

Demographics and Financial Information

Demographic items were used to collect additional information about the participants. This included information relating to participant age, race and ethnicity, gender identity, sexual orientation, military status, marital status, college enrollment status, grade point average at current institution, years at their current institution, college major, employment status, degree status, career interests, income information, parental/guardian income information, and parental/guardian degree status. Additional demographic information was collected and can be seen in Table 1. We also collected additional financial information from participants that was modeled after questions from the National Postsecondary Student Aid Study (NPSAS16; Wine et al., 2018). These questions were used to evaluate if students had applied for aid for the current academic year, what college financing options participants applied for and what aid was received (e.g., federal loans, private scholarship, work-study, federal grant, private loans, funding from employer, military benefits, fellowship, credit cards). We used the total number of types of aid that participants applied for as an additional measure of financial aid knowledge.

College Self-efficacy

The College Self-Efficacy Inventory (CSEI; Solberg, O'Brien et al., 1993; Solberg et al., 1998) is a 20-question item that has participants rate their agreement with statements about their confidence in adapting to the demands of college. An example of one of these statements includes, "How confident are you that you will manage your time effectively?"(Solberg, O'Brien, et al., 1993). Participants rank their responses to the

items using a 10-point scale ranging from 0 (*not at all confident*) to 9 (*extremely confident*). Gore et al. (2005) conducted a factor analysis that supported the three-factor structure of the CSEI and found that the CSEI has strong convergent and discriminant validity. The reliability was also found to be strong with a coefficient alpha of .93 for the whole measure (Solberg, O'Brien, et al., 1993). The course subscale was used to assess self-efficacy in the current study, finding a Cronbach's alpha of .89 for this subscale.

The Big Three

The Big Three/Basic Three Quiz (Lusardi & Mitchell, 2011, as cited in Anderson et al., 2018) are three questions that assess participants' financial understanding of inflation, diversification, and interest as a brief assessment of financial literacy. An example of the wording of one of these questions is, "Is this statement true or false? Buying a single company's stock usually provides a safer return than a stock mutual fund. If you are unsure of the answer, please provide your best guess." Participants are then given answer choices that included "True, False, and Don't know" to answer that question. These three questions have been implemented in numerous surveys with wide samples and consistently showed that they measured people's levels of financial knowledge and had strong correlations to people's financial behaviors (Lusardi & Mitchell, 2011). It is important to note, however, that like other financial literacy measures, The Big Three could be subject to measurement error since participants can guess correct answers at random or simply misunderstand the question (Lusardi & Mitchell, 2011). Scoring these items consists of coding the correct answer for each item. There were many participants (N = 153) who left the response to the diversification question of The Big Three measure blank. We assumed that this meant "I don't know"

and coded it as an incorrect response. For this study, we created a composite score across the three items, so total composite scores could range from 0 (all items incorrect) to 3 (all items were correct).

Desire to Finish College

Desire to Finish College (Allen, 1999) is a six-question measure that has participants express their agreement with questions on their desire to complete college. An example of the wording of one of these questions is, "I am strongly dedicated to finishing college no matter what obstacles get in my way" (Allen, 1999). Participants respond using a 7-point Likert scale that ranges from 1 (*not at all true or very dissatisfied*) to 7 (*completely true or completely satisfied*). Items one through four are negatively phrased, an example of this wording would include "I can think of many things I'd rather do than go to college" (Allen, 1999). Due to this, these items were reverse coded before creating a total mean score such that high scores reflect a greater desire to finish college.

Procedures

Participants for this study were recruited through the USM SONA research participation system (n = 286) and USM's TRIO Student Support Services and Luckyday programs (n = 12). Participants were eligible to complete the study if they were 18 years of age or older, a current undergraduate student, and were fluent in English. Participants who did not meet these criteria were ineligible to participate.

Once IRB approval was obtained for the study (Appendix B), a recruitment message was placed on SONA. After seeing the recruitment message, individuals who wished to participate in the study were allowed to enroll and were provided a link to

access the study materials hosted on Qualtrics. Additional recruitment was done through email for TRIO Student Support Services scholars and Luckyday Scholars through the University of Southern Mississippi to diversify the sample. After consenting to participate in the study, the survey was displayed. Demographics and financial information were collected before moving on to the other study measures which consisted of the CSEI, The Big Three, and Desire to Finish College scale. These measures were administered in random order to avoid any potential bias due to order effects. Following the survey individuals that participated through SONA were rewarded with .5 credits to their SONA accounts that could be used for course credit in participating psychology courses. Participants recruited through email were presented with a link to be entered into a raffle to win one of 17 t-shirts which were donated by the USM Center for Student Success.

