5-2016

The relationship between entity beliefs and socioeconomic status-based rejection sensitivity: Academic achievement in a predominantly Hispanic sample

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THE RELATIONSHIP BETWEEN ENTITY BELIEFS AND SOCIOECONOMIC STATUS-BASED REJECTION SENSITIVITY: ACADEMIC ACHIEVEMENT IN A PREDOMINANTLY HISPANIC SAMPLE

A Thesis

by

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Submitted to the Graduate College of
The University of Texas Rio Grande Valley
In partial fulfillment of the requirements for the degree of

MASTER OF ARTS

May 2016

Major Subject: Experimental Psychology

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May 2016

ABSTRACT

Kushner, Anna, The Relationship Between Entity Beliefs and Socioeconomic Status-Based Rejection Sensitivity: Academic Achievement in a Predominantly Hispanic Sample. Master of Arts (MA), May, 2016, 39 pp., 6 tables, 1 figure, references, 41 titles.

Previous research has shown that entity beliefs can moderate the impact of class-based rejection sensitivity grade point averages of low-income college students. This study attempted to replicate previous research, which found that class-based rejection sensitivity (RS-class) and entity beliefs had negative effects on GPA, and that entity beliefs served as a moderator in the relationship between RS-class and academic outcomes. While these relationships were not replicated, this study found that higher acculturation scores are related to greater levels of academic achievement. This attempted replication study adds to the body of literature about entity beliefs and rejection sensitivity because low-income Hispanic students are often underrepresented in research despite being a rapidly growing population in the United States. The negative effects of class-based rejection sensitivity may have been context-specific and did not present a threat to the specific population sampled.

ACKNOWLEDGEMENTS

I sincerely thank Dr. Jason Popan, chair of my thesis committee, for all of his patience, mentoring, and advice. From research design to analysis, he supported this process across time zones. My thanks to my thesis committee members: Dr. Alfonso Mercado and Dr. Steven Merino. Their advice and input greatly contributed to the quality of my intellectual work.

I would also like to thank my partner, Michael Mena, for sharing his wisdom, experience, and content knowledge throughout this process.

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CHAPTER 1

INTRODUCTION

American popular culture is replete with stories about teachers helping low-income, minority students overcome obstacles and achieve, despite the adversity they face. From Freedom Writers (LaGravenese, 2007) to Stand and Deliver (Menéndez, 1988), educators and movie buffs alike revel in the stories of students born into poverty by uneducated parents that thrive academically and eventually overcome the barrier of their zip codes, pulling themselves up to sit side-by-side with students of much more advantaged backgrounds. This narrative motivates teachers and reinforces one's belief in both the meritocratic, "pull yourself up by the bootstraps," ideology of the United States and the American Dream. Working hard to obtain a quality education is seen as the gatekeeper of upward mobility, and completing college is widely considered to be an accomplishment that has the potential to help economically disadvantaged students break through class barriers and provide access to a higher income bracket and elevated social status. Unfortunately, systemic change does not happen in schools as quickly as it does on the silver screen.

Statement of Problem

Although the number of students of color, low socioeconomic status (SES), first generation college students, and other historically underserved populations gaining admission to four-year colleges and universities is growing, these students are not performing on par with their privileged peers (Rheinschmidt & Mendoza-Denton, 2014). Coming from a low-

income background exacerbates the risk of poor academic performance and high college dropout rates because low-income students often feel a sense of shame and isolation due to their background and financial situation (Housel & Harvey, 2009). In truth, a student that overcomes her impoverished past and gains admission to a four-year college or university still has a long and potentially isolating journey before she graduates and is considered successful. The period of time between matriculation and graduation from university presents particular challenges for low-income students for a variety of reasons, including social acceptance, accessibility of academic content, and attitudes toward and beliefs about learning itself (Housel & Harvey, 2009).

Statement of Purpose

The purpose of the present research was to examine the relationship between perceived social class, attitudes toward intellectual development, and the college grade-point averages of students in a low-income, Hispanic majority region in the United States. By better understanding the risk factors that low-income students face, educators can address the achievement gap that exists for low-income students in higher education.

CHAPTER II

REVIEW OF LITERATURE

Colleges and universities are recruiting diverse applicants more than ever before (Housel & Harvey, 2009), but even the brightest students from underrepresented populations can struggle both academically and socially. Although it is widely believed that being highly intelligent and having key soft skills, like tenacity and being highly conscientiousness, holds the key for young people to push past a history of poverty and join a higher income bracket (Damian, Shanahan, Trautwein, & Roberts, 2014; Nettle, 2003;), intelligence alone is not sufficient to unlock academic success. Feelings of social isolation (Ostrove & Long, 2007) and underdeveloped strategies for coping with academic shortcomings (MacGyvers, 1992) can cause students to struggle after matriculation in higher education. An emerging theme in the recent literature on student success shows that social acceptance is essential for students from historically underserved populations, including those coming from a low socioeconomic background, to succeed in college (Rheinschmidt & Mendoza-Denton, 2014). Although popular dialogue about affirmative action and access to higher education often takes place within the context of race alone, coming from a low income background creates an additional barrier for students that intersects with race and ethnicity to further isolate them (Ostrove & Long, 2007). Furthermore, race and ethnicity contribute to the bands of social stratification, showing that intersectionality is a fundamental component of socioeconomic status (House & Williams, 2000), which manifests itself in the fact that Black/African American and Hispanic students are significantly more likely

to live in poverty than their white classmates (National Center for Education Statistics, 2007). The complicated way that risk factors layer on top of one another show that social class is a complex entity, and its impact on students' lives is both ubiquitous and multifaceted.

