Concordia University - Portland
CU Commons

Undergraduate Theses

2019

Promoting Academic Self-Efficacy in First-Generation College Students

Sydney Quintana
Concordia University - Portland, sydneyquintana@gmail.com

Follow this and additional works at: https://commons.cu-portland.edu/theses

Part of the Psychology Commons

CU Commons Citation
Quintana, Sydney, "Promoting Academic Self-Efficacy in First-Generation College Students" (2019). *Undergraduate Theses*. 193.
https://commons.cu-portland.edu/theses/193

This Open Access Thesis is brought to you for free and open access by CU Commons. It has been accepted for inclusion in Undergraduate Theses by an authorized administrator of CU Commons. For more information, please contact libraryadmin@cu-portland.edu.

Promoting Academic Self-Efficacy in First-Generation College Students

A senior thesis submitted to
The Department of Social and Behavioral Sciences
College of Health & Human Sciences

In partial fulfillment of the requirements
for a Bachelor of Arts degree in Psychology

by

Sydney Quintana

Faculty Supervisor _____ _____
Dr. Reed Mueller **Date**

Department Chair _____ _____
Dr. Reed Mueller **Date**

Dean, College of Health
& Human Sciences _____ _____
Dr. Julie Dodge **Date**

Provost _____ _____
Dr. Michelle Cowing **Date**

Concordia University
Portland, Oregon
December, 2019

Promoting Academic Self-Efficacy in First-Generation College Students

Sydney Quintana

Concordia University - Portland

Abstract

The objective of this research was to assess differences in academic self-efficacy between demographic classifications, with special regard to differences between first- and continuing-generation college students. Additionally, I explored the relationship between levels of academic self-efficacy and perceived stress within the academic domain. Bandura (1997) coined the term self-efficacy to refer to the individual's belief that they can take necessary action in order to achieve their goals. In this thesis, I aimed to measure the success of a written academic self-efficacy intervention within a college freshman sample, but the lack of sufficient matched pairs led me to modify the secondary hypothesis to instead measure the changes in academic self-efficacy between two time intervals. Regarding the primary hypotheses, the analyses revealed no significant relationship between academic self-efficacy and generational status, nor a correlation between academic self-efficacy scores and perceived stress scores. However, additional analyses were conducted to identify gender and race/ethnicity as areas of interest in student stress outcomes, as female participants and students of color reported significantly higher stress levels. This research was limited by a small sample size and limited generalizability. I made future recommendations to address these disparities and apply this information in a productive capacity.

Keywords: academic self-efficacy, beliefs in educational success test, perceived stress, university stress scale, first-generation college students, generational status, efficacy intervention

Table of Contents

Abstract 3
Table of Contents 4
Acknowledgements 5
Self-Efficacy *9*
Academic Self-Efficacy *12*
Efficacy Interventions *13*
Understudied Areas of Self-Efficacy Research *16*
Purpose *22*
Participants *23*
Materials and Procedure *24*
Instrumentation *25*
Data Management *27*
Statistical Strategy *28*
Results 28
Updated Statistical Strategy *29*
Tests of Assumptions *30*
Secondary Analyses *32*
Discussion 34
Hypothesis Testing Summary *34*
Limitations *37*
Implications and Recommendations *37*
Future Research Applications *40*
Conclusion *41*
References 42
Appendices 46

Acknowledgements

My sincerest appreciation goes to:

Dr. Reed Mueller, thank you for always challenging me to improve upon every draft and talking me down from every breakdown along the way. It has been a privilege to learn from you throughout my time at Concordia.

Dr. Erin Mueller and Dr. Kimberly Knutsen, you have both been a fantastic support for the last several years and your feedback on my work was invaluable.

Joe Denniston and Josh Tedrow, I have appreciated your feedback and peer review throughout every step of this process. We did it!

My supervisors David Sadler, Adrienne Hagen and Elizabeth Parks. You have all been so supportive and understanding while I took on my busiest year yet.

Carlos, thank you for reminding me to be kind to myself when I was overwhelmed. Pomai, thank you for always listening to me, even when you're not sure if I'm speaking English. And to all of my other friends who have sat through every stress-induced rant: Darian, Jessica, Kristin, Samantha, Liana, Amari, Katrina, the rest of my ASCU family, and more. You are all amazing and I could not have done it without you.

And my family: my grandma, my mom, Andrew, my aunt Lynette, and (of course) my pup Chiquita. I know that I am who I am because of all of you. Thank you for always calling and checking in to make sure I'm still alive.

I would not be where I am without each of these people.

Promoting Academic Self-Efficacy in First-Generation College Students

First-generation college students are individuals whose parents and/or guardians have never received a degree from any college or university in either the United States or abroad (Majer, 2009a; Phinney & Haas, 2003). The experiences of these first-generation college students often differ from their peers, who are referred to in the literature as continuing-generation college students (Sy et al., 2011), traditional college students (Terenzini, Springer, Yaeger, Pascarella, & Nora, 1996), or second-generation college students (Pike & Kuh, 2005).[1] While college remains a viable option for social mobility and capital, many first-generation college students often are unable or choose not to complete a college degree. Pike and Kuh (2005) found that there is a 15% gap between the three-year persistence rates of first- and continuing-generation college students, which means that significantly fewer first-generation college students are graduating after enrollment.

While analyzing the impact of these disparities on individual students, Jenkins, Belanger, Connally, Boals, and Durón (2013) found that first-generation college students reported higher rates of depressive symptoms and lower life satisfaction than their peers. There are significant aspects of the first-generation student experience that inhibit their success in a higher education setting. Researchers have attributed these gaps in achievement to a variety of different variables, including pre-college characteristics such as lower income and lower engagement in a high school setting (Pike & Kuh, 2005). In addition to these more concrete characteristics, Pike and Kuh (2005) identified important psychological barriers that exacerbate achievement gaps among first-generation students,

[1] For the purpose of this study, I will be using the term continuing-generation when referring to students who have had a parent and/or guardian receive a college degree.

such as lower levels of anticipatory socialization and lower educational aspirations. While some colleges have implemented *bridge* programs in order to bridge the differences and close the gap in achievement, they largely focus on providing financial support and fostering academic skills, without addressing some of the important psychological barriers of first-generation students (Stephens, Hamedani, & Destin, 2014). By not addressing the socialization aspect of the acculturation process, the negative consequences of social disconnect can remain and perpetuate the gap between first-generation students and their peers.

One of the most significant psychological barriers identified by researchers concerning first-generation students is academic self-efficacy, which tends to be lowest among first-generation college students (Majer, 2009a; Phinney & Haas, 2003). As an important factor of human agency, Bandura (1997) defined self-efficacy as a cognitive resource contributing to an individual's confidence in their ability to engage in behaviors that facilitate the achievement of goals. Ramos-Sánchez and Nichols (2007) emphasized that improving self-efficacy is the most significant way of improving academic performance as measured by grade point average (GPA), but that interventions to increase self-efficacy are largely limited by resources and are not easily applied to large groups of students. In an individual counseling setting, treatment for increasing self-efficacy would be applied using Bandura's four sources: vicarious experiences, emotional arousal, verbal persuasion, and performance accomplishments (Ramos-Sánchez & Nichols, 2007). Methods for increasing academic self-efficacy for a measured positive impact on academic performance are highly individualized in the context of therapeutic

intervention. There is a gap in the literature for a method that can be applied to an entire class of students in a short amount of time.

As self-efficacy rates are lowest among first-generation students, finding an academic self-efficacy intervention has the potential to close the gap between first-generation college students and their peers in both educational attainment and achievement (Majer, 2009a). In this study, I used an intervention in the form of a written vignette detailing the successes of a first-generation college student. Using a quasi-experimental pre- and post-test design, I examined whether the intervention was effective in increasing academic self-efficacy, and whether an increase in self-efficacy decreased levels of stress associated with their educational experience among both first- and continuing-generation college students. My primary hypotheses were that the baseline academic self-efficacy rates will be lowest amongst first-generation college students (H_1) and that students who display higher rates of academic self-efficacy will also display lower rates of academic stress (H_2). Additionally, I hypothesized that first-generation college students who receive the intervention will display a higher academic self-efficacy score during the post-test as compared to their baseline scores (H_3).

Literature Review

The development of Albert Bandura's social cognitive theory for describing personality and human functioning popularized the concept of human agency in the field of psychology (Bandura, 1989). As applied in his research, Bandura (1989) defined personal agency as the ability of an individual to exercise free will and control over their environment. Given that human agency accounts for a person's ability to act autonomously and impact the world around them, self-efficacy is their personal belief in

their ability to act in a way that supports reaching their goals. In this literature review, I will analyze Bandura's foundational research on these topics, assess the current body of knowledge regarding interventional methods, and discuss understudied topics of interest within the field of self-efficacy.