Data Cleaning

All measures were scored following the publishers' instructions. To assess for any outliers, the data for each dependent variable was sorted in ascending and descending order in SPSS. No outliers were found. Thirteen duplicate cases were found and deleted from the dataset. Cases that were missing one or more whole measure were deleted from the dataset. A total of eight cases were deleted from the dataset for missing data. Two directed response questions were used in the survey to check for attention (e.g., "Choose "completely true" for this item; Meade & Craig, 2012). Participants who failed both validity checks were deleted from the data set, resulting in one case being removed for failed validity checks. Two cases were deleted as they identified as graduate students, which was outside the population the study was examining.

CHAPTER III: RESULTS

Hypothesis 1

The first hypothesis was that BIPOC students would have lower levels of financial aid knowledge. To investigate the first hypothesis, an independent samples t-test was done. Results did not detect any statistically significant differences in financial knowledge in terms of total number of aid types that was applied for between groups (BIPOC versus White students, [$t(273) = .331$, $p = .741$)]. This result indicates that White students (M = 2.11, SD = 1.15) applied for a total number of types of aid that was similar to BIPOC students (M = 2.06, SD=0.99). However, results also showed that there was a statistically significant difference between the total amount of correct answers for the Big Three questions assessing financial literacy between groups (BIPOC versus White students [$t(273)= 2.85$, $p < .01$]. BIPOC students (M = 1.36, SD =.85) reported fewer correct answers to the Big Three than White students (M = 1.66, SD =.86).

Hypothesis 2

The second hypothesis suggested that financial aid knowledge could serve as a moderator for the relationship between course self-efficacy and the desire to finish college. In order to test these effects, a hierarchical regression was conducted through Andrew Hayes' (2022) PROCESS v(4.1) macro for SPSS (Model 1). The overall model was significant [$F(3, 271) = 13.44$, $p < .001$, $R^2 = 0.13$)]. There was a significant main effect for the College Self-efficacy Scale-course subscale score (CSEI-C) on desire to finish college [$\beta = 0.30$, $t\ (273) = 6.30$, $p < .001$]. The relationship was such that as CSEI-C scores increased so did the desire to finish college. There were no significant main effects of the Big Three scores on desire to finish college [$\beta = -0.06$, $t\ (273) = -0.67$, $p =$

0.50]. Additionally, the interaction between CSEI-C scores and Big Three scores in predicting desire to finish college was not significant [$\beta = 0.02$, $t\ (273) = 0.30$, $p > .05$]. This suggests that there was no significant moderating effect of the financial literacy on the relationship between CSEI-C and desire to finish college.

For comparison, the number of financial aid types was also used as moderator as another measure of financial knowledge. A hierarchical regression was conducted using the total number of types of financial aid applied. The overall model was significant [$F(3, 271) = 16.30$, $p < .001$, $R^2 = 0.15$]. There was still a significant main effect for CSEI-C scores on desire to finish college [$\beta = 0.28$, $t(273) = 6.13$, $p < .001$]. There was no significant main effect of types of financial aid applied for on desire to finish college [$\beta = -0.01$, $t\ (273) = -0.14$, $p > .05$]. However, there was a significant interaction between CSEI-C scores and the number of financial aid types applied for in predicting desire to finish college [$\beta = .12$, $t\ (273) = 2.82$, $p < .01$, $\Delta R^2 = .02$], suggesting a significant moderating effect of total financial aid applied for on the relationship between CSEI-C and desire to finish college. Simple slopes analysis for ±1 SD and mean of the number of aid types applied for were conducted to further probe this interaction and were found to be significant at the mean [$\beta = 0.28$, $t(273) = 6.13$, $p < .001$, 95% CI (.19, .37)] , at +1 SD [$\beta = 0.41$, $t(271) = 6.62$, $p < .001$, 95% CI (.29, .53)] and -1 SD [$\beta = 0.15$, $t(273) = 2.26$, $p < .05$, 95% CI (.02, .28)], such that the more financial aid that a person applied for, the greater the relationship between course self-efficacy and their desire to finish college.