Social Class

Social class and SES are not simply matters of individual difference —they create the context through which an individual experiences the world (Kraus, Piff, Mendoza-Denton, 2012; Rheinschmidt, & Keltner, 2012). An individual's SES is more than just access to financial wealth; it also affects how readily a person interprets situations as threatening and how much control an individual feels over life events and outcomes (Kraus et al., 2012). Kraus et al. (2012) explain that an individual's SES influences the way he or she relates to the environment – individuals from upper class families tend to orient to their surroundings through the lens of internal motivation or goals, while lower-SES individuals interpret their role largely in terms of managing threats and constraints. Furthermore, others readily perceive variance in an individual's social status, both by the resources an individual has and what he has relative to those around him (Kraus at al., 2012). Even preschool-aged children can recognize and articulate the relative social rank of classmates and their families (Fiske, 2010; Kraus & Keltner, 2009). Additionally, individuals are often blamed for their low socioeconomic status (Fiske, 2010), and the presumed personal responsibility and poor choices associated with low SES can create a sense of shame and judgment. These discriminatory attitudes can be overt or implicit, and do damage to students seeking acceptance by peers in new settings.

Social class affects material wealth and access to both the concrete and abstract resources that help personal capital accumulate. Wealthy individuals are more likely to belong to social

institutions, such as college preparatory schools, government boards, and political organizations, which enforce the their power and control within a society (Dumhoff, 1998). Additionally, the characteristics that are reinforced by the social institutions and traditions of higher SES individuals are the traits valued in institutions of higher learning, like independence, creativity, and risk-taking (Kraus et al., 2012; Rheinschmidt & Mendoza-Denton, 2014). Institutions of higher education tend to favor and encourage what researchers labeled "solipsistic" traits that are characteristic of high-income individuals, including embracing uniqueness and independence (Kraus et al., 2012). These distinctive differences in personality and access to resources contribute to both the feelings of social isolation that impact low-income students in higher education settings as well as the comfort level that students exhibit when engaging in their college coursework.

Rejection Sensitivity

Rejection sensitivity is a form of anxiety caused by outsider status, and has been associated with being a racial minority (Mendoza-Denton et al., 2002), and being an outsider in a community (Downy & Feldman, 1996). However, rejection sensitivity based on SES has been identified as a separate entity that exists outside of racial and interpersonal rejection sensitivity. High levels of class-based rejection sensitivity (RS-class) has been associated with lower academic performance, increased hopelessness regarding social mobility, and an impending threat of developing an attitude of learned helplessness when overcoming setbacks and attaining a higher social status, even when controlling for objective social class (Rheinschmidt & Mendoza-Denton, 2014).

The fear of rejection is a powerful inhibitor for people, creating situations where individuals fear reinforcing stereotypes or outing themselves as different (Bastian & Haslam, 2005). A study by Rheinschmidt and Mendoza-Denton (2014) found that, for low-income students, the fear of rejection is particularly salient because they belong to a group that has not historically had access to institutions of higher education, making them outsiders. These same students may avoid seeking clarification on questions or assistance with assignments out of fear of confirming stereotypes about their group's underperformance or low intelligence. The common themes of fear of ridicule and not belonging prevent students from attaining social acceptance and establishing themselves as members of the academic community. However, rejection sensitivity does not exist in isolation. There are a variety of other factors that contribute to low-income students' relative success or failure in higher education. One such variable that has been investigated in conjunction with rejection sensitivity is the presence of entity beliefs, a concept defined as the fundamental belief that intelligence is fixed.

Entity and Incremental Beliefs

The concept of intelligence extends beyond how "smart" an individual is. Academic achievement is performance-driven, and the ability to cope with and grow from academic challenges predicts future success. Students who see intelligence as fixed and unlikely to grow and change over time hold entity theories of intelligence (Levy, Strossner, & Dweck, 1998). Students who subscribe to entity theories of intelligence are likely to perceive performance outcomes as direct measures of intellect rather than measures of effort and other more malleable factors that contribute to strong performance (Hong, Chiu, Dweck, Lin, & Wan, 1999).

Individuals that hold strong entity beliefs show less ability to bounce back from failure, and often continue to underperform rather than diagnosing the cause for their struggle.

Incremental beliefs, on the other hand, reinforce the belief that attitudes and behaviors can be molded and changed over time, and can aid students in their ability to cope with stress and academic struggles (Dweck et al., 1995). Holders of incremental beliefs about intelligence focus on the malleable aspects of academic performance, and are much more likely to diagnose issues, increase effort, and seek assistance when faced with failure or academic challenges (Hong, Chiu, Dweck, Lin, & Wan, 1999). Previous studies have demonstrated the power of incremental ideas of intelligence, showing that students' beliefs about their own intelligence as fixed or malleable were more closely correlated to achievement than their personal goals (MacGyvers, 1992). Additionally, holding high incremental beliefs can even predict students' academic performance. In one study, students with strong entity beliefs experienced a significant drop in performance when schoolwork became more rigorous, but holders of incremental beliefs continued to do well (MacGyvers, 1992). Incremental beliefs can have long-term implications, too. Students who showed low performance in the first year often received higher grades the 2nd year when they held incremental beliefs, indicating that incremental beliefs encourage student growth over time (Dweck et al., 1995). Incremental beliefs appear to have a protective property on struggling students—failure is not as devastating to students, and can even serve as motivation to work harder when the coursework becomes more rigorous.

Students' beliefs in their intelligence are critical to their academic success because they are direct predictors of whether they think of their success or failure as innate or due to effort (Dweck et al., 1995). If students interpret their grades as effort-based through the lens of

incremental beliefs, they may be more motivated to change the amount of effort they put forth, attend professors' office hours, and engage in other help-seeking behaviors.