Self-Efficacy

While many mechanisms are discussed in relation to personal agency, the most essential to functioning is the concept of self-efficacy (Bandura, Barbaranelli, Caprarar, & Pastorelli, 1996). Bandura et al. (1996) elaborated on the role of self-efficacy as "people's beliefs in their capabilities to exercise control over their level of functioning and environmental demands" (p. 1206). An individual's efficacy beliefs affect the way they think, act, behave, and interact with external stimuli. Researchers emphasized that the concept of self-efficacy is situationally specific, meaning that a person who displays high levels of self-efficacy in one domain of their life is not guaranteed to be highly efficacious in other domains with contrasting demands (Sachitra & Bandara, 2017; Zajacova, Lynch, & Espenshade, 2005). Bandura (1993) hypothesized that the reason self-efficacy has such a widespread and diverse impact on human functioning stems from its impact on four major processes: cognitive, motivational, affective, and selection processes. Bandura's articulation of these concepts provided an important background for the impact of self-efficacy on all areas of academic and intellectual functioning.

Cognitive processes. Bandura (1993) posited that actions are shaped by the impact of self-efficacy on cognitive processes. Individuals with high self-efficacy tend to visualize scenarios in which they succeed, which in turn provides them with a positive support guide for success; in contrast, individuals with low self-efficacy tend to visualize

scenarios in which they fail, which leads to self-doubt. This distinction remains a significant indicator of success regardless of ability or breadth of knowledge. Bandura (1993) presented a new conceptualization of human ability, wherein it is not a fixed attribute but a "generative capability in which cognitive, social, motivational, and behavioral skills must be organized and effectively orchestrated to serve numerous purposes" (p. 118). Bandura's (1993) research reaffirmed his claim that self-efficacy is as important an indicator for success as innate or practiced ability and must be considered accordingly when adapting plans for improvement.

Motivational processes. Bandura (1993) also specified human motivation as one of the cognitive functions directly impacted by beliefs of efficacy. An individual's self-efficacy influences the forethought that allows people to anticipate what they believe will follow. Bandura (1993) identified three theories of motivation and their respective cognitive motivators: *casual attributions* within the attribution theory, *outcome expectancies* within the expectancy-value theory, and *cognized goals* within the goal theory. Throughout all three theories of cognitive motivation, Bandura (1993) maintained that beliefs of self-efficacy operate to motivate human action.

According to Bandura (1993), attribution theory is the concept that motivation can be ascribed to the way that individuals attribute events. An example of *casual attribution* would be that after failing, individuals with high self-efficacy attribute their failure to insufficient effort and individuals with low self-efficacy attribute their failure to a lack of ability. In contrast, expectancy-value theory is the concept that motivation is determined by both the expectation of particular outcomes and the perceived value of those predictions. Motivation is impacted by self-efficacy because these *outcome expectancies*

are heavily influenced by an individual's belief in their own capabilities; if an individual believes that they will fail, the value of the prediction impacts their motivation. Goal theory, the final theory of motivation addressed by Bandura (1993), recognized the magnitude of personal evaluation in response to the present achievement; instead of a hypothetical future state, present behavior is motivated by *cognized goals*, or concrete aspirations such as goal-setting. The ideal motivational pattern according to this theory includes assessing personal performance, exercising self-efficacy in achieving goals, and adjusting future goals based on these past experiences. According to all of these theories, self-efficacy is significant in motivating human behavior.

Affective processes. In the relationship between beliefs of efficacy and functioning, Bandura (1993) acknowledged the role of an emotional mediator. Concerning its impact on affective processes, an individual's level of self-efficacy can influence the severity of the stress response and the diathesis for the onset of depression. Individuals with lower self-efficacy are inclined to experience higher anxiety arousal and inefficacious thinking due to their poor ability to cope. These coping deficiencies can have a detrimental impact on both physical well-being and the ability to succeed in stressful environments, such as an academic setting.

Selection processes. Additionally, Bandura (1993) emphasized that beliefs of self-efficacy are impacted by the environment; however, these existing beliefs also contribute to determining the environments and activities individuals choose to expose themselves to over time. Individuals influence, and are influenced by, their environment. These selection processes, or choice-related processes, are a key aspect of self-efficacy

that affirms it is changeable and higher efficacious beliefs can be gained through life experiences and external interventions.

Academic Self-Efficacy

Academic self-efficacy can be differentiated from a broader consideration of self-efficacy by its existence in the specific domain of academics and intellectual functioning (Bandura et al., 1996; Sachitra & Bandara, 2017). Multon, Brown, and Lent (1991) reiterated the increasing relevance of academic self-efficacy, as researchers have recognized its role in both understanding and predicting academic outcomes. Within the literature, scholars have attempted to isolate the impact of self-efficacy on two main categories of measurement in academic success, performance and persistence.[2] Researchers have found that self-efficacy beliefs can account for 14% of the variance in academic performance, meaning measured success while in school, and 12% of the variance in persistence, which is the likelihood of remaining in school until completion (Multon et al., 1991). Most noted disparities within academic performance are measured in the literature by GPA and scores on standardized tests, both of which implicate high academic self-efficacy as an indicator for success (Majer, 2009a; Multon et al., 1991). Regarding academic persistence, several researchers have reported consistent findings indicating a relationship between lower reported rates of academic self-efficacy and lower retention (Majer, 2009a; Multon et al., 1991; Pike & Kuh, 2015). These findings support the claim that an important aspect of improving college performance and persistence is improving students' beliefs in their academic self-efficacy.

[2] Performance and persistence are often used interchangeably in the literature with achievement and attainment due to similar and overlapping definitions.

While many researchers have attempted to determine why academic self-efficacy is predictive of educational success, an additional area of interest is the impact of self-efficacy on the overall academic experience. More abstract measurements of success in college include adjusting to the new environment, involvement in social activities, and the ability to cope with academic stress. Sachitra and Bandara (2017) reported that students with high self-efficacy tended to be more socially active and experience significantly fewer stress-related health problems such as anxiety and depression. These students also displayed a greater willingness to seek help from their peers and support systems when they were struggling, whether that be in the classroom or with a social dilemma (Sachitra & Bandara, 2017). Students who are fulfilled by their academic environment are more likely to graduate and adjust their goals accordingly to aim for higher levels of education and career paths that may have felt unattainable before (Multon et al., 1991). This constant reassessment of ability and adjustment to greater goals is a key aspect of self-efficacy that reaffirms the value of this construct both in academic environments and future aspirations. Academic self-efficacy is a significant construct regarding the promotion of the cognitive skills necessary for succeeding in academic settings and benefiting from the resulting increase in ability and social capital (Majer, 2009a; Ramos-Sánchez & Nichols, 2007). In order to best promote self-efficacy among students, it is essential to understand its nuances as a concept and how it can best be improved for the well-being of the student.

Efficacy Interventions

As Bandura's (1989, 1993, 1997) research has provided the foundation for understanding human agency and the impact of efficacy beliefs, researchers have adapted

his methods for increasing self-efficacy into modern intervention models. Bandura described the four sources of efficacy beliefs as (a) vicarious experiences, (b) mastery experiences, (c) verbal persuasion, and (d) psychological and affective states (as cited in Ramos-Sánchez & Nichols, 2007; Sachitra & Bandara, 2017). All of these resources naturally provide cognitive value for an individual outside of an intervention, but their application as a resource to manipulate change is generally undefined. Sachitra and Bandara's (2017) research regarding the steady increase of self-efficacy across academic years over time supported that, while mastery experiences are the most effective, the length of time required is not practical for interventions. Zajacova et al. (2005) emphasized that while struggling to obtain the long-term increase in self-efficacy that originates from experience, students with low self-efficacy and the resulting poor academic performance are increasingly likely to drop out of school before they gain the experience that instills them with confidence to succeed. As academic institutions are shifting their focus towards improving their retention rates rather than purely increasing enrollment, researchers acknowledged the importance of increasing educational resilience. The productivity of an efficacy intervention is measured by both its success in improving efficacious beliefs and its ability to achieve results in a timely manner.

This urgency associated with fostering improved self-efficacy has led many researchers to consider the effectiveness of a therapeutic intervention using another source besides mastery experiences (e.g., Zajacova et al., 2005). Given that it is not practical to place each student with low self-efficacy into individualized therapy, researchers have struggled to determine the best way to institute an efficacy intervention to large groups of students. Atanosov, Dudnytska, Estes, and Marsh (2013) assessed the

value of different sources in fulfilling this gap in the field. Using Bandura's concept of vicarious experiences, Atanosov et al. (2013) recommended group activities that allow students to see their peers succeeding; in the college student demographic, immersive on-campus experiences prior to beginning college had noted success in fostering feelings of confidence within incoming students. Additionally, a common intervention using the concept of verbal persuasion is mentorship programming, which has yielded mixed results and proven ineffective as the sole strategy in increasing self-efficacy. However, Atanosov et al. (2013) acknowledged the positive impact that these programs can have when used in tandem with other strategies, such as vicarious experiences. As affective states can positively or negatively impact the intervention experience, it is important that they are carefully monitored and assessed throughout the course of any program targeting self-efficacy. Regardless of the effectiveness of each of Bandura's four sources as individual interventions, developers of long-term programs are encouraged to prioritize experiences from all of these framework categories in order to instill lasting effects on participants.