Hypothesis 3

In order to examine the relationship between race (coded 0 = BIPOC and 1 = White), total types of financial aid applied for, and self-efficacy, Process Model 3 was

used to examine all two-way and the three-way interactions predicting desire to finish college. The overall model was significant [$F(37, 267) = 8.69$, $p < .01$, $R^2 = 0.19$]. Examining the main effects, there was not a significant effect of race on desire to finish college in this model ($\beta = .29$, $t = 1.82$, $p > .05$). The main effect between financial aid applied for was also not significant in this model ($\beta = -0.03$, $t = -0.22$, $p > .05$). There was still a significant main effect between CSEI-C scores and desire to finish college in this model ($\beta = 0.29$, $t = 6.19$, $p < .001$). The interaction between total number of types of applied and CSEI-C scores was not significant ($\beta = -0.03$, $t = -0.44$, $p > .01$). There was no significant interaction between race and CSEI-C scores or between race and total types of aid applied for ($p > .05$). This suggests that race alone does not seem to have a significant effect on the relationship of CSEI-C and desire to finish college or the relationship between total types of financial aid applied for and desire to finish college.

There was, however, a significant three-way interaction between race and CSEI-C scores and total number of types of financial aid applied [$\beta = 0.24$, $t = 2.73$, $p < .01$, 95% CI (.07, .42), $\Delta R^2 = .02$]. This means that the interaction between race and total types of aid applied for significantly moderates the relationship between CSEI-C and desire to finish college. Since the relationship between total types of aid applied for and CSEI-C was not significant in this model that includes race, it suggests that the relationship was only significant because of the interaction with race. In order to further probe these results a simple slopes analysis was run for ±1 SD and mean for total types of aid for each racial group (BIPOC versus White). The interaction was significant at the mean [$\beta = 0.29$, $t = 4.14$, $p < .001$, 95% CI(.15, .43)], at -1SD [$\beta = 0.33$, $t = 2.94$, $p < .001$, 95% CI(.11, .54)], and at +1SD [$\beta = 0.26$, $t = 2.82$, $p < .01$, 95% CI(.08, .44) for BIPOC

participants, but was only found to be significant at the mean [$\beta = 0.29$, $t = 4.62$, $p < .001$, 95% CI(.17, .42)] and +1 SD [$\beta = 0.53$, $t = 5.52$, $p < .001$, 95% CI(.34, .71)] for White participants. It was not significant for White participants at -1SD of total types of aid applied ($p > .05$). This means that at all levels race affects the moderation of financial aid applied for on the relationship between CSEI-C and desire to finish college for BIPOC participants, showing a trend of the effect of CSEI-C scores on desire to finish college being greater as fewer types of financial aid were applied for. However, among White students, the relationship between course self-efficacy and desire to finish college was only significant for those applying the average number or greater number of financial aid types, showing an increase in the relationship between CSEI-C scores and desire to finish college and as the number of types of aid applied for increased. In sum, results suggest that the relationship between self-efficacy and desire to finish college increases as more aid is applied to among White students but decreases with more types of aid applications for BIPOC students.

Post-Hoc Analyses

To further understand the experiences of BIPOC versus White students, mean differences between other study variables also were examined. Significant differences were found between BIPOC and White students' CSEI-C scores [$t(2, 273) = -2.800$, $p < .01$] with White students reporting greater self-efficacy (M = 6.85, SD = 1.38) than BIPOC students (M = 6.29, SD = 1.72). There was also a significant difference in the desire to finish college [$t(2, 273) = -3.04$, $p < .001$], where White students reported a higher desire (M = 4.492, SD = 1.30) than BIPOC students (M = 4.43, SD = 1.38)

CHAPTER IV: DISCUSSION

The results of the current study show that there does exist a racial difference in financial literacy (i.e., Big Three scores), but there were not significant differences in the number of types of financial aid. This partially supports hypothesis 1. The results also show that financial literacy does not moderate the relationship between course self-efficacy and desire to finish college. However, the total number of financial aid types that participants applied for did have a significant effect on the relationship between CSEI-C and desire to finish college, thus partially supporting hypothesis 2.