Although incremental beliefs could be profoundly beneficial to economically disadvantaged learners, research shows that students from higher-income backgrounds are more likely to possess incremental beliefs about intelligence than their low-income counterparts (John-Henderson, Rheinschmidt, Mendoza-Denton, & Francis, 2014). Attitude toward intellect and academic success is another tool in the toolbox possessed by higher income students that leads to their relative success when compared to their underrepresented peers.

Factors Related to Incremental Beliefs

In Rheinschmidt and Mendoza-Denton's (2014) study, there was an unexpected finding that showed that students high in class-based rejection sensitivity (RS-class) and incremental beliefs presented with higher grade-point averages (GPAs) than students with low RS-class and incremental beliefs. Although incremental beliefs themselves may be a protective factor for students with high RS-class, there are other factors that could have been confounded with this belief about intelligence, resulting in a significant relationship. In a variety of other studies, academic self-efficacy and high conscientiousness have also served as performance-enhancing traits in student populations ranging in SES (Costa & McCrae, 1992; Feldman & Kubota, 2015; Hoigaard, Kovac, Overby, & Haugen, 2014). Possessing either or both of these traits could result in habits and attitudes that may present similarly to incremental beliefs.

Academic self-efficacy is a belief in one's ability to perform well as a student, organize and manage time and materials as necessary, and to execute the behaviors required to attain a desired level of academic performance (Bandura, 1986; Feldman & Kubota, 2015; Zimmerman,

1995). Self-efficacy can also mediate the effects of other beliefs about the self in regard to performance on a task (Bandura, 1986). Additionally, a recent study found that academic achievement and academic self-efficacy are higher when students have high incremental beliefs (Hoigaard, Kovac, Overby, & Haugen, 2014). Consequently, when students had high entity beliefs, they presented with lower academic self-efficacy and grades than their peers with incremental beliefs. Since this correlational relationship was previously discovered, the connection between incremental beliefs and academic self-efficacy should be further explored. Academic self-efficacy is surprisingly understudied in low-income college students, and its potential protective effects merit further research.

An individual's disposition can contribute to his or her academic success. Consequently, personality traits can predict both how well a new student adjusts to the college environment (Kurtz, Pher, & Cross, 2012) and how well a student will perform in a secondary classroom (Costa & McCrae, 1992). In previous research, the Big Five personality trait conscientiousness was positively correlated with adjustment to and performance in college (Kurtz et al., 2012). Personality may contribute to students' ability to withstand and overcome academic struggles, even in new environments. Additionally, having high levels of conscientiousness may account for certain behaviors exhibited by individuals with high levels of incremental beliefs. For example, behaviors like "paying attention to details," and "following a schedule" (John & Srivastava, 1999) could contribute to how an individual evaluates her work and subsequently, her intelligence.

The Replication

Rheinschmidt and Mendoza-Denton (2014) conducted a series of studies that examined students' entity beliefs and class-based rejection sensitivity, predicting that the combination of

these factors would be associated with underperformance in college, even when controlling for depression, race-based rejection sensitivity, and interpersonal rejection sensitivity. This research was conducted at the University of California Berkley, and consisted of four smaller studies that examined different aspects of the target variables. After validating their new measure for RS-class, they explored the interactive effects of class-based rejection sensitivity and entity beliefs on academic performance using a sample of 76 undergraduate students (59 female; 47.4% Asian, 30.3% White, 9.2% Bi/multiracial, 7.9% African-American, and 5.3% Hispanic; mean age 19.51). The mean and median family income reported for participants was between $60,000 and $90,000 a year. In this study, researchers discovered an interactive effect between rejection sensitivity and entity beliefs on academic outcomes. This study's findings were significant because they found that many students could be primed to experience negative cognitive outcomes because of the combination of entity beliefs and rejection sensitivity.

Next, they conducted a longitudinal study about class-based rejection sensitivity and entity beliefs in 55 (34 female) low-income Hispanic college freshmen. They reported annual family income for this study was below the campus average (35.3% of participants reported earnings between $10,000-$20,000 and 39.2% reported family income between $30,000 and $60,000 a year. Students with high entity beliefs and class-based rejection sensitivity predicted that they would receive a lower GPA than students with high incremental beliefs. High rejection sensitivity and entity beliefs also predicted lower official GPA after the fall semester. Interestingly, even though the participants in this study had substantially lower family income than the average from the first study ($75,000-$100,000), if participants held strong incremental beliefs, they did not experience a drop in either actual or predicted GPA, even in the presence of

high rejection sensitivity scores. This study shows the protective powers of incremental beliefs in students from a low-income background.

Hypotheses

The present research intended to replicate these findings among college students from different backgrounds in a very different part of the country than the original study took place in. This replication attempted to assess the external validity of Rheinschmidt and Mendoza-Denton's by examining the relationship between entity beliefs and rejection sensitivity at a predominantly Hispanic serving university where 90% of students receive financial aid (Forbes, 2015). Although the relationship between entity beliefs and rejection sensitivity have similar effects on both high risk (e.g. minority or low-income background) and low risk (e.g. white, middle-class) students (Rheinschmidt & Mendoza-Denton, 2014), it is important to examine these findings in diverse college settings. The Rio Grande Valley is a low-income area with a per-capita income of just $17,103, approximately $11,000 less the national average, and is over 88% Hispanic (U.S. Census Bureau, 2013). The University of Texas, Rio Grande Valley, serves a student population that is 91% Hispanic and 61% low income (College Portrait, 2014). It is important to investigate these findings in diverse college settings to better understand the relationship between socioeconomic status, entity beliefs, rejection sensitivity, and academic outcomes.