In addition to assessing the foundation of the most effective interventions, the manner in which they are delivered can impact how well they are received. One common critique of current educational interventions is the belief that they do not account for all of the students they are attempting to reach, or that the students do not feel as though they are being targeted or represented by the research. Stephens et al. (2014) described the implementation of a panelist-style intervention that differs from the historic conceptualization of outreach programs for transitioning students. One of the deficiencies identified in typical programs includes being *difference-blind* and treating all

students as though they have the same background and learning foundation (Stephens et al., 2014). In contrast, the intervention model initiated by Stephens et al. (2014) utilized a *difference-education* approach and employed a panel of diverse college students sharing their struggles and successes in college. Students who felt the most represented by the panelists displayed the greatest change in efficacy, implying the successful use of vicarious experience and verbal persuasion in tandem. As previously noted by Stephens et al. (2014), traditional methods of promoting academic success, such as bridge programs, often fail to integrate proven sources for self-efficacy and largely ignore the psychological implications of this construct. For more successful academic interventions, the body of research supports a directed approach using multiple sources and a unique means of delivery that appeals to the student demographic.

Understudied Areas of Self-Efficacy Research

Researchers have established the importance of understanding academic self-efficacy and its role as an indicator for educational success. However, there are many extenuating circumstances that must be considered in relation to self-efficacy research in order to best ascertain the comprehensive nature of its impact. Some of the areas that remain understudied in this field include the impact of generational status on self-efficacy and educational outcomes, the impact of gender on efficacy beliefs, and the interaction between academic self-efficacy and student stress responses.

Impact of generational status. There are fundamental differences between first-generation college students and their peers that contribute to a gap in both educational achievement and attainment. In a study of first-generation students at a local community college, Majer (2009a) found that they displayed the lowest rates of academic self-

efficacy when compared to their continuing-generation peers. Furthermore, Majer (2009a) noted that the first-generation college students were more likely to begin college later than their peers and there were noted disparities in their GPAs following the conclusion of the term, wherein the students who displayed the lowest efficacy achieved less academic success. Additionally, first-generation students often display a lack of knowledge in choosing a major, finding an internship, or building a resumé (Stephens et al., 2014). These disparities, when left unaddressed, may continue to impact every aspect of these students' educational careers, including their future aspirations. Stephens et al. (2014) elaborated that the majority of these students were not conscious of this prominent gap, and therefore, could not conceptualize how to improve their outcomes. As academic self-efficacy remains a prominent topic of interest in conversations regarding the promotion of academic success, the tendency of first-generation students to be deficient in this valuable cognitive resource should be addressed.

Further research regarding the impact of generational status on efficacy beliefs is important due to the potential risk factors associated with being a first-generation student. As previously established in the literature, Jenkins et al. (2013) noted the strong association between first-generation college student status, classification as an ethnic or racial minority, and a low SES background. Given these findings, it is reasonable to conclude that first-generation college students are subject to additional stressors that may not impact their peers to the same extent, such as stress associated with the acculturation process to an unfamiliar environment (Phinney & Haas, 2003; Ramos-Sánchez & Nichols, 2007). Mena, Padilla, and Maldonado (1987) defined acculturation as "an adaptive process of cultural adjustment that takes the individual through several different

phases changing his/her conditions of life" (p. 207). In addition to possible extenuating circumstances, such as a language barrier, the process of adapting to the new environment can be more difficult for first-generation students due to their contrasting cultural backgrounds. Mena et al. (1987) specified the profound struggle of immigrant students, and how their unfamiliarity with their cultural environment negatively impacts their efficacy beliefs, their self-esteem, the size of their social support network, and their ability to cope with academic stress. These circumstances create an environment where the ability of ethnic and racial minority students, who are often the first in their family to attend college, to succeed is compromised and remains largely unaddressed by many programs and intervention attempts.

Parental involvement in first-generation college students. When addressing the importance of fostering strong efficacy beliefs, it is essential to consider the impact of family and parental support. This concept is closely related to the struggle of first-generation students because the parents of these students often lack knowledge about the transition into college, including unfamiliarity with the application process, financial aid resources, and the social expectations of higher education (Ramos-Sánchez & Nichols, 2007; Sy, Fong, Carter, Boehme, & Alpert, 2011). According to the concept of acculturation, first-generation students face the unique challenge of compromising between two distinct and potentially incompatible identities, one as a member of their family unit and one as a college student. Sy et al. (2011) emphasized that first-generation students reported a perceived lack of support and encouragement to attend college from their parents, as compared to their continuing-generation peers. In the general student population, researchers have found a relationship between reduced perceived parental

support and higher rates of stress (Sy et al., 2011). The implication for the magnitude of the parental impact on academic success is exacerbated in first-generation student populations because their parents are likely unable to provide the support that they would be able to if they had experienced college.

In contrast, some researchers have contended that parental support has no impact on academic behaviors or outcomes. Sy et al. (2011) attributed these findings to methodology, as these studies have traditionally used only a general measure of parental involvement. In a study assessing the impact of different types of parental support on student stress, Sy et al. (2011) differentiated parental involvement by four distinct categories: (a) instrumental, (b) informational, (c) emotional, and (d) appraisal support. Sy et al. (2011) reported that emotional and informational support are lowest among parents of first-generation college students. While lower emotional support was a predicator for higher levels of stress for first-generation college students, it did not influence stress among continuing-generation students; informational support was not a significant predictor for stress in either group (Sy et al., 2011). Sy et al. (2011) emphasized that college and federal programs have often not aimed to involve parents in outreach attempts, which is flawed logic considering the impact that parental support can have on the college experience. These findings can potentially isolate areas of improvement for parents to consider when attempting to support their children academically.

Impact of gender differences. Efficacy beliefs remain a crucial aspect of academic success for both first- and continuing-generation college students. Similarly, academic self-efficacy is crucial to both male and female students pursuing higher

education; understanding how efficacy trends differ between male and female students has implications for future intervention methods incorporating the findings in order to best suit the demographic. Sachitra and Bandara (2017) summarized many of the inconsistent findings regarding these key gender differences, as some studies have found males have higher rates of efficacy, females have higher rates of efficacy, or no significant gender disparity. In an attempt to better explain these contradictory findings, researchers have attempted to identify the impact of content domain on self-efficacy rates. In one such study, Huang (2013) reported that males displayed higher self-efficacy in the domains of mathematics, computer science, and social science, while females displayed higher self-efficacy in the domain of language arts. When considering the impact of gender on overall educational outcomes, Sy et al. (2011) reported that despite the fact that first-generation college students are more likely to be female, female first-generation college students are less likely to graduate than their male peers of a similar generational status. These findings implicate gender differences as an understudied area of research when considering the impact of academic self-efficacy and generational status on academic outcomes.

In an attempt to better articulate gender differences, Chavez, Beltran, Guerrero, Enriquez, and Reyes (2014) differentiated parental support into different subscales within the academic field: (a) perceived self-efficacy, (b) desired self-efficacy, (c) reachable self-efficacy, (d) dissatisfaction or dissonance in self-efficacy, and (e) possibility for improving perceived self-efficacy. According to this study, women displayed higher perceived self-efficacy, desired self-efficacy, and reachable self-efficacy; women also displayed lower dissatisfaction in self-efficacy (Chavez et al., 2014). In contrast, men

only displayed a higher possibility for improving perceived self-efficacy score, implying that the confidence in the ability to improve is critical in academic outcomes given the higher rates of educational success for male students attending college. The contradictory results in studies on this subject indicate that there is a gap in the literature to ascertain the impact of gender on academic self-efficacy and the integration of the findings into gender-specific interventional methods.

Self-efficacy and stress. Stress is a common area of interest concerning the college student experience, including how it impacts and is impacted by efficacy beliefs. Zajacova et al. (2005) defined generalized stress as "a state of psychological arousal that results when external demands tax or exceed a person's adaptive abilities" (p. 879). While stress refers to an internal state affected by perceived emotional responses, stressors are the environmental demands that contribute to that state. Stressors can be an isolated incident or a chronic experience that happens over a length of time (Zajacova et al., 2005). Zajacova et al. (2005) elaborated that research continues regarding the implication of student stress responses because of the established relationship between higher perceived stress and poorer academic performance. Stress has also been implicated as a factor which negatively impacts student retention, specifically among first-year college students (Zajacova et al., 2005). Researchers have hypothesized that this is due to the impact of affective states, one of the key processes associated with self-efficacy (e.g., Bandura, 1993). The ability of students to respond to stress in a healthy manner, and in a way that does not negatively impact their academic resilience, is a key interest in the current field.

In addition to impacting academic outcomes, efficacy beliefs contribute to how well students are able to handle stressors and mitigate the possible health consequences of poor coping skills. Wiedenfeld et al. (1990) described the strong association between chronic stress and resulting physical and mental dysfunctions. Wiedenfeld et al. (1990) clarified the role of controllability in the student stress response and synthesized its relationship with perceived self-efficacy. The exposure to stressors in which the students felt they had control over resulted in no adverse health consequences, while the stressors the students felt they had no control over resulted in the activation of the neuroendocrine and opioid systems and the impairment of immune system functioning (Wiedenfeld et al., 1990). As previously established, self-efficacy relies on an individual's belief that they can exert control over their environment; when they are faced with stressors greater than their perceived control, those with low self-efficacy are more likely to experience the negative health outcomes of a compromised immune system. This distinction implies that self-efficacy is more significant to the health of college students than previously considered. The literature has established that self-efficacy can impact both physical and mental wellness among the student demographic (Bandura, 1993). Efforts to improve self-efficacy have the potential to further equip students to handle daily and chronic stressors for the ultimate benefit of their health, both mentally and physically.