The Big Three is a generalized measure of financial literacy and examines respondents' understanding of three key concepts: interest rates, inflation, and diversification (Lusardi & Mitchell, 2011). This is consistent with literature as the study conducted by Lusardi and Mitchel (2011) observed that there were racial differences in financial literacy amongst adults in the U.S. However, our measure for financial knowledge was based on the total amount of different financial aid that participants applied for, but it had no way of measuring participants' understanding or awareness of all types of financial aid. Not fully examining understanding of financial aid could possibly be one of the reasons why no racial differences were found.

A significant three-way interaction exists between race, total types of aid applied for, and CSEI-C in relation to the relationship between CSEI-C and desire to finish college, as was shown by the results. No significant main effects were shown for race in this model. Also, the significant two-way interaction between total types of aid applied for and self-efficacy was not significant in this model. This may be due to the inclusion of the three-way interaction in this model, suggesting that the interaction between total

types of aid applied for and CSEI-C scores found above was only significant because of race. Race alone, however, had no significant main effect on the desire to finish college and neither did the total types of aid applied for. This provides support for hypothesis 3. A post-hoc analysis also showed that there were significant differences between BIPOC and White students as it related to self-efficacy scores and desire to finish college scores. White students had higher scores on course self-efficacy and greater desire to finish college. This is important because the more types of aid that were applied for strengthened the relationship between self-efficacy and desire to finish college for White students, but the opposite was true for BIPOC students. A possible explanation for this is that White students with a strong desire to finish college may be receiving more support to attend college and apply for financial aid. It is also possible that White students who feel more confident (i.e., higher self-efficacy) just apply for more financial aid overall.

Limitations

One limitation of the study is that a single university was sampled. It is important to note that USM has open enrollment and a larger number of Pell grant eligible students (around 45%). There is a chance that different results could be found at institutions with more competitive admissions. Additionally, there are also limitations to using the total number of aid types that participants applied for as a marker of financial aid knowledge since it does not fully evaluate students' understanding of the financial aid. Similarly, it is hard to get a completely accurate measure of financial literacy as well. As mentioned, while discussing The Big Three measure, there is a chance for measurement error due to participants having a chance to just guess the correct answer or misunderstanding the question in the first place (Lusardi & Mitchell, 2011).

It is important to note that this sample only examined people who were actively enrolled in college; this excludes people who may have dropped out or never attempted enrolling in college in the first place. This means the current study likely is an incomplete picture of the way these processes interact with each other. Moreover, because data were not collected longitudinally, we cannot determine the ordering of these relationships. It may be that financial knowledge plays a more distal role in influencing the development of academic self-efficacy, rather than a more proximal role in motivation to finish college.

Implications

While the results showed that there were racial differences in financial literacy with The Big Three, this did not facilitate differences in desire to finish college nor did it affect the relationship between self-efficacy and desire to finish college. However, the number of types of aid applied for did affect the relationship between self-efficacy and desire to finish college. Furthermore, as participants applied for more types of financial aid, the relationships between self-efficacy and desire to finish college strengthened. This is consistent with SCCT (Lent, 2013) as aid applied may facilitate self-efficacy leading to desire to finish college. The more aid that was applied for corresponded with a positive relationship between self-efficacy and desire to finish college among White students but was associated with a negative relationship among BIPOC students. Persistence for BIPOC students does not seem to be affected by more aid applications. It is possible that there are other contextual factors that facilitate the relationship between self-efficacy and desire to graduate for BIPOC students. BIPOC students may benefit from more social based support. A study conducted by Fitzpatrick and colleagues found that feeling

welcomed and included positively affected students' persistence throughout their engineering graduate programs (Fitzpatrick et al., 2022). Examining the effect of additional social contextual factors on the desire to finish college for BIPOC students could prove to be beneficial and possibly open a path for new interventions.

Understanding the relationship between applying for financial aid and self-efficacy on desire to finish college can help to inform those assisting BIPOC and White students in their application processes and in their graduation goals. This relationship was significant at all levels for BIPOC students and at the mean and higher for White students. This shows that applying for aid appears to be relevant to self-efficacy and desire to finish college, yet this relationship is complex across race.