Moreover, it is necessary to better understand the protective properties of incremental beliefs on predicted and college GPAs. Although research shows the relationship between incremental beliefs and class-based rejection sensitivity and its GPA-boosting effects, the predictive power of incremental beliefs and class-bass rejection sensitivity may be partially explained by various confounding variables. The present research therefore included measures

of academic self-efficacy, class conscientiousness, and personality traits to explore potential relationships that may overlap with the GPA-boosting effects of incremental beliefs in the face of high class-based rejection sensitivity.

This study focused specifically on the relationship between class-based rejection sensitivity, entity beliefs, and academic performance among college students in the Rio Grande Valley. Given the findings shown in previous research, the following predictions are offered.

1. RS-class scores were expected to be inversely related to GPA
2. Stronger entity beliefs were expected to be inversely related to GPA.
3. Entity belief scores were expected to moderate the relationship between RS-class and academic outcomes for college students when controlling for depression scores. When entity belief scores are high, the inverse relationship between RS-class and academic outcomes was expected to be stronger. When incremental belief scores are high, the relationship between RS-class and academic outcomes were expected to be positive.

Since many factors beyond entity beliefs and RS-class can influence students' academic performance, it is essential to control for variables that may affect student outcomes. These three predictions were tested together in one study that controlled for personal rejection sensitivity (RS-personal), race-based rejection sensitivity (RS-race), conscientiousness, academic self-efficacy, and depression scores.

CHAPTER III

METHODOLOGY AND FINDINGS

Participants

One hundred ninety-one undergraduate students (144 female) from the University of Texas Rio Grande Valley were recruited through the SONA Participant Pool, a website where undergraduate students sign up for and participate in research studies. They participated in this study in exchange for partial course credit. Participants were predominantly Hispanic (87%) and Caucasian/White (4%). The average age of participants was 21.06 (*SD* = 4.25). On average, participants had completed 3.03 (*SD* = 1.55) years of college and earned an average GPA of 3.15 (*SD* = 0.54).

Measures

Class-Based Rejection Sensitivity Questionnaire (RS-Class)

RS-Class is based on previously validated rejection sensitivity measures on race and interpersonal relationships (Downey & Feldman, 1996; Mendoza-Denton et al., 2012) and was previously validated in a diverse college sample (Rheinschmidt & Mendoza-Denton, 2014). In this measure, participants pictured interpersonal scenarios relating to social class ("Imagine you are in class at the start of the Spring semester talking about what you did over the winter break. You realize that several of the students around you come from a very different socioeconomic

background than you do. (A) How concerned/anxious would you be that the other students might reject you after learning about your socioeconomic status? (B) The other students would accept me after learning about my socioeconomic status"). For each scenario participants answered Likert-style items regarding anxiety on a 6-point scale from 1 (*very unconcerned*) to 6 (*very concerned*). Expected acceptance was rated from 1 (*very unlikely*) to 6 (*very likely*). Higher scores were indicative of higher class-based rejection sensitivity. This scale showed adequate reliability (α = .82) in the validation study (Rheinschmidt & Menoza-Denton, 2014).

Entity Beliefs Measure (EB)

Participants answered questions that show how strongly they believed that intelligence is fixed. This measure was used and validated in previous research **(**Dweck, Chiu, & Hong, 1995). Participants rated items ("You have a certain amount of intelligence and you really can't do much to change it;" "Your intelligence is something about you that you can't change very much;" and "You can learn new things, but you can't really change your basic intelligence.") on a Likert scale from 1 (*strongly agree*) to 6 (*strongly disagree*). Lower scores on this measure indicated greater incremental views of intelligence and higher scores indicated greater entity beliefs. Only entity beliefs were explicitly articulated in this measure because participants in previous studies have been prone to change their minds regarding entity beliefs when confronted with incremental belief items (Hong, Chiu, Dweck, Lin, & Wan, 1999). This scale showed adequate reliability (α = .80) in the scale validation study

Demographics Questionnaire

Participants first answered demographic questions regarding age, race, and years of school completed.

Self-Report of Annual Family Income

In the demographics questionnaire, participants reported their annual family income in $10,000 increments (1 = less than $20,000, 2 = $20,001 - $30,000, and so on until 8 = $80,001+). This is the most widely used method of measuring income and is often used to interpret participants' social class (e.g. Rhenschmidt & Mendoza-Denton, 2014).

Interpersonal Rejection Sensitivity Questionnaire (RS-Personal)

The short form (Downey & Feldman, 1996) was implemented in order to separate rejection sensitivity due to socioeconomic status from the fear of rejection related to personal characteristics ("You ask a friend to do you a big favor. (A) How concerned or anxious would you be over whether or not your friend would do this favor? (B) I would expect that he/she would willingly do this favor for me"). The scale consisted of 6 social scenarios and corresponding Likert items ranking social anxiety on a scale from 1 (*strongly agree*) to 6 (*strongly disagree*). The higher an individuals' RSQ-Personal score, the more interpersonal rejection sensitivity was expressed. This scale showed high internal reliability (α = .83) in the scale validation.

Race-Based Rejection Sensitivity Questionnaire (RS-Race)

The short form of the RS-Race (Mendoza-Denton et al., 2002) measured expectations of rejection based on membership in a racial or ethnic group ("Imagine that you are in a pharmacy, trying to pick out a few items. While you're looking at the different brands, you notice one of the store clerks glancing your way. (A) How concerned/anxious would you be that the clerk might be looking at you because of your race/ethnicity? (B) I would expect that the clerk might

continue to look at me because of my race/ethnicity"). This measure was used to differentiate between race and class-based tension. The scale itself consisted of 6 scenarios and corresponding Likert items rating anxiety over rejection because of race or ethnicity. Higher scores showed higher levels of RS-Race. The scale ranged from 1 (*strongly agree*) to 6 (*strongly disagree*). This scale showed high internal reliability (α = .90) in the scale validation study.