Purpose

An assessment of the previous research in the field of self-efficacy throughout the domain of education indicates that there are many areas of improvement to consider for the promotion of positive academic outcomes. The background of social cognitive theory and the importance of human agency provides a necessary foundation for understanding

how promoting academic self-efficacy is paramount to the success of all students. However, my study aimed to focus on an important distinction in the field: first-generation college students remain at a disadvantage as compared to their peers because their background is less conducive to developing highly efficacious thinking. These students are often further challenged by socioeconomic conditions and racial or ethnic identity, further contributing to cycles of poverty and the perpetuation of stereotypical representations. The purpose of this thesis was to attempt to improve upon the oversights of previous interventional models by developing a brief intervention that promotes higher academic self-efficacy among first-generation college students and improves their academic outcomes.

Method

Participants

Participants were recruited from LDR 198: Concordia Commitment courses at Concordia University - Portland during the Fall of 2019. All students were told they were being asked to participate in a study that aims to analyze the relationship between academic self-efficacy levels and stress in first-year college students. The purpose of the study was clearly articulated and no deception was used. As this class is a requirement for all incoming first-year students, I was able to collect a representative sample of the freshman class. Individuals under the age of 18 and above the age of 22 were excluded from the study, in order to best generalize the conclusions of this study to traditional college-age students elsewhere. There has been a lack of previous studies assessing the relationship between these constructs, but this study is comparable to a similar meta-analytic study by Multon et al. (1991), in which they examined the relationship between

self-efficacy and academic performance. Given that Multon et al. (1991) reported an effect size of $r = .38$, my target sample size for data collection was 39 participants (MANOVA, $\alpha = .05$, $\beta = .80$).

Materials and Procedure

Through coordination with Concordia University - Portland's Director of First-Year Programming, I gathered baseline data from all nine LDR 198 class sections during Week 2 of the Fall 2019 semester. All of the instructors for the various class sections were given a script (Appendix A) for introducing the study and a link to provide to their students. This allowed the administration of the study without personally contacting any of the participants, thus mitigating possible researcher bias. As the population at Concordia is relatively small, any of the participants' familiarity with me as the Principal Investigator could influence their answers to the survey. Once the students consented to participate (Appendix B), they visited the link to an online survey through the Qualtrics platform, which automatically assigned each participant to either the control or experimental condition at random. This randomization assisted in controlling for instructor effects, mitigating demographic differences between participants, and ensuring that there was an equal number of participants in each condition. Every participant was asked to provide their student identification number (G-Number) in order to match their pre- and post-test responses. They were not asked to provide their name or any other personally identifying information. Participants completed demographic information to be included as factors for consideration in data analysis, such as gender and generational status (Appendix C).

All of the participants were directed to the *Beliefs in Educational Success Test* (BEST; Majer, 2009b; Appendix D) to measure academic self-efficacy and the *University Stress Scale* (USS; Stallman, 2008; Appendix E) to measure their stress in the domain of education. After the participants completed both surveys, the participants randomly assigned to the experimental condition were directed to a concise, written vignette detailing the success of a first-generation college student (Appendix G). This intervention was created using the verbal persuasion and vicarious experience elements of Bandura's sources for self-efficacy (Atanasov, Dudnytska, Estes, & Marsh, 2013; Ramos-Sánchez & Nichols, 2007). As a manipulation check, subsequent to the intervention, participants were given a short true-false assessment to ensure that they read the intervention. Participants in the control condition were directed to a similar length narrative that was likely to have no impact on self-efficacy (Appendix H).

During Week 4 of the Fall 2019 semester, the nine instructors provided their class with another link to a survey on the Qualtrics platform in order to re-administer the BEST and USS to the participants of both the experimental and control groups. Each participant was asked to provide their G-Number again in order to match their pre- and post-test scores. Once the scores were matched, all of the participants were assigned an identifiable code and all records of their G-Numbers were permanently removed in order to mitigate the risk of maintaining personally identifying information in the dataset.

Instrumentation

The measures used in this study were the *Beliefs in Educational Success Test* (BEST; Majer, 2009b) and the *University Stress Scale* (USS; Stallman, 2008). The psychometric properties of instrumentation can be assessed using a variety of different

measurements. Cronbach's α provides a measure of internal consistency reliability, and a Cronbach's α value greater than .70 is considered an indicator for internal consistency of any instrument. Another important aspect to consider is test-retest reliability, which also uses a correlation coefficient (represented by *r*) value of greater than .70 as a criterion for reliability.

Beliefs in educational success test. The BEST features ten hypothetical situations in which participants rate their belief in their ability to succeed in those scenarios on a scale of 1 to 100; the average of those ten items is considered their academic self-efficacy score (Appendix D). This instrumentation was created based on Bandura's (1997) research regarding cognitive-behavioral self-efficacy theory; higher scores indicate greater levels of confidence in the participant's ability to succeed academically (Majer, 2009b). Majer (2009a) reported the psychometric properties for the BEST and emphasized that it demonstrated strong internal consistency in all three pilot samples, with Cronbach's α ranging from .83 to .91 in the college student demographic. Additionally, Majer (2009a) applied a correlational analysis to reveal the significant relationship between BEST scores at two different time intervals; the findings ($r = .68$, $p < .001$) indicated a moderate test-retest reliability.

University stress scale. The USS instrumentation was used to assess the relationship between academic self-efficacy and the stress students are perceiving in their educational domain. Participants were directed to complete this 21-item measurement using a 4-point Likert scale which indicated responses ranging from *not at all* (a value of 0) to *constantly* (a value of 4); students were instructed to score any items that do not apply to them as *not at all* (Stallman, 2008; Appendix E). Each of the items were

designed to assess the stress associated with a particular environmental stressor for the student (Stallman, 2008). The measurement provides two different scores, a problem score (the number of items the participant rated greater than 0, ranging from 0 to 22) and an extent score (the sum of all the value for all items, ranging from 0 to 66). Stallman (2008) noted that an extent score greater than 13 is predictive of significant psychological distress. Regarding the reliability of the USS, Stallman and Hurst (2016) reported that the Cronbach's α value for the USS demonstrated internal consistency at $\alpha = .83$. Additionally, Stallman and Hurst (2016) applied a correlational analysis of USS scores at two different time intervals and reported a good test-retest reliability ($r = .82$, $p < .001$).

Data Management

Any data gathered from non-traditional students under the age of 18 or over the age of 22 were excluded to focus on and draw conclusions about the traditional first-year college experience. Including both the pre- and post-testing, five participants were excluded given these exclusion criteria. Additionally, systematically incomplete response sets were removed from data calculation. However, due to the methods of calculation for the measurement scores, both BEST and USS scale score can be calculated given blank items or incomplete responses. To calculate academic self-efficacy despite missing responses, the total of all item responses were added and divided by the total number of completed items. For example, if a participant only completed eight of the BEST items, the value of those eight items were added and divided by eight, providing an academic self-efficacy score. For the USS, blank items were calculated as a value of 0, meaning that they were not factored into the overall USS score. However, all completed items

were still added and resulted in a minimum USS score, which could have been higher given complete responses but still represented a valid measurement of stress.

Statistical Strategy

The participants' pre- and post-test responses for both instruments were recorded and assessed. I used descriptive statistics in order to evaluate whether the collected data met the assumptions for parametric testing. This data allowed for the determination of variables to utilize as covariates in further analysis. Additionally, I used a Multivariate Analysis of Variance (MANOVA) in order to analyze the impact of the covariates across gender, generational status, and condition experienced. For the purpose of this study, the pre-test also acted as a covariate, while the post-test acted as the dependent variable to measure change amongst the participants.

Results

Upon collecting pre- and post-test data as planned, there were not enough matched participants in either condition to calculate the relative effect of my written intervention in increasing levels of academic self-efficacy. This is due to both unexpectedly low pre- and post-test data collection, and an extremely low number of matched scores ($n = 3$) between the data collected in Week 2 and the data collected in Week 4. In order to salvage the data collection and address two of the three hypotheses planned a priori, I aggregated the control and experimental groups. As the initial intervention during Week 2 was administered following the completion of demographic information and two instruments (the BEST and USS), those scores still provided valuable baseline measurements in both academic self-efficacy and perceived stress within the educational domain. In order to best compare scores between unmatched

participants, only the first assessment of the three participants who completed the survey in Week 2 and Week 4 were included in data calculation.