Also, while differences in The Big Three did not relate to lower desire to finish college or affect the relationship between course self-efficacy and desire to finish college it is still important to note racial differences in financial literacy, especially since White students had higher levels of financial literacy than BIPOC students. As previously discussed in the literature review, a lack of financial knowledge serves as an indicator for debt (Norvilitis et al., 2003). This also aligns with racial differences in debt that are adding to the racial wealth gap (Brooks & Harrington, 2021; Harris & Wertz, 2022). Interventions such as financial literacy courses could serve to help mitigate the differences that have been observed in this study. This could also possibly help to decrease things like credit card debt for college aged individuals, which is on the rise (Curtis, 2008; Hanson, 2023).

The current research leaves numerous directions for future research. For instance, research into a standardized measure of financial aid understanding would allow for more

rigorous and consistent assessment of these constructs to facilitate more research that examines financial understanding in relation to financial aid. Future research may examine this issue with more qualitative efforts to help identify what factors may lead to persistence intentions for BIPOC students versus White students. Additionally, as mentioned above, further considering other contextual factors, such as belongingness, may provide additional information about the persistence of college students.

In conclusion, the findings demonstrate a relationship between race, financial aid applied for, and self-efficacy in relation to the desire to finish college. The current research adds to the growing body of research on SCCT that shows that self-efficacy and contextual factors influence persistence and goal behaviors. Suggestions for future research would include utilizing a more comprehensive measure for financial aid knowledge and to explore participants with different educational standings such as people who withdrew from their program or high school graduates who are not attempting higher education to better understand how lack of knowledge of financial aid options may deter seeking higher education.

APPENDIX A: TABLES

Table 1: Demographics for BIPOC, White, and the Total sample

	BIPOC	White	Total
First-generation student	48.2%	36.6%	41.5%
Veteran or Active Military	.9%	1.2%	1.1%
Employed	57%	59%	58.2%
Applied for Financial Aid 2022-2023 academic year	83.3%	87.6%	86.1%
Declared a major	94.7%	98.1%	96.7%
Live with parents	38.6%	29.8%	33.5%
Live on campus	57.9%	47.8%	52%
Household income			
No income	1.8%	1.2%	1.5%
Less than $5,000	7.9%	.6%	3.6%
$5,000 - $9,999	3.5%	.6%	1.8%
$10,000 - $14,999	4.4%	.6%	2.2%
$15,000 - $19,999	5.3%	4.3%	4.7%
$20,000 - $29,999	4.4%	8.1%	6.5%
$30, 000 – $39,999	7.9%	5.6%	6.5%
$40,000 - $49,999	9.6%	4.3%	6.5%

$50, 000 - $74.999	8.8%	24.8%	18.2%
$75,000 - $99,999	9.6%	9.9%	9.8%
$100,000 +	6.1%	19.3%	13.8%
Unsure/I Don't know	29.8$	19.9%	24.0%
Estimated loan amount			
< $5,000	20.2%	13.7%	16.4%
$5,000 –$10,000	20.2%	19.3%	19.6%
$10,000-$15,000	9.6%	8.7%	9.1%
$15,000-$20,000	9.6%	3.1%	5.8%
> $20,000	9.6%	6.2%	7.6%
I do not have student loans	29.8%	48.4%	40.7%

Table 2: Correlations and Means of Study Variables

	Total number of types of aid applied	Big Three	College Self-Efficacy - course subscale	Desire to finish
Total number of types of aid applied				
Big Three	.078			
College Self-Efficacy - course subscale	-.008	.122*		
Desire to finish	-.007	.008	.358**	

Mean	2.10	1.53	6.62	4.72
Standard deviation	1.09	.87	1.67	1.35

Note: * = $p < .05$, ** = $p < .01$

APPENDIX B: IRB APPROVAL LETTER

Office *of*
Research Integrity

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NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the Incident submission on InfoEd IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER:	22-1404
PROJECT TITLE:	Examining financial knowledge levels of students of color versus white students
SCHOOL/PROGRAM	Psychology
RESEARCHERS:	PI: Anecia Flewellen Investigators: Flewellen, Anecia~Leuty, Melanie~
IRB COMMITTEE ACTION:	Approved
CATEGORY:	Expedited Category
PERIOD OF APPROVAL:	31-Oct-2022 to 30-Oct-2023

Donald Sacco, Ph.D.
Institutional Review Board Chairperson

REFERENCES

Aladangady, A., & Forde, A. (2021). Wealth inequality and the racial wealth gap, *FEDS notes. Washington: Board of governors of the Federal Reserve System*, https://doi.org/10.17016/2380-7172.2861.