Patient Health Questionnaire #9

Depressive symptoms were measured using the Patient Health Questionnaire #9. This 9-item Likert measure assessed how frequently ("not at all," "several days," "more than half the days," or "nearly every day") one has experienced common depressive symptoms over the past two weeks ("feeling down, depressed, or hopeless" or showing "poor appetite or overeating"). Higher scores showed greater depressive symptoms. This measure was chosen as a no-cost alternative to the Beck Depression Inventory. This measure has been validated as an effective measure of depressive symptoms in racially and ethnically diverse patients (Huang, Chung, Kroenke, Delucchi, & Spitzer, 2006). The validation study reported an internal reliability of .80 in Hispanic populations and .86 in non-Hispanic whites.

GPA

Participants reported their expected GPA for the semester in which the study took place. They also reported their overall college GPA, and their GPA for the most recently completed semester GPA. All grades were reported on a 4.0 scale.

Bidimensional Acculturation Scale for Hispanics (BAS)

Participants completed the BAS to assess English language use, Spanish language use, and level of immersion in dominant culture (Marin & Gamba, 1996). In the setting of this study, it was important to assess levels of acculturation along with class and raced-based stress because the potential stress caused by the acculturation process should be measured alongside RS-Race. Cronbach's alpha for this scale was .90 in its validation study (Marin & Gamba, 1996).

Big Five Index (BFI)

Participants completed the 44-item BFI to measure the dimensions of their personality (John & Srivastava, 1999). This measure has shown to be reliable for all five traits: Extraversion (α = .88), Agreeableness (α = .79), Conscientiousness (α = .82), Neuroticism (α = .84), and Openness (.81).

Class consciousness

To measure class consciousness, participants answered 5 Likert-style items (from *strongly agree* to *strongly disagree*) about the underlying causes of poverty and class stratification in the United States (e.g. "Many people in this country receive much less income than they deserve," (Wright, 2000). Higher scores are associated with higher levels of class consciousness.

Academic Self-Efficacy Scale (ASES)

Participants completed the ASES, a 54-item scale reflecting self-efficacy in academics and students' confidence in their ability to perform well in school, as well as their perceived

stress stemming from academic situations (Chemers et al., 2001). This measure showed students' confidence in their ability to be successful academically. In the scale validation study, the reliability was high (α = .81).

Internal Control Index (ICI)

Participants completed the ICI, a 28-item scale reflecting internal control index in participants' lives (Duttweiler, 1984). This measure showed students' perceived level of control over their lives. The reliability for this measure was .84 in its validation study.

Attention Check Items

Throughout the survey instruments, participants were asked to respond to 5 attention check items ("If you are reading this, select 'very true for me'").

Procedure

After receiving IRB approval for the study, 349 participants were recruited from the participant pool of undergraduate psychology students at the University of Texas Rio Grande Valley. They received partial course credit in return for their participation.

Participants registered to take part in this Internet-based survey that could be completed in one session. Individuals completing the survey were not required to attend an in-person session. After reading and electronically signing an informed consent document, participants began the survey measures described in the previous section. The order in which the measures were presented was randomly assigned except for the demographic survey, income level, overall

GPA, predicted GPA, and previous semester GPA, which were all presented at the end of the instrument. Before submitting their surveys, all participants were shown a digital debriefing form.

Results

Twenty-nine participants completed fewer than half of the survey measures and were removed. Participants were removed if they reported that they were under 18 years of age, did not complete the main variables for hypothesis testing (EB and RS-Class), and did not score an 80% or higher on the 5 attention check items in the survey instrument, leaving 191 participants for this research study.

Table 2 lists the zero-order correlations between the variables measured in this study. Inspection of correlations revealed several significant correlations. RS-Class showed a weak negative correlation with class consciousness. RS-Race was weakly negatively correlated with academic self efficacy (ASE). Finally, RS-Class had a weak positive correlation with internal control index (ICI).

An ordinary least squares moderated regression analysis predicting self-reported GPA from entity beliefs, RS-class, and their interaction, controlling for depressive symptoms (PHQ #9) scores was conducted to test the hypotheses. This analysis used mean-centered predictor variables (Aiken & West, 1991) and their interaction terms. I did not observe a main effect of entity beliefs on overall GPA. RS-class did not produce a main effect on overall GPA, and no significant interaction effect was found between RS-Class and entity beliefs on overall GPA. Results of the multiple regression testing all three hypotheses can be found in Table 3. The predictions were tested once again while controlling for depressive symptoms, RS-Personal, RS-

Race, and Conscientiousness score, and no significant results were found. Regression scores for this analysis can be found in Table 4.

Exploratory Data Analysis

During exploratory data analysis, a relationship between acculturation (BAS) and GPA was identified. Additionally, Higher Academic Self Efficacy (ASE) predicted higher GPA when controlling for depressive symptoms. Results from this analysis can be found in Table 5.

An interaction effect was also identified between internal control index (ICI) and academic self-efficacy (ASE). Results for this regression can be found in Table 6. Simple slope analysis revealed that when ICI is high, high levels of ASE are associated with higher GPA (t = 1.89, p = .093*)*. When ICI is low, ASE has virtually no relationship with GPA (t = .12, p = .90). Figure 1 shows the results of this simple slope analysis.