Of the total 56 participants in this combined dataset, 91.1% were age 18 (n = 51) and 8.9% were age 19 (n = 5). This aligns with expectations of traditionally aged first-year college students. The gender distribution was 75% female (n = 42) and 25% male (n = 14), which is largely representative of the gender distribution at Concordia University. Of the combined dataset, 57.1% described themselves as Non-Hispanic White/Majority Group (n = 32) and 41.1% described themselves as a part of a Minority Group (n = 23). The categories included in this group were American Indian or Native Alaskan, Hawaiian or other Pacific Islander, Asian or Asian American, Black or African American, and Hispanic or Latino. One participant declined to report their race or ethnicity. The dataset was comprised of 39.3% first-generation college students (n = 22) and 60.7% continuing-generation college students (n = 34). This is largely representative of the Concordia University - Portland demographic, as the majority of students identify as continuing-generation college students.

Updated Statistical Strategy

After excluding responses based on the eligibility criteria (n = 5) and repeat participants (n = 3), the data collected from participants at Week 2 (n = 37) and Week 4 (n = 19) were recorded and combined into one larger sample and differentiated as a variable (*Week 2* = Time 1, *Week 4* = Time 2). In order to test my primary hypotheses, I conducted an independent samples t-test in order to assess relationships between generational status on BEST scores, or their academic self-efficacy. Additionally, for testing my second hypothesis, I conducted a correlational analysis to explore the

relationship between all participants' BEST and USS scores. Furthermore, I conducted several other independent samples t-tests in order to assess the impact of different demographic variables on both BEST and USS scores. The subgroup demographics I assessed among the combined sample included gender, race/ethnicity, generational status, and time interval. The Statistical Package for the Social Sciences (SPSS; IBM Corporation, 2019) software was used for maintaining the dataset and performing all statistical analyses.

Tests of Assumptions

All statistical analyses used in this research were two-tailed, meaning that a *p* value of less than .05 indicated significance. Additionally, effect size, as estimated by Cohen's *d*, was used to assess the magnitude of differences between groups, not just the possibility that the differences could have occurred by chance.[3]

Hypothesis 1. In order to test H_1, an independent-samples t-test was conducted to compare BEST scores between students with differing generational status. There was no significant difference in scores for first-generation college students ($M = 76.19$, $SD = 14.03$) and continuing-generation college students ($M = 76.97$, $SD = 13.00$; $t(54) = -.211$, $p = .83$). Similarly, the effect size (mean difference = -.77, *95% CI:* -8.13 to 6.58) was very small (eta squared = .001). In addition to the calculations related to my initial hypothesis, another independent-samples t-test was conducted to compare BEST scores between male and female participants. There was no significant difference in scores for male students ($M = 75.94$, $SD = 14.37$) and female students ($M = 76.90$, $SD = 13.09$; *t*

[3] As an alternate means of calculating effect size using output data from an independent-samples t-test, *eta squared* guidelines for interpreting these values dictate that .01 and greater indicates a small effect, .06 and greater indicates a moderate effect, and .14 and greater indicates a large effect.

(54) = -.23, *p* = .82). The effect size (mean difference = -.97, *95% CI:* -9.26 to 7.33) was very small (eta squared = .001).

Another independent-samples t-test was conducted to compare BEST scores between participants who identify as Non-Hispanic White/Majority Group and those who identified as one of the race or ethnicities represented in the Minority Group. There was no significant difference in scores for Majority Group students (*M* = 78.38, *SD* = 12.71) and Minority Group students (*M* = 74.02, *SD* = 14.18; *t* (53) = 1.20, *p* = .24). Similarly, the effect size (mean difference = 4.37, *95% CI*: -2.94 to 11.68) was small (eta squared = .026). A final independent-samples t-test was conducted to compare BEST scores between Time 1 and Time 2 participants. There was no significant difference in scores for participants who completed the measures at the Time 1 interval (*M* = 76.61, *SD* = 13.86) and participants who completed the measures at the Time 2 interval (*M* = 76.76, *SD* = 12.47; *t* (54) = -.041, *p* = .97). The effect size (mean difference = -.16, *95% CI*: -7.75 to 7.44) was very small (eta squared = .001). Overall, the t-test comparing BEST scores and race/ethnicity had the highest effect size of the variables assessed, but none of the statistical analyses in concerning the impact of variables on BEST scores yielded significant findings.

Hypothesis 2. A correlational analysis was conducted in order to explore the relationship between participant scores on the BEST and the USS. As a part of the preliminary analysis, I used the SPSS software to generate a scatterplot illustrating the relationship between BEST and USS scores in the combined dataset.

Figure 1. University Stress Scale and Academic Self-Efficacy score: Combined dataset

A correlational analysis of BEST and USS scores within the combined dataset revealed a correlational co-efficient of r = -.159.[4] The negative value indicates that as scores on the BEST increase, scores on the USS decrease. However, the strength of the value indicates that there is only a small correlation between these two variables. Additionally, this correlation was not statistically significant (p = .24).

Secondary Analyses

In addition to the BEST measurement, participants also completed the USS in order to measure their stress in domains related to their educational experience. An independent-samples t-test was conducted to compare USS scores between male and

[4] A correlational co-efficient, referred to as r, ranges from -1 to 1 indicating the strength of the relationship, while a correlation of 0 indicates no relationship. Whether it is positive or negative determines the direction. In order to interpret the strength of values between 0 and +1/-1, Cohen (1988) suggested the following guidelines: a small correlation (r = .10-.29), a medium correlation (r = .30-.49), and a large correlation (r = .50-1.0).

female participants. There was a statistically significant difference in scores between male students (*M* = 14.50, *SD* = 9.04) and female students (*M* = 20.48, *SD* = 8.05; *t* (54) = -2.33, *p* = .023). The mean scores for female participants on the USS were significantly higher than male participants. The effect size (mean difference = -5.98, *95% CI:* -11.11 to -.84) was moderate (eta squared = .091). Another independent-samples t-test was conducted to compare USS scores between participants who identify as Non-Hispanic White/Majority Group and those who identified as one of the race or ethnicities represented in the Minority Group. There was also a significant difference in scores between Majority Group students (*M* = 16.91, *SD* = 8.52) and Minority Group students (*M* = 21.57, *SD* = 8.26; *t* (54) = -2.03, *p* = .05). The effect size for this variable (mean difference = 4.66, *95% CI*: -9.27 to -.05) was also moderate (eta squared = 0.072). These findings indicate that the mean USS scores tend to be higher for students who identified themselves as a part of the Minority Group than those who identified themselves as a part of the Majority Group.

Additionally, an independent-samples t-test was conducted to compare USS scores between Time 1 and Time 2 participants. There was no significant difference in scores for participants who completed the measures at the Time 1 interval (*M* = 19.84, *SD* = 8.51) and participants who completed the measures at the Time 2 interval (*M* = 17.32, *SD* = 8.832; *t* (54) = 1.04, *p* = .30). The effect size for this variable (mean difference = 2.52, *95% CI*: -2.36 to 7.40) was small (eta squared = .019). One final independent-samples t-test was conducted to compare USS scores between students with differing generational status. The results indicated that there was no significant difference in scores for first-generation students (*M* = 20.95, *SD* = 9.8) and their continuing-generation

peers (*M* = 17.71, *SD* = 7.65; *t* (54) = 1.39, *p* = .17). The effect size (mean difference = 3.25, *95% CI:* -1.44 to 7.94) was small (eta squared = .034). While these four statistical tests are not directly related to the testing of my initial hypotheses, the secondary analyses provided useful data regarding differences between groups within the combined dataset.

Discussion

After exploring demographic differences between the sample obtained from Concordia University - Portland and the literature, it is clear that there are both similarities and differences between this dataset and general trends in the literature. While the expected differences in academic self-efficacy based on generational status did not appear in the Concordia University - Portland dataset, noted demographic differences in stress scores allowed for some conclusions to be drawn regarding the student population specifically in regard to levels of perceived stress in the academic domain.

Hypothesis Testing Summary

My first hypothesis was that the baseline academic self-efficacy rates will be lowest amongst first-generation college students, as previous research suggests. This hypothesis was assessed using the results from the independent-samples t-test that compared the impact of generational status on BEST scores in the combined dataset. The mean BEST scores between first-generation and continuing-generation participants did not vary enough to produce a significant difference (*p* = .83), which indicates that I cannot reject the null hypothesis. This differs greatly from the literature addressing gaps in academic self-efficacy (e.g., Majer, 2009a; Phinney & Haas, 2003; Stephens et al., 2014). However, this could be explained by the small sample size and the population that was assessed. Stephens et al. (2014) emphasized that many key differences between

first-generation students and their peers often become most apparent later in their educational career, such as resume-building skills and the ability to find an internship in their desired field. By assessing students who have just begun college, any differences due to generational status may not be detectable as they have not had to exercise relevant efficacious thinking in their educational career yet.

My second hypothesis was that students who display higher rates of academic self-efficacy will also display lower rates of academic stress. I assessed the results of this hypothesis using a correlational analysis between participants' BEST and USS scores. While the correlational co-efficient indicated a small negative correlation (r = -.159), the results were not statistically significant (p = .24). Therefore, I cannot rule out the null hypothesis because there was no significant correlation between participants' BEST and USS scores. Due to the role that efficacy beliefs play in the perception of stressors, a stronger correlation between these two measures would be more aligned with current body of knowledge regarding student stress responses (Wiedenfeld et al.. 1990). However, these findings are limited by a small sample size and a targeted sample population. Further research should attempt to ascertain the relationship between these two important constructs (academic self-efficacy and perceived stress) across all ages and class standings in a college setting. As addressed previously, academic self-efficacy scores can diverge given enough experience in college (Stephens et al., 2014). Understanding how the relationship between efficacious thinking and stress fluctuates across participants' college careers, from a categorical perspective, allows for the design and implementation of support programming to target problem domains.

