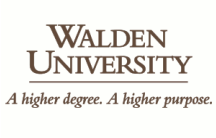

2017

The Impact of Stereotype Threat on the Social Self-Efficacy and Academic Performance of Mexican Immigrants

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This is to certify that the doctoral dissertation by

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has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

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Walden University
2017

Abstract

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by

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MS, Walden University, 2012

BA, University of Toledo, 2005

Proposal Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

General Psychology

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Abstract

Mexican immigrants living in the United States face academic challenges as well as being exposed to stereotypes. Additionally, Mexican immigrants tend to report lower self-efficacy compared to their American counterparts. This quantitative study aimed to fill a gap in the literature by examining the impact that stereotype threat (STT) has on Mexican immigrants' academic performance and social self-efficacy using a two-way between subjects design. Self-efficacy theory and stereotype threat theory provided the theoretical foundation for the study. Caucasian and Mexican immigrants were randomly assigned to one of two groups- a group exposed to STT (Caucasian $n = 94$, Mexican immigrant $n = 10$) or a group who was not exposed to STT (Caucasian $n = 155$, Mexican immigrant $n = 21$) for a total of $N = 280$. All participants were given quantitative analysis questions, analytical reasoning questions, and a social self-efficacy questionnaire. Results showed that Mexican immigrants in the stereotype threat group and Mexican immigrants in the no threat group underperformed on the quantitative analysis and analytical reasoning measures compared to Caucasians in both of those groups. Mexican immigrants in the stereotype threat group and the no threat group also reported lower social self-efficacy scores compared to Caucasians. This research highlighted the importance of the impact stereotypes may have on academic performance and social self-efficacy, especially among immigrants. The implications for social change include insight for Mexican immigrants about the types of challenges they may encounter upon moving to the United States. Additionally, this research could extend the conversation about the various negative effects that stereotypes may have on immigrants' lives.

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Dedication

This research is dedicated to my family, especially my husband. He has always been positive and willing to do anything to support my journey throughout graduate school. I could not have finished without his love and support. I would also like to dedicate this research to my children, although they are too young now to realize what this journey has been like. I hope they persevere and reach their dreams.

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Chapter 1: Introduction to the Study

Introduction

Prior to 1980, there were 1.8 million Mexican immigrants living in the United States (Center for Immigration Studies, 2010). In 2011, 11.7 million United States immigrants identified as Mexican (Wahala, 2013). The number of Mexican immigrants has increased by at least 1.5 million each decade over the past three decades (Center for Immigration Studies, 2010). It is apparent that the population of Mexican immigrants is increasing, making it necessary for scholars and other professionals to address challenges and issues that these immigrants face upon entering the United States. For example, more than 57% of Mexican immigrants never graduate high school (Center for Immigration Studies [CIS], 2011). This is four times the dropout rate of non-immigrant Americans. Less than 6% of U.S. Mexican immigrants acquire a four-year college degree, compared to 59% of U.S. nonimmigrants who obtain a four-year degree (CIS, 2011; U.S. Department of Education, 2013). Semple (2011) reported that only 6% of New York City Mexican immigrants ages 19 to 23 were enrolled in college in 2010.

In addition to academic challenges, minorities and immigrants, in general, may be faced with stereotypes that exist in American society. Being the target of stereotypes can have dire consequences such as risky behavior, self-endorsement of negative beliefs, decreased self- and cultural-identity, lowered self-esteem, decreased efficacy, and decreased academic performance (Burnette, Pollack, & Hoyt, 2010; Croizet, Désert, Dutrévis, & Leyens, 2001; Gonzalez, Blanton, & Williams, 2002; Hansen & Wänke, 2009; Niemann, 2001).

Although current research does an exceptional job demonstrating relationships among stereotypes and academic performance, there is a necessity to continue investigating different variables that may potentially play a role in scholastic achievement (Burnette, Pollack, & Hoyt, 2010; Croizet, Désert, Dutrévis, & Leyens, 2001; Gonzalez, Blanton, & Williams, 2002; Hansen & Wänke, 2009; Inzlicht & Good, 2006; Niemann, 2001; Steele, 1997). The current study attempts to address the prominent issue of stereotypes and academic performance. Uniquely, this study will also examine the role that stereotypes play on social self-efficacy, independent from academic performance. From an exhaustive search of the literature on stereotype threat, no studies explored how stereotype threat impacts social self-efficacy.

This study was developed with several potential positive social change implications in mind. Any way in which professionals can work toward improving the education of Americans is most certainly a change in a positive direction. Education and academic performance are dynamic and measured in myriad ways. Determining if and how stereotype threat impacts academic performance can help researchers understand the dynamic process of learning and performance outcomes. With a clearer understanding, researchers can continue to build upon existing techniques and/or create new ways in which institutes and professionals can facilitate the education of all individuals, especially minorities. Which, as previously mentioned, statistics seem to show minority individuals, especially Mexican Americans fare worse in academic performance than majority individuals in America (CIS, 2011; U.S. Department of Education, 2013). With regard to the specific population (i.e., Mexican immigrants) this study focuses on, the

findings could lend more insight into ways in which efficacy and academic performance are potentially affected. As mentioned above, Mexican Americans underperform in academics and have reported decreased efficacy (CIS, 2011; Gonzalez, Blanton, & Williams, 2002; U.S. Department of Education, 2013). Understanding how variables may contribute to underperformance and decreased efficacy could continue to help practitioners create programs, reevaluate programs, tailor focus groups, and enhance the educational experience.