CHAPTER IV

SUMMARY AND CONCLUSIONS

Discussion

In this study, I hypothesized that high rejection sensitivity scores and high entity beliefs would predict lower academic outcomes, and that entity beliefs would moderate the relationship between rejection sensitivity and academic outcomes when controlling for depressive symptoms. However, self-reported GPA was not predicted by any of these variables. Additionally, participants' rejection sensitivity was not significantly correlated with family income level, opening the question as to whether rejection based on social class is a salient threat to students at the University of Texas Rio Grande Valley. Many factors could be contributing to the different outcomes of this study and the original that took place at University of California-Berkeley.

One reason for the lack of previously detected relationships could be that coming from a poor or working class background is less threatening in South Texas than in Berkeley, California. In the original study, the median income range for participants was between $75,000 and $100,000 annually, and the average rejection sensitivity score was 6.65 (*SD* = 3.90). In the present research, the median income range was much lower, between $40,001 and $50,000 annually, and the average rejection sensitivity score was only 2.90 (*SD* = 0.94). Nearly a quarter of participants (22%) reported coming from families earning less than $20,000 annually. This

large difference in median income level and difference in mean rejection sensitivity suggest that socioeconomic status-induced fear of exclusion is not a salient threat for the students sampled in this study. The average income per capita in Berkeley is nearly three times that of Edinburg ($42,406 and $17,034, respectively) (U.S. Census Bureau, 2013). Since both the cost of living and per capita income are so much lower than compared with the Bay Area, coming from a low-income background may not be considered deviant, and students do not fear being rejected due to socioeconomic status. As a result, students may not fear rejection based on income level and may find their peers much more accessible than low-income students in the original study.

One must question whether the hypotheses were relevant to this population. An alternative explanation based in social theory could provide insight. Having material wealth is not the only method of building up capital in a community. Individuals can draw on both symbolic and cultural capital to bolster their material wealth (Bourdieu, 1986). The University of Texas Rio Grande Valley, formed in 2015 by merging together two local institutions, the University of Texas Pan American and the University of Texas Brownsville, is an institution that provides a great deal of cultural capital for community members by making college much more affordable and attainable than before due to the relative geographic isolation of the region. Before the merger of the two universities, 56.9% of students at the University of Texas Pan American and 55.2% of the students at the University of Texas at Brownsville were considered first generation college attendees (U.S. Department of Education, 2015). Although many of these students may come from low-income backgrounds, their status as college students provides their families with a great deal of cultural capital in the form of educational attainment, making the "dollars in the bank" definition of capital less relevant. Because of this increase in an

alternative form of capital, class-based rejection sensitivity may have a reduced impact on students and the community.

Findings from Exploratory Analysis

Exploratory data analysis revealed significant correlations between various variables measured in this study. Of these correlations, the most thought provoking is the negative correlation between RS-Class and class-consciousness ($r = -.18$, $p < .05$). Possessing a high level of class consciousness and a low level of class-based rejection anxiety could be created by a protective belief that poverty and class stratification is a construct of society and not the sole responsibility of the individual (Lukacks, 1920). By acknowledging systemic inequality as a source of struggle, individuals might protect themselves from feelings of inadequacy and fear of rejection based on material capital. Alternatively, this inverse relationship could be explained by attaching a conservative stance on poverty and un/underemployment. When rejection anxiety is high, class-consciousness is low, inscribing blame and fault for one's own low-income status. People living in poverty often adopt a borderline paradoxical way of thinking about and discussing poverty. Previous research has shown that individuals living below the poverty line themselves will describe other low-income families as lazy and lacking a will to work, despite they themselves having similar struggles (Shildrick & MacDonald, 2013).

Continuing on the theme of class-based rejection sensitivity and the perception of personal accountability, scores on the internal control index (ICI) were positively correlated with RS-Class scores ($r = .23$, $p < .01$). ICI represents locus of control and is tied to perceptions of autonomy and self-reliance (Duttweiler, 1984), and having high locus of control in combination with high class-based rejection sensitivity may implicate feeling strong personal responsibility

for one's own socioeconomic status and relative class standing. Taken in combination with the negative relationship between RS-Class and class-consciousness, rejection sensitivity in the population sampled may be closely tied with a personal sense of culpability.

Participants' responses showed a negative correlation between race-based rejection sensitivity and academic self-efficacy (r = -.16, p < .05). This trend is consistent with previous literature showing that as early as middle school, minority students' sense of belonging in their community and in their school predicts higher academic performance (Murphy & Zirkel, 2015). The perceived likeness to others in an academic setting, as well as the presence of similar looking role models, results in higher academic self-efficacy.

There were several significant findings in this study outside of the proposed hypotheses. Scores on the Bidimensional Acculturation Scale for Hispanics (BAS) predicted academic performance in the form of higher overall GPA. This predictive relationship is sensible on the surface level because a major metric on the BAS is comfort with and use of the English language, the only language of instruction at UTRGV and in all institutions of higher learning in the United States. However, the fact that higher levels of acculturation leads to better ability when navigating the education system reinforces the previously cited notion that the higher education system is embedded directly into the dominate culture. Institutions of higher learning inherently value traits associated with a white, middle-class upbringing, like independence and questioning authority (Fryburg et al., 2012). This deviation from the culture of many low-income and ethnic minority students creates a whole new dynamic that requires acculturation in order to experience success.