My third hypothesis was that first-generation college students who receive the intervention will display a higher academic self-efficacy score during the post-test as compared to their baseline scores. Due to the issues with data collection, I was unable to assess the success of my written intervention. Therefore, I was unable to test this hypothesis. Due to the nature of my collected data being from the same sample (students enrolled in LDR 198) over two intervals, I modified and tested a third hypothesis (Modified H_3): Initial exposure to LDR coursework (inclusive of the opportunity to take BEST and USS measures) increases academic self-efficacy between Time 1 and Time 2.

The Concordia University - Portland's online course catalog describes LDR 198 as "designed to help new students navigate the transition to a 4-year university and much more! Students will discover tips for academic success, consider the importance of involvement in the learning process, explore interests, skills, personality, talents, intelligence type and personal values, and evaluate and solidify degree and career direction." It is reasonable to conclude that the subject matter for this class aligns with concepts of academic self-efficacy and works to promote efficacious thinking and positive academic outcomes. My modified third hypothesis tested the effect of the first several weeks of LDR coursework in increasing academic self-efficacy using an independent-samples t-test that compared the impact of time as variable on BEST scores. The findings indicated that there was not a significant difference in means between LDR students tested at the Time 1 interval and LDR students tested at the Time 2 interval. Therefore, I cannot rule out the null hypothesis. The LDR 198 class had no detectable impact on students' academic self-efficacy rates. However, a limitation of this analysis is

my small sample size and my lack of matched pairs in order to directly compare scores of individuals in the LDR 198 class setting over time.

Limitations

While LDR 198 was ideal for sampling incoming Freshman students, my findings were limited due to the low number of responses and the lack of sufficient matched participants. While my methodology was designed to limit the possibility of researcher bias, I believe that these classes were not inclined to participate in my survey because I was not there to advocate for its importance. In the future, I would recommend that any researchers using LDR 198 classes as a sample visit each classroom in person to introduce the study. If that it is not possible, I would recommend that the researcher maintain direct communication with each of the LDR instructors in order to train them and emphasize the importance of data collection. Only being in communication with one person and allowing them to pass along information to each of the LDR instructors did not achieve the number of participants I would have needed to test the success of my intervention. In addition, the combined dataset does not provide a representative sample of the Concordia University - Portland student body due to the exclusion of sophomore, junior, and senior participants. This makes my findings difficult to generalize to the entire student body, in addition to different settings or universities. More diverse sampling methods and a higher percentage of follow-up participants would increase the validity of this research.

Implications and Recommendations

Despite the lack of significant data supporting any of my hypotheses, there were several interesting findings from my secondary analyses. An independent-samples t-test

assessing the impact of gender on USS scores revealed that female students report significantly higher scores on the USS measure than their male peers (p = .023). The effect size for these findings was moderate (eta squared = .091), meaning that it is unlikely this disparity occurred by chance. Yet, given that females compromised 75% of the dataset, these findings could be attributed to a lack of sufficient male participants. However, the gender demographics represented in my research reflect the larger Concordia University population, so it is important to recognize these disparities and question why female students are reporting such significantly higher levels of stress than their male counterparts. In a related finding, an additional independent-samples t-test assessing the impact of race/ethnicity on USS scores revealed that students who identified as part of the Minority Group report significantly higher scores on the USS than those who identified as a part of the Majority Group/Non-Hispanic White (p = .05). While the means between groups for this demographic did not differ as significantly compared to gender differences, the effect size was still moderate (eta squared = .072). These findings emphasized that female students and students from minority groups are reporting higher than average USS scores across a wider range of domains than male participants or students who identify as Non-Hispanic White.

These disparities provide valuable insight into the student populations that are struggling the most from academic pressure and associated stressors. Given that USS extent scores higher than 13 are predictive of significant psychological stress (Stallman, 2008), understanding and responding to these disparities is important to both increasing retention and promoting mental and physical well-being for all students (Zajacova et al., 2005). While the average for male participants (M = 14.50) was slightly above the

predictive value, the average for female participants (*M* = 20.28) was significantly higher and indicative of more psychological distress. Similarly, the average for Majority Group participants (*M* = 16.91) was significantly lower than Minority Group participants (*M* = 21.57), though they both met the minimum extent score indicating psychological stress. This research can provide a foundation for better understanding student needs and creating programming that addresses the underlying reasons for these differences, for the whole student body and the identified groups of interest.

In order to expand upon these particular findings in future research, I would recommend surveying students across all class levels using both the BEST and USS. This would allow researchers to ascertain whether a later divergence of academic self-efficacy impacts these differences in stress over time, as predicted by trends within the literature (Wiedenfeld et al., 1990). Measuring the interactions between these two scores over time would help researchers assess whether investing in an academic self-efficacy intervention would be beneficial for these groups (e.g., female participants, minority group participants) in terms of lowering their perceived stress. Additionally, I would recommend conducting qualitative research in addition to these measures to help better articulate how these differences are contributing to greater levels of stress and identify other contributing variables that were not assessed in my study, such as economic status or specific aspects of the student experience. In order to bridge achievement gaps for both gender and racial/ethnic minorities, it is important to address all aspects of their experience and respond accordingly in order promote greater social equality in the domain of academics.

Future Research Applications

As I mentioned previously, there were no statistically significant differences in academic self-efficacy between students of varying generational statuses in this combined sample. However, Stephens et al. (2014) reaffirmed that these differences might not be as apparent so early into their first year of college, due to the increasing expectations throughout the college experience. If differences tend to become more noticeable over time, colleges like Concordia University - Portland may want to track changes in students' academic self-efficacy throughout their time at the university in order to identify first-generation students who are not developing efficacious thinking with time, as Bandura's (1989) research on mastery experiences indicated. Tracking if and when any divergence in academic self-efficacy scores occur can provide insight into which year and experiences most strongly impact this important cognitive resource over time. This information can be vital to the development of resources and support programming for demographics of students who are not displaying increases in self-efficacy over time, in order to level their experience with their peers and promote their academic success.

In additional to some of the recommendations I have provided, there are other directions that future researchers can focus on in order to best utilize findings within this domain. Given that the USS provided the most meaningful insight into between-group differences in this first-year student sample, I would recommend using this measure in future studies to isolate differences. While my research was focused on the impact of self-efficacy and demographic categories on the amount of stress perceived in the academic domain, future research can sample and use further analyses to assess how different groups rate the categories of the USS differently. It could be beneficial to

consider which categories (e.g., Academic/Coursework Demands (category 1), Procrastination (category 2), University/College Environment (category 3), etc.) cause the most stress to different groups of participants. Universities can apply this information directly to improve the experiences of particular students. For example, if a university found that students who identify as commuters report higher rates of stress in Childcare (category 10), it would be beneficial to consider implementing discounted childcare or have community resources available for students struggling with childcare in order to mitigate differences in perceived stress. This directed approach could have a positive impact on the retention rates of students in these vulnerable groups and the promotion of better academic outcomes.

Conclusion

Ultimately, I was not able to isolate and measure the impact of my written intervention in increasing levels of academic self-efficacy. However, the combined dataset allowed me to test my two primary hypotheses, while also exploring a modified secondary hypothesis. These findings did not yield results that were statistically significant. Additionally, through my secondary analyses, I was able to identify important areas of interest within the Concordia University - Portland sample. These differences implicate both gender and race/ethnicity as topics of interest that impact the stress experience of students. Using these findings, I was able to address the limitations of my data and make recommendations regarding future research applications.

References

Atanosov, K. G., Dudnytska, N., Estes, T., & Marsh, J. (2013). Intervention strategies promoting academic self-efficacy in prospective first-generation college students: A literature review. *The William & Mary Educational Review, 1*(1), 24-34. Retrieved from https://scholarworks.wm.edu/wmer/vol1/iss1/7/

Bandura, A., Barbaranelli, C., Caparar, G. V., & Pastorelli, C. (1996). Multifaceted impact of self-efficacy beliefs on academic functioning. *Child Development, 67*(3), 1206-1222. doi:10.2307/1131888

Bandura, A. (1989). Human agency in social cognitive theory. *American Psychologist, 44*(9), 1175-1184. doi:10.1037/0003-066X.44.9.1175

Bandura, A. (1993). Perceived self-efficacy in cognitive development and functioning. *Educational Psychologist, 28*(2), 117-148. doi:10.1207/s15326985ep2802_3

Bandura, A. (1997). Self-efficacy: The exercise of control. New York, NY: W.H. Freeman and Company.