Allen, D. (1999). Desire to finish college: An empirical link between motivation and persistence. *Research in Higher Education, 40(4),* 461-485.

Anderson, D. M., Conzelmann, J. G, & Lacy, T. A. (2018). The state of financial knowledge in college: New evidence from a national survey. *Santa Monica, CA: RAND Corporation*. https://www.rand.org/pubs/working_papers/WR1256.html.

Ashtiani, M., & Feliciano, C. (2015). Access and mobilization: How social capital relates to low-income youth's postsecondary educational (PSE) attainment. *Youth & Society, 50*(4), 439–461. https://doi.org/10.1177/0044118x15607163.

Bolkan, S., Pedersen, W. C., Stormes, K. N., & Manke, B. (2021). Predicting 4-year graduation: Using Social Cognitive Career Theory to model the impact of prescriptive advising, unit load, and students' self-efficacy. *Journal of College Student Retention: Research, Theory & Practice, 22*(4), 655-675. https://doi.org/10.1177/1521025118783485

Brooks, R., & Harrington, A. C. (2021) *Student debt is a racial justice. Here's what President Biden can do to help.* ACLU. https://www.aclu.org/news/racial-justice/student-debt-is-a-racial-justice-issue-heres-what-president-biden-can-do-to-help

Brown, S. D., Tramayne, S., Hoxha, D., Telander, K., Fan, X., & Lent, R. W. (2008). Social cognitive predictors of college students' academic performance and

persistence: A meta-analytic path analysis. *Journal of Vocational Behavior*, *72*(3), 298-308. https://doi.org/10.1016/j.jvb.2007.09.003

Cabrera, A. F., Nora, A., & Castañeda, M. B. (1992). The role of finances in the persistence process: A structural model. *Research in Higher Education*, *33*(5), 571–593. https://doi.org/10.1007/bf00973759

Coleman, J. S. (1988). Social Capital in the creation of human capital. *American Journal of Sociology*, *94*, S95–S120.

College Stats.org (n.d.). *Scholarship opportunities for minority students.* https://collegestats.org/resources/best-scholarships-minorities/

Curtis, R. T. (2008). Students in financial crisis: How academic advisers can help. *The Mentor: An Academic Advising Journal, 10*, 1-4. https://doi.org/10.26209/mj1061550

da Silva Cardoso, E., Dutta, A., Chiu, C. Y., Johnson, E. T., Kundu, M., & Chan, F. (2013). Social-cognitive predictors of STEM career interests and goal persistence in college students with disabilities from racial and ethnic minority backgrounds. *Rehabilitation Research, Policy, and Education*, *27*(4), 271-284. https://doi.org/10.1891/2168-6653.27.4.271

Fitzpatrick, M. E, Burrows, S. G, & Yonker, J. A. (2022). An exploratory study of engineering graduate student persistence: Self-efficacy and contextual factors. *Journal of Career Development, 0(0)*, 1-23. https://doi.org/10.1177/08948453221123789

Gore, P. A., Leuwerke, W. C., & Turley, S. E. (2005). A psychometric study of the College Self-Efficacy Inventory. *Journal of College Student Retention: Research,*

Theory & Practice, 7(3) , pp. 227–244. https://doi.org/10.2190/5cqf-f3p4-2qac-gnvj

Hagedorn, L. S., Maxwell, W., & Hampton, P. (2001). Correlates of retention for African-American males in community colleges. *Journal of College Student Retention: Research, Theory & Practice*, *3*(3), 243–263. https://doi.org/10.2190/mj6a-tfac-mrpg-xdkl

Hanson, M. (2023). *Student loan debt statistics.* Education Data Initiative. https://educationdata.org/student-loan-debt-statistics

Harris, B., & Wertz, S. S. (2022). Racial differences in economic security: The racial wealth gap. *U.S. Department of the Treasury.* https://home.treasury.gov/news/featured-stories/racial-differences-economic-security-racial-wealth-gap/

Hayes, A. F. (2022). *Introduction to mediation, moderation, and conditional process analysis* (3rd ed). New York: Guilford Press.