Finally, this study found that scores on the Internal Control Index interacted with Academic Self Efficacy to predict academic performance. In the absence of general feelings of

locus of control, similar GPAs were predicted regardless of the level of ASE a participant possessed. When internal control is high, however, low academic self-efficacy predicted lower GPA while high ASE predicted a higher GPA. While the idea that believing strongly in your ability as a student (Bandura, 1986; Feldman & Kubota, 2015; Zimmerman, 1995) while being in control, internally motivated, and having stronger cognitive processing skills (Duttweiler, 1986) predicting greater academic performance may not be a revolutionary idea, this finding is important to highlight because it could account for some of the variance in the study attempting to be replicated. In Rheinschmidt and Mendoza-Denton's study, Academic Self Efficacy was not measured or controlled for.

Implications for Higher Education

The realm of higher education could benefit from this research in several ways. Most importantly, the results found from exploratory data analysis highlight the challenging adjustment that students from low-income backgrounds and minority students must make when acclimating to college, an institution that has traditionally served more privileged populations. The fact that race-base rejection sensitivity is negatively correlated to academic self-efficacy and that higher levels of acculturation predict better academic outcomes highlight systemic inequality in colleges and universities. As more studies showing similar results are published, institutions of higher learning will have more resources to adapt best practices for making college more accessible for all students. Additionally, the ability to use internal control scores to predict academic outcomes should help inform both university and K-12 best practices on teaching attitudes toward learning. Internal control should be taken into consideration alongside

incremental beliefs to ensure that students get the most long-term benefits from teaching and learning.

Carving a Path for Future Research

This study had several shortcomings that could be improved in future replications. First, direct measure of GPA from student records rather than a self-report measure of GPA be used in the future. Regarding reporting of family income, it would be beneficial in the future to break down the bottom income bracket into $10,000 bands like the rest of the income brackets in order to avoid floor effects. Finally, a shorter series of questionnaires should be used to reduce the risk of participant fatigue.

To take this study a step further, I propose adding in an experimental component that would prime for either entity or incremental beliefs using a passage before completing a short mathematics test to represent academic outcomes to measure any differences in outcomes or predictive power of the combination of class-based rejection sensitivity and entity beliefs on academics. This methodology has been used in previous research (Rheinschmidt & Mendoza-Denton, 2014), and should be replicated to see whether more variation in entity belief scores can be elicited in this population.

Although this study yielded few statistically significant relationships or predictions, I believe that the differences between the present research and the similar study at University of California Berkeley (Rheinschmidt & Mendoza-Denton, 2014) present compelling questions for research on socioeconomic status in psychology. Most notably, that research about SES may prove to be context specific. The impact of coming from a low-income background may be very different depending on the level of economic stratification in a community. In the case of the

present research, the context created by the high proportion of students receiving financial aid combined with the relatively low median income of the region creates an atmosphere where students do not fear class-based rejection.

Most importantly, the difference in results raises a very basic inquiry – are we asking the right questions to assess the lived experiences of college students from a low-income background? As a discipline, psychology is moving away from its past of relying on convenience samples of predominantly white, female college students attending major research institutions, but we as psychologists need to assess whether the research questions that we are drawing from acknowledge the different lived experiences, material conditions, and identity markers of the populations we hope to learn about.

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Table 1

Cronbach's Alpha levels for all scales used in this study (N = 191).

Scale	No. of items	*M (SD)*	*Cronbach's Alpha*
GPA	-	3.15 (.54)	-
BAS	24	3.14(.40)	.78
Conscientiousness	44	2.94(.48)	.71
CC	5	1.85(.53)	.78
RS-Race	24	1.81(1.01)	.96
PHQ 9	10	.86(.68)	.90
RS-Class	12	2.90(.94)	.82
RS-Personal	16	3.77(.91)	.83
EB	9	3.93(.93)	.87
ASE	54	6.27(1.65)	.82
ICI	28	3.18(.39)	.75

Note. BAS = Bidimensional Acculturation Scale for Hispanics; CC = class consciousness; RS-Race = race-based rejection sensitivity; PHQ-9 = Patient Health Questionnaire #9; RS-Class = class-based rejection sensitivity; RS-Personal = interpersonal rejection sensitivity; EB = entity beliefs; ASE = academic self efficacy; ICI = internal control index.

Table 2

Zero-order correlations between measures (N = 191).

	Scale	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
1	BAS	-	.02	-.06	.05	-.00	-.00	.12	.06	.05	.08	-1.8*
2	Conscientiousness		-	-.08	-.03	.14	.13	.25**	.08	.10	.10	.09
3	CC			-	-.08	-.19*	-.18*	-.07	-.08	.11	-.14	-.06
4	RS-Race				-	.04	.14	.02	-.03	-.16*	-.10	-.03
5	PHQ 9					-	.11	-.01	.00	-.40**	.18*	-.04
6	RS-Class						-	.36*	.06	.08	.23**	-.02
7	RS-Personal							-	-.09	.02	.21**	-.07
8	EB								-	.21**	-.03	.01
9	ASE									-	.04	.20**
10	ICI										-	.02
11	GPA											-

Note. BAS = Bidimensional Acculturation Scale for Hispanics; CC = class consciousness; RS-Race = race-based rejection sensitivity; PHQ 9 = Patient Health Questionnaire #9; RS-Class = class-based rejection sensitivity; RS-Personal = interpersonal rejection sensitivity; EB = entity beliefs; ASE = academic self efficacy; ICI = internal control index; GPA = grade point average.

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

Table 3

Regression, hypothesis testing with limited control items. Control: PHQ-9. Predictor variables: EB, RS-Class. Criterion variable: overall GPA. Interaction term: EB x RS-Class. (N = 191).