Additionally, exploring the impact of stereotype threat on a variable that has not been studied (e.g., social self-efficacy) could extend the applicability of stereotype threat theory to see how negative stereotypes affect social cognitive constructs in addition to just performance domains (e.g., math, writing, verbal ability, intellectual tests, etc.). In addition, looking at different variables that influence efficacy beliefs helps extend Bandura's self-efficacy theory, which is embedded in social cognitive theory.

Chapter 1 includes an overview of the current study. The background and rationale for the basis for this study are discussed followed by the statement of the problem and purpose for this study. The research questions and hypotheses are provided. Chapter 1 also identifies the theoretical background and nature of the study. The key concepts are defined as well as a description of the assumptions, scope and delimitations, and limitations. Finally, Chapter 1 discusses the contributions and implications for positive change for this study.

Background

To address the issue of academic underachievement and the impact of negative stereotypes, it is important to consider what the literature reveals in addition to what the literature leaves out. A number of studies suggest that negative stereotypes can decrease academic performance (Aronson, 2004; Guyll, Madon, Prieto, & Scherr, 2010; Massey & Fischer, 2005; Mayer & Hanges, 2003; Steele, 1997). Steele and Aronson (1995), Massey and Fischer (2005), and Mayer and Hanges (2003) reported on how minority test scores can decrease after exposure to a negative stereotype; however, these three studies examined African American individuals and not Mexican immigrants or anyone of Hispanic descent. Guyll, Madon, Prieto, and Scherr (2010) explored stereotypes and academic performance among the Latinos/as using a qualitative approach. Guyll et al.'s (2010) commentary suggested that less acculturation and stronger ethnic identity could leave Latinos/as more aware of Latino/a stereotypes, causing a greater susceptibility to stereotype threat. Furthermore, Guyll et al. suggested negative Latino stereotypes create an expectation held by educators and peers that Latinos/as will underperform in school, resulting in students being viewed as liabilities and being placed into less challenging classes. Collectively, these expectations, stereotypes, and the misplacement of students in less challenging classes could create stereotype activation, thus creating a cyclical pattern of stereotyping and under achievement for Latinos/as (Guyll et al., 2010). While Guyll et al. provided sound rationale for why Latinos/as may be more vulnerable to stereotype threat when it comes to academic achievement, the researchers failed to examine the extent to which stereotype threat impacts the academic achievement of Latinos/as. Steele

(1997) also provided adequate literature about the effects stereotype threat may have on minority groups; however, the majority of Steele's focus was on gender stereotypes and African American scholastic performance. Among the literature on stereotypes and academic performance, there is a need to quantitatively examine the effects of stereotype threat on Mexican immigrants, especially considering the current state of academic performance among this group.

Self-efficacy is another variable that has appeared among the academic performance and stereotype literature. Self-efficacy plays a key role in accomplishing individual and social tasks in areas such as vocation, health, and education (Ali, McWhirter, & Chronister, 2005; Joët, Usher, & Bressoux, 2011). Self-efficacy beliefs are conclusions about how capable an individual thinks he or she is at accomplishing goals or effectively coping in challenging circumstances (Di Giunta et al., 2010). Self-efficacy can extend beyond the self to interpersonal relationships and affect the way an individual successfully interacts with others on an emotional and behavioral level; this is referred to as social self-efficacy. Di Giunta et al. (2010) and Bandura, Barbaranelli, Caprara, and Pastorelli (1996) describe social self-efficacy as one's perceived ability to recognize and empathetically share others' emotions, to manage different types of interpersonal relationships, and one's capability to successfully communicate and function with others. Possessing a healthy level of self- and social-efficacy is ideal for creating and maintaining interpersonal relationships, encouraging successful adaptation, and promoting well-being in different cultures (Di Giunta et al., 2010). Mexican and Hispanic immigrants have shown difficulties with healthy levels of efficacy (Bandura,

Barbaranelli, Caprara, & Pastorelli, 1996; Gore, 2006). One reason for concern about efficacy levels among these groups, especially Mexican immigrants, is that this group of individuals constitutes more than 30% of the United States immigrant population (Center for Immigration Studies, 2011). Moreover, research focusing on social efficacy and academic performance among this population could provide relevant insight into many areas in psychology and education. For example, learning more about the relatively recent construct of social efficacy could provide insight into positive acculturation experiences or strategies and how social efficacy is related to academic success (Chemers, Hu, & Garcia, 2001; Lin & Betz, 2009). This study could pave the way for other researchers to look at social efficacy in various groups and contexts, as this is an understudied variable in the psychology literature.