Chavez, J. F. A., Beltran, F. M., Guerrero, A. C., Enriquez, M. C. Z., & Reyes, J. J. (2014). A gender study on college students' academic self-efficacy. *Science Journal of Education, 2*(6), 180-184. doi:10.11648/j.sjedu.20140206.12

Concordia University - Portland. (2019, September 27). *Course schedule: LDR 198 Concordia commitment*. Retrieved from https://www.cu-portland.edu/academics/registrar/course-schedule

Huang, C. (2013). Gender differences in academic self-efficacy: A meta-analysis. *European Journal of Psychology of Education, 28*(1), 1-35. doi:10.1007/s10212-011-0097-y

Jenkins, S. R., Belanger, A., Connally, M. L., Boals, A., & Durón, K. M. (2013). First-generation undergraduate students' social support, depression, and life satisfaction. *Journal of College Counseling*, *16*(2), 129–142. doi:10.1002/j.2161-1882.2013.00032.x

Majer, J. M. (2009). Self-efficacy and academic success among ethnically diverse first-generation community college students. *Journal of Diversity in Higher Education*, *2*(4), 243. doi:10.1037/a0017852

Majer, J. M. (2009). *Beliefs in Educational Success Test*. Chicago, Illinois: Richard J. Daley College.

Mena, F. J., Padilla, A. M., & Maldonado, M. (1987). Acculturative stress and specific coping strategies among immigrant and later generation college students. *Hispanic Journal of Behavioral Sciences*, *9*(2), 207–225. doi:10.1177/07399863870092006

Multon, K. D., Brown, S. D., & Lent, R. W. (1991). Relation of self-efficacy beliefs to academic outcomes: A meta-analytic investigation. *Journal of Counseling Psychology*, *38*(1), 30-38. doi:10.1037/0022-0167.38.1.30

Pascarella, E. T., Pierson, C. T., Wolniak, G. C., & Terenzini, P. T. (2004). First-generation college students: Additional evidence on college experiences and outcomes. *The Journal of Higher Education*, *75*(3), 249–284. doi:10.1080/00221546.2004.11772256

Phinney, J. S., & Haas, K. (2003). The process of coping among ethnic minority first-generation college freshmen: A narrative approach. *The Journal of Social Psychology*, *143*(6), 707–726. doi:10.1080/00224540309600426

Pike, G. R., & Kuh, G. D. (2005). First-and second-generation college students: A comparison of their engagement and intellectual development. *The Journal of Higher Education*, *76*(3), 276–300. doi:10.1080/00221546.2005.11772283

Ramos-Sánchez, L., & Nichols, L. (2007). Self-efficacy of first-generation and non-first-generation college students: The relationship with academic performance and college adjustment. *Journal of College Counseling*, *10*(1), 6–18. doi:10.1002/j.2161-1882.2007.tb00002.x

Sachitra, V., & Bandara, U. (2017). Measuring the academic self-efficacy of undergraduates: The role of gender and academic year experience. *International Journal of Educational and Pedagogical Sciences*, *11*(11), 2608-2613. Retrieved from https://waset.org/publications/10008065/

Stallman, H. M., & Hurst, C. P. (2016). The University Stress Scale: Measuring domains and extent of stress in university students. *Australian Psychologist*, *51*(2), 128-134. doi:10.1111/ap.12127

Stallman, H. M. (2008). *University Stress Scale*. Brisbane: Queensland University of Technology

Stephens, N. M., Hamedani, M. G., & Destin, M. (2014). Closing the social-class achievement gap: A difference-education intervention improves first-generation students' academic performance and all students' college transition. *Psychological Science*, *25*(4), 943–953. doi:10.1177/0956797613518349

Sy, S. R., Fong, K., Carter, R., Boehme, J., & Alpert, A. (2011). Parent support and stress among first-generation and continuing-generation female students during the

transition to college. *Journal of College Student Retention: Research, Theory & Practice*, *13*(3), 383–398. doi:10.2190/CS.13.3.g

Terenzini, P. T., Springer, L., Yaeger, P. M., Pascarella, E. T., & Nora, A. (1996). First-generation college students: Characteristics, experiences, and cognitive development. *Research in Higher Education*, *37*(1), 1–22. doi:10.1007/BF01680039

Wiedenfeld, S. A., O'Leary, A., Bandura, A., Brown, S., Levine, S., & Raska, K. (1990). Impact of perceived self-efficacy in coping with stressors on components of the immune system. *Journal of Personality and Social Psychology*, *59*(5), 1082-1094. doi:10.1037/0022-3514.59.5.1082

Zajacova, A., Lynch, S. M., & Espenshade, T. J. (2005). Self-efficacy, stress, and academic success in college. *Research in Higher Education*, *46*(6), 677-703. doi:10.1007/s11162-004-4139-z

Zimmerman, B. J., Bandura, A., & Martinez-Pons, M. (1992). Self-motivation for academic attainment: The role of self-efficacy beliefs and personal goal-setting. *American Educational Research Journal*, *29*, 663-676. doi:10.3102/00028312029003663

Appendix A

LDR Instructor Scripts

Week Two Script

Hello LDR 198 students! You are being asked to participate in research for an undergraduate thesis in Psychology. The research question centers on analyzing the relationship between academic self-efficacy levels and stress among first-generation college students. The student is asking all participants to please visit the link to the survey in order to be a part of the study.

Using your own devices, you can either visit http://bit.ly/LDR198Survey

or

Scan the QR Code projected on the board to bring you directly to the survey.

We urge you to support and participate in the survey. Thank you!

*** Professors: You can project the link and QR code to the class using the following link.

Week Four Script

Hello LDR 198 students! If you recall, you were asked during Week Two to participate in research for an undergraduate thesis in Psychology. The student is asking all LDR 198 students to revisit the survey in order to provide important post-test information. This version is shorter than the previous and will take up to 5 minutes of your time.

Using your devices, you can either visit bit.ly/LDRSurvey2.

or

Scan the QR Code projected on the board (by using the camera on your phone) to bring you directly to the survey.

It is so important for all of you to support and participate in the survey, especially if you provided a response during the pre-test. Thank you!

*** Professors: You can project the link and QR code to the class using the following link.

Appendix B

Consent for Anonymous Survey

The purpose of this study is to examine the relationship between academic self-efficacy and perceived stress among first-year college students. We expect approximately 75 volunteers. No one will be paid to be in the study. We will begin enrollment on August 27th and end enrollment on September 12th. To be in the study, you complete this online survey. This will ask you questions relating to your belief in your ability to succeed academically and your stressors. Completing the survey should take less than 20 minutes of your time.

There are no risks to participating in this study other than the everyday risk of your being on your computer as you take this survey. The benefit is your answers will help us understand the relationship between academic self-efficacy and perceived stress. You could benefit by reflecting upon your own sense of academic achievement and its impact on your stress response.

All data is collected anonymously. If you were to write something that made it to where we predict that someone could possibly deduce your identity, we would not include this information in any publication or report. You will be asked to provide your student ID number (G-Number), but that information will not be maintained following the conclusion of data analysis. And data you provide would be held privately, and all data will be destroyed three years after the study ends.

You can stop answering the questions in this online survey if you want to stop.
Please print a copy of this for your records. If you have questions you can talk to or write the principal investigator, Sydney Quintana at sydneyquintana@gmail.com. If you want to talk with a participant advocate other than the investigator, you can write or call the director of our institutional review board, Dr. OraLee Branch (email obranch@cu-portland.edu or call 503-493-6390).

Click the button below to consent to take this survey.

Appendix C

Survey Demographic Questions

Student ID (G-Number): _____

Age: _____

Select the choice(s) that best describe you:

American Indian or Alaska Native
Hawaiian or Other Pacific Islander
Asian or Asian American
Black or African American
Hispanic or Latino
Non-Hispanic White
Prefer not to answer

Gender (Select One): Male
Female
Other:
Prefer not to answer

Are you a commuter (living off-campus) or a resident (living on-campus) student?

Commuter
Resident

Would you describe yourself as a first-generation college student? (defined as not having had a parent or guardian receive a college degree)

I am a first-generation college student.
I am NOT a first-generation college student.

Appendix D

Beliefs in Educational Success Test

The following questions will ask you to rate <u>your belief in your ability to succeed</u> in your education. Respond to each question using a 1 – 100 scale:

1-------10-------20-------30-------40-------50-------60-------70-------80-------90-------100

Not at all Confident Most Confident

How confident are you…

_____ 1. …that you will do well in future courses?

_____ 2. …in your ability to learn new information?

_____ 3. …in completing your homework assignments?

_____ 4. …in understanding reading assignments?

_____ 5. …in your ability to study notes?

_____ 6. …that you will pass your course(s)?

_____ 7. …that you will complete all required coursework for your degree/program?

_____ 8. …in your ability to work with others on class projects?

_____ 9. …to seek your professors' help during office hours?

____10. …that you are in control of your education?

Appendix E

University Stress Scale

How often have each of the following caused you stress over the past month? If any are not applicable to you, tick *Not at all.*

	Not at all 0	Sometimes 1	Frequently 2	Constantly 3
1. Academic/coursework demands				
2. Procrastination				
3. University/college environment				
4. Finances and money problems				
5. Housing/accommodation				
6. Transport				
7. Mental health problems				
8. Physical health problems				
9. Parenting issues				
10. Childcare				
11. Family relationships				
12. Friendships				
13. Romantic relationships				
14. Relationship break-down				
15. Work				
16. Parental expectations				
17. Study/life balance				
18. Discrimination				
19. Sexual orientation issues				
20. Language/cultural issues				
21. Other demands				

Appendix F

Experimental Condition Vignette

Please read the following blog post from Charles Martinez and prepare for a short reading check.