	Model 1			Model 2			Model 3		
Variable	B	SE B	***β***	B	SE B	***β***	B	SE B	***β***
PHQ-9	-.03	.06	-.04						
EB				.00	-.04	.01			
RS-Class				-.01	.04	-.01			
EB x RS-Class							-.01	.05	-.02
R^2	.002			.002			.002		
F(df)	0.32(1,189)			0.12(1,186)			0.11(4,186)		

Note. BAS = Bidiminesion Acculturation Scale for Hispanics; PHQ-9 = Patient Health Questionnaire; #9; RS-Class = class-based rejection sensitivity; EB = entity beliefs; ASE = academic self efficacy.

**. Significant at the 0.01 level.

*. Significant at the 0.05 level.

Table 4

Regression, hypothesis testing with control items. Control: PHQ#9, RS-Race, RS-Personal, Contentiousness. Predictor variables: EB, RS-Class. Interaction effects: EB x RS-Class. Criterion variable: overall GPA. (N = 191).

	Model 1			Model 2			Model 3		
Variable	B	SE B	***β***	B	SE B	***β***	B	SE B	***B***
PHQ#9	-.04	.06	-.04						
RS-Race	-.02	.04	-.03						
RS-Personal	-.05	.05	-.08						
Conscientiousness	.12	.08	.11						
EB				.00	.04	-.01			
RS-Class				.01	.05	.02			
EB x RS-Class							-.01	.05	-.02
R^2	.01			.01			.01		
F(df)	0.38(4,186)			0.26(2,184)			0.23(1,183)		

Note. BAS = RS-Race = race-based rejection sensitivity; PHQ-9 = Patient Health Questionnaire #9; RS-Class = class-based rejection sensitivity; RS-Personal = interpersonal rejection sensitivity; EB = entity beliefs.

**. Significant at the 0.01 level.

*. Significant at the 0.05 level.

Table 5

Regression, exploratory data analysis: predictive factors. Control: PHQ-9. Predictor variables: RS-Race, RS-Personal, BAS, CC, ICI, ASES-C. Criterion variable: overall GPA. (N = 191).

	Model 1			Model 2		
Variable	B	SE B	***β***	B	SE B	***β***
PHQ-9	-.03	.06	-.04			
RS-Race				-.28	.10	-.21
RS-Personal				-.09	.05	-.15
BAS				-.28**	.10	-.21
CC				-.11	.08	-.11
ICI				.04	.12	.03
ASE				.08**	.03	.26
R^2	.002			.13		
F(df)	0.32 (1,173)			2.61(1,165)		

Note. BAS = Bidimensional Acculturation Scale for Hispanics; CC = class consciousness; RS-Race = race-based rejection sensitivity; PHQ-9 = Patient Health Questionnaire #9; RS-Personal = interpersonal rejection sensitivity; ASE = academic self efficacy; ICI = internal control index.

**. Significant at the 0.01 level.

*. Significant at the 0.05 level.

Table 6

Regression, exploratory data analysis: interaction effects. Predictor variables: ICI, ASE, ICI x ASE. Criterion variable: overall GPA (N = 190).

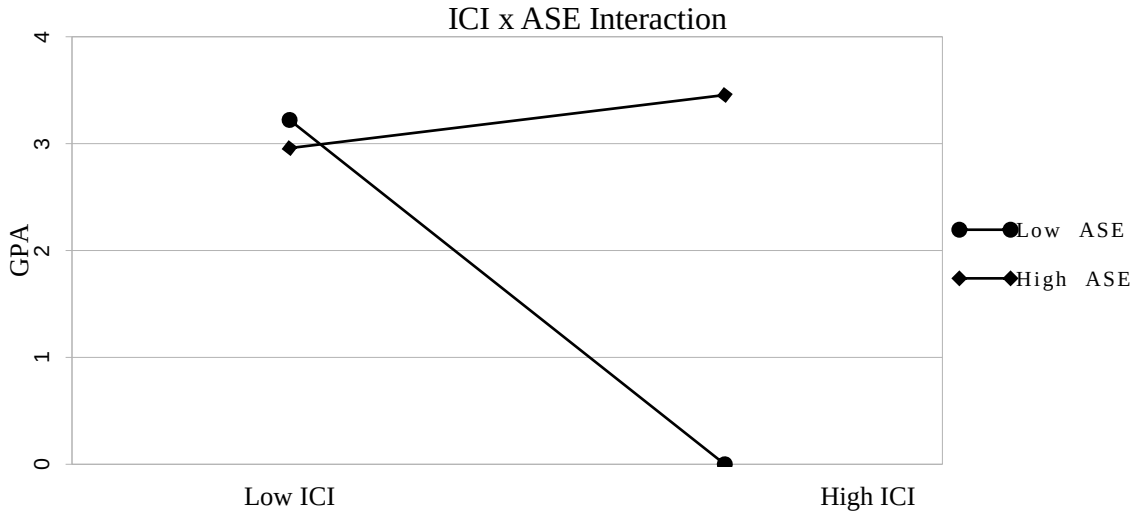
	Model 1		
Variable	B	SE B	**β**
ICI	.05	.04	.03
ASE	.06*	.02	.17
ICI x ASE	.14*	.06	.17
R^2	.07		
F(df)	4.48(3,189)		

Note. BAS = ICI = internal control index; ASE = Academic Self Efficacy Confidence.

**. Significant at the 0.01 level.

*. Significant at the 0.05 level.

Figure 1
Simple slope analysis for ICI x ASE interaction.



Note. ICI = internal control index; ASE = academic self-efficacy.

BIOGRAPHICAL SKETCH

Anna Kushner earned her BA in Psychology and Studies in Women and Gender from the University of Virginia in 2012, and later earned her MA in Experimental Psychology from the University of Texas Rio Grande Valley in 2016. She also served as a public school teacher in McAllen Independent School District. Her permanent address is 21111 Herring Creek Road, Aylett VA 23009.