Additionally, studies revealed that stereotypes negatively impact efficacy beliefs (Burnette, Pollack, & Hoyt, 2010; Niemann, 2001; Rice, Lopez, Richardson, & Stinson, 2013; Steele, 1997). Using gender-based stereotype threats, Rice, et al. (2013) found that female STEM majors had lower science self-efficacy and end-of-the-year GPA compared to males in the experimental condition and both males and females in the control group. Although the study by Rice and his colleagues contributed to the body of literature on stereotypes and efficacy, the target population (Caucasian males and females) and variables that were examined provide little insight into the issue of stereotype threat and social self-efficacy among Mexican immigrants. Niemann (2001) provides an extensive qualitative review of stereotypes among individuals of Mexican descent; however, because of the nature of the study, Niemann does not provide quantified results that

explain the relationship between stereotypes and self-efficacy among this group. Steele (1997) reported that negative stereotypes surrounding intellectual abilities caused a decrease in self-efficacy among Black students. However, Steele's research did not examine the effects of stereotypes on social efficacy in Mexican immigrants. Burnette, Pollack, and Hoyt (2010) showed that leadership self-efficacy decreased among women after a gender-related stereotype was activated; however, Burnette et al. only included women in the sample.

Although research has demonstrated a relationship between academic performance and self-efficacy; stereotypes and academic performance; and stereotypes and self-efficacy, there is a gap in the literature examining the impact that negative stereotypes have on *social* self-efficacy and academic performance, specifically among the Mexican immigrant population. This gap emanates from the issues of low academic performance, low efficacy, and the detrimental effect of negative stereotypes targeting stigmatized individuals but more specifically, Mexican immigrants (Belmi, Barragan, Neale, & Cohen, 2015; CIS, 2011; Gonzalez, Blanton, & Williams, 2002; Niemann, 2001; Semple, 2011; Steele, 1997; Steele & Aronson, 1995; U.S. Department of Education, 2013). The relevancy of the gap in the area of social psychology is evident through current education statistics and decreasing efficacy levels of U.S. Mexican immigrants (CIS, 2011; Semple, 2011; U.S. Department of Education, 2013).

Problem Statement

In addition to the issue of low academic performance and graduation rates, Mexican immigrants are undoubtedly faced with negative social stereotypes upon

entering the United States. According to Niemann (2001), Mexican immigrants are commonly exposed to a variety of stereotypes that are aimed at their work ethic, intelligence, ethnicity, and cultural values. Stereotypes can be damaging to individual well-being, self-efficacy, self-esteem, and academic performance (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Chung, Ehrhart, Ehrhart, Hattrup, & Solamon, 2009; Gore, 2006; Joët, Usher, & Bressoux, 2011; Niemann, 2001). One specific way that stereotypes can impact performance is through a phenomenon known as stereotype threat. A group of studies suggest that when one thinks a negative stereotype applies to him or her or a group that he or she belongs to, that person may be fearful that he or she will self-fulfill the negative stereotype. The threat that one may self-fulfill the negative stereotype about one's group may result in decreased performance, especially on cognitive tests (Spencer, Steele, & Quinn, 1999; Steele, 1997; Steele & Aronson, 1995). This situational threat can affect members of any group for which a negative stereotype is associated with that group in that performance domain (Steele, 1997). For individuals who identify with the area or domain to which the stereotype is relevant, this threat may cause individuals to fear being reduced to that stereotype (Steele, 1997).

Stereotype threat has been mostly demonstrated among minority groups and women. For example, when faced with a stereotype about mathematic ability, women who are in a situation where they identify with that specific domain may perform worse on a standardized math test than those for whom the stereotype is not relevant (Steele, 1997). However, there is not clear literature indicating the impact that negative stereotypes have on social self-efficacy and academic performance among Mexican

immigrants. Addressing the issue of negative stereotypes, social self-efficacy, and poor academic performance among this population may help reduce the difficulties this group faces upon entering the United States.

Because of the problem of decreased self-efficacy, low academic scores, and lack of literature on stereotypes and social efficacy among Mexican immigrants, the purpose of the current study is to investigate the impact of stereotype threat on social self-efficacy and academic performance.

Purpose of the Study

There are many factors that have been known to impact academic performance; therefore, it is important that researchers continue to extend the literature and examine different variables with diverse populations. Doing so may help practitioners determine necessary and effective interventions for how to combat and cope with negative stereotypes, how to address low efficacy levels, and how to improve academic performance among Mexican immigrants. Because of the problem of low self-efficacy, academic underperformance, and lack of literature on stereotypes and *social* self-efficacy among U.S. Mexican immigrants, the purpose of this quantitative study is to investigate the impact of stereotype threat on social self-efficacy and academic performance among this cultural group.

Research Questions and Hypotheses

RQ1-Quantitative: Will stereotype threat significantly decrease social self-efficacy scores of U.S. Mexican immigrants compared to scores of Caucasians?

H_0: Stereotype threat will have no significant effect on social self-efficacy scores of U.S. Mexican immigrants compared to scores of Caucasians.

H_1: Stereotype threat will significantly decrease social self-efficacy scores of U.S. Mexican immigrants compared to Caucasians.

RQ2-Quantitative: Will stereotype threat significantly decrease academic performance of U.S. Mexican immigrants compared to scores of Caucasians?