November 8, 2018 | National First-Generation College Student Day | Houston Chronicles

Charles Martinez is the dean-designate of the College of Education at The University of Texas at Austin. He currently serves as the Philip H. Knight Professor in the Department of Educational Methodology, Policy, and Leadership at the University of Oregon.

"I was born and raised in Southern California and identify as third-generation Mexican-American. My story is less about life's challenges and more about how key people played a role in my becoming a first-generation college student, which helped pave the way to a successful career.

My parents divorced when I was young. My sisters and I lived with our mother, but our lives were unstable. We had little money, though my father worked multiple jobs and did all that he could to provide for us. At some point, my mother was no longer able to care for us, and we found ourselves moving from place to place, living with different extended family members.

From second to fourth grade, I attended many schools. There was never time to make friends, establish routines or start focusing on schoolwork before we had to move again. All this time, my father was working to find a place where we could live with him. He finally met a friend who would make this possible and change our lives forever.

"Nino," as he would come to be known by all the children in our family, had just moved to Southern California from Minnesota and was an elementary school teacher. He met my father at a social gathering and was looking for a roommate. They quickly became friends and decided to put their money together and rent a small place. Eventually, they were able to buy a house together.

Nino somehow didn't mind that his new roommate had children. In fact, he helped provide the stability we needed. When my dad was working long hours late into the night, Nino always made sure we were fed and got to bed on time.

He was passionate about education and quickly realized that we were lagging far behind our peers academically because of the many disruptions and challenges. For years, each summer Nino prepared an ad hoc summer school program for us at home — instruction in spelling, math, reading, homework assignments and tests were all part of the routine.

Going to college

Though I excelled with Nino's help, no one in school ever talked to me seriously about going to college. I didn't know anyone with my background who had graduated from college. It was at home where I learned that going to college was possible. Nino taught me the skills I needed to apply and succeed in college, and my father instilled the belief and self-confidence that I could do it.

I eventually attended Pitzer College, a private liberal arts college in Claremont, California, and earned an undergraduate degree in psychology. There were few people like me at Pitzer at that time. I knew few students of color, few first-generation students and few who received financial aid and worked full-time while attending school.

I was a serious and driven student — always studying, sitting in the front row of my classes and doing extra work. I worked excessively hard, in part, because I deeply understood how precious the opportunity was for me, and I was paying for it.

I gravitated toward other nontraditional students, often students who were older than I and who were working to pay for college, too. I was ultimately able to graduate in four years, with honors.

Lessons learned

My father didn't have the lived experience to help guide me through the college years, but he did teach me confidence and instilled in me the belief that I could do anything if I put my mind to it. This acted as a buffer against the creeping self-doubt I experienced about whether I really deserved to be in college. He also taught me the values of working hard and advocating for myself.

As a first-generation student, I often felt everyone else had knowledge about how things worked that I didn't have. Advocating for myself meant asking for help and pressing for access to this insider knowledge.

Though my father couldn't relate to my success in college or to my career, he has always expressed being proud of me. I remember talking to him the first time I had a scientific paper published in a prestigious journal. I said, "Dad, I just got this paper published!"

My dad said, "Mijo, I'm proud of you."

I said, "But, Dad, you don't understand. This is a big deal."

He simply said, "Good for you."

To me, he didn't seem to understand just how important these things were to me. I thought that maybe it was simply because he had no direct way from his experience to

appreciate what these achievements meant to me. I finally asked him about it and shared my sadness that he wasn't fully celebrating with me.

What he said next surprised me: "I am very proud of you and your achievements. But, while those things may be important to some, the successes that matter most to me are about the person you are. That you haven't forgotten where you have come from. That you're a good husband and father and a loving son."

My advice

If you are a first-generation student, I say you are not attending college by accident. You are not an exception to a rule. You have earned this opportunity through your hard work.

Like me, you also had key people in your life at critical moments who provided the foundational skills and mindset for your success. They changed your life's trajectory and are in your corner, even now, rooting you along. Your background as a first-generation student is a strength to harness. It will help you persist toward reaching your goals and maybe help keep you grounded in what's really important.

Don't just have a dream for your future life. Truly see yourself achieving that dream, and seek the knowledge and tools you need to accomplish each step along the way."

Appendix G

Control Condition Vignette

Please read the following blog post from Tamar Lewin and prepare for a short reading check.

January 26, 2011 | The New York Times

The emotional health of college freshmen — who feel buffeted by the recession and stressed by the pressures of high school — has declined to the lowest level since an annual survey of incoming students started collecting data 25 years ago.

In the survey, "The American Freshman: National Norms Fall 2010," involving more than 200,000 incoming full-time students at four-year colleges, the percentage of students rating themselves as "below average" in emotional health rose. Meanwhile, the percentage of students who said their emotional health was above average fell to 52 percent. It was 64 percent in 1985.

Every year, women had a less positive view of their emotional health than men, and that gap has widened.

Campus counselors say the survey results are the latest evidence of what they see every day in their offices — students who are depressed, under stress and using psychiatric medication, prescribed even before they came to college.

The economy has only added to the stress, not just because of financial pressures on their parents but also because the students are worried about their own college debt and job prospects when they graduate.

"This fits with what we're all seeing," said Brian Van Brunt, director of counseling at Western Kentucky University and president of the American College Counseling Association. "More students are arriving on campus with problems, needing support, and today's economic factors are putting a lot of extra stress on college students, as they look at their loans and wonder if there will be a career waiting for them on the other side."

The annual survey of freshmen is considered the most comprehensive because of its size and longevity. At the same time, the question asking students to rate their own emotional health compared with that of others is hard to assess, since it requires them to come up with their own definition of emotional health, and to make judgments of how they compare with their peers.

"Most people probably think emotional health means, 'Am I happy most of the time, and do I feel good about myself?' so it probably correlates with mental health," said Dr. Mark Reed, the psychiatrist who directs Dartmouth College's counseling office.

“I don’t think students have an accurate sense of other people’s mental health,” he added. “There’s a lot of pressure to put on a perfect face, and people often think they’re the only ones having trouble.”
To some extent, students’ decline in emotional health may result from pressures they put on themselves.

While first-year students’ assessments of their emotional health were declining, their ratings of their own drive to achieve, and academic ability, have been going up, and reached a record high in 2010, with about three-quarters saying they were above average.

“Students know their generation is likely to be less successful than their parents’, so they feel more pressure to succeed than in the past,” said Jason Ebbeling, director of residential education at Southern Oregon University. “These days, students worry that even with a college degree they won’t find a job that pays more than minimum wage, so even at 15 or 16 they’re thinking they’ll need to get into an M.B.A. program or Ph.D. program.”

Other findings in the survey underscore the degree to which the economy is weighing on college students.

“Paternal unemployment is at the highest level since we started measuring,” said John Pryor, director of the Cooperative Institutional Research Program at U.C.L.A.’s Higher Education Research Institute, which does the annual freshman survey. “More students are taking out loans. And we’re seeing the impact of not being able to get a summer job, and the importance of financial aid in choosing which college they’re going to attend.”

“We don’t know exactly why students’ emotional health is declining,” he said. “But it seems the economy could be a lot of it.” For many young people, serious stress starts before college. The share of students who said on the survey that they had been frequently overwhelmed by all they had to do during their senior year of high school rose to 29 percent from 27 percent last year.

The gender gap on that question was even larger than on emotional health, with 18 percent of the men saying they had been frequently overwhelmed, compared with 39 percent of the women.
There is also a gender gap, studies have shown, in the students who seek out college mental health services, with women making up 60 percent or more of the clients.

“Boys are socialized not to talk about their feelings or express stress, while girls are more likely to say they’re having a tough time,” said Perry C. Francis, coordinator for counseling services at Eastern Michigan University in Ypsilanti. “Guys might go out and do something destructive, or stupid, that might include property damage. Girls act out differently.”

Linda Sax, a professor of education at U.C.L.A. and former director of the freshman study who uses the data in research about college gender gaps, said the gap between men and women on emotional well-being was one of the largest in the survey.

"One aspect of it is how women and men spent their leisure time," she said. "Men tend to find more time for leisure and activities that relieve stress, like exercise and sports, while women tend to take on more responsibilities, like volunteer work and helping out with their family, that don't relieve stress."

In addition, Professor Sax has explored the role of the faculty in college students' emotional health, and found that interactions with faculty members were particularly salient for women. Negative interactions had a greater impact on their mental health.

"Women's sense of emotional well-being was more closely tied to how they felt the faculty treated them," she said. "It wasn't so much the level of contact as whether they felt they were being taken seriously by the professor. If not, it was more detrimental to women than to men."

She added: "And while men who challenged their professor's ideas in class had a decline in stress, for women it was associated with a decline in well-being."