Heller, D. E., & Marin, P. (Eds.). (2004). State merit scholarship programs and racial inequality. *Cambridge, MA: The Civil Rights Project at Harvard University.* https://files.eric.ed.gov/fulltext/ED489183.pdf

Hirschman, C. (2016). *From high school to college: Gender, immigrant generation, and race-ethnicity.* Russell Sage Foundation. http://www.jstor.org/stable/10.7758/9781610448574

Kantamneni, N., McCain, M. R., Shada, N., Hellwege, M. A., & Tate, J. (2016). Contextual factors in the career development of prospective first-generation

college students. *Journal of Career Assessment*, *26*(1), 183–196. https://doi.org/10.1177/1069072716680048

Lee, H.-S., Flores, L. Y., Navarro, R. L., & Kanagui-Muñoz, M. (2015). A longitudinal test of Social Cognitive Career Theory's academic persistence model among Latino/A and White men and women engineering students. *Journal of Vocational Behavior*, *88*, 95–103. https://doi.org/10.1016/j.jvb.2015.02.003

Lent, R. W. (2013). Social Cognitive Career Theory. In S. D. Brown (Ed). *Career Development and Counseling: Putting Theory and Research to Work* (pp. 115-145). Wiley.

Lent, R. W., & Brown, S. D. (2019). Social Cognitive Career Theory at 25: Empirical status of the interest, choice, and performance models. *Journal of Vocational Behavior*, *115*, 103316. https://doi.org/10.1016/j.jvb.2019.06.004

Lusardi, A., & Mitchell, O. (2011). Financial literacy around the world: An overview. *Journal of Pension Economics & Finance, 10(4)*, 497-508. https://doi.org/10.1017/S1474747211000448

Mangan, J., Hughes, A., & Slack, K. (2010). Student finance, information and decision making. *Higher Education*, *60*(5), 459–472. https://doi.org/10.1007/s10734-010-9309-7

Mishra, S. (2020). Social networks, social capital, social support and academic success in higher education: A systematic review with a special focus on 'Underrepresented' Students. *Educational Research Review,29*, 100-307. https://doi.org/10.1016/j.edurev.2019.100307.

National Center for Education Statistics. (2022). Loans for undergraduate students. *Condition of Education.* U.S. Department of Education, Institute of Educational Sciences. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=900

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. https://doi.org/10.1177/0002764206289143

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*(5), 935–947. https://doi.org/10.1111/j.1559-1816.2003.tb01932.x

Peter G. Peterson Foundation (2021, October 26). *Student debt has increased sevenfold over the last couple decades. Here's why.* https://www.pgpf.org/blog/2021/10/student-debt-has-increased-sevenfold-over-the-last-couple-decades-heres-why

Simon, A. R., Aulls, W. M, Hubbard, K., & Hall, C. N. (2015). Exploring student persistence in STEM programs: A motivational model. *Canadian Journal of Education, (38(1)*, 1-27.

Solberg, V. S., Hale, J. B., Villarreal, P., & Kavanagh, J. (1993). Development of the college stress inventory for use with Hispanic populations: A confirmatory analytic approach. *Hispanic Journal of Behavioral Sciences*, *15*(4), 490–497. https://doi.org/10.1177/07399863930154004

Taylor, P., Parker, K., Fry, R, Cohn, D., Wang. W, Velasco. G, & Dockterman, D. (2011). *Is college worth it? College presidents, public assess value, quality, and*

mission of higher education. Pew Research Center https://www.pewresearch.org/social-trends/wp-content/uploads/sites/3/2011/05/higher-ed-report.pdf

U.S. Census Bureau. (2022). *Census Bureau releases new educational attainment data.* United States Census Bureau. https://www.census.gov/newsroom/press-releases/2022/educational-attainment.html

White, A. V., & Perrone-McGovern, K. (2017). Influence of generational status and financial stress on academic and career self-efficacy. *Journal of Employment Counseling, 54(1),* 38-46.

Wine, J., Siegel, P., & Stollberg, R. (2018). 2015-16 national postsecondary student aid study (NSPAS:16) data file documentation. *National Center for Educational Statistics. https://nces.ed.gov/pubs2018/2018482.pdf*

Wu, B.H. (2018). The role of career optimism and perceived barriers in college students' academic persistence: A Social Cognitive Career Theory approach. *Dissertations. 1548*. https://aquila.usm.edu/dissertations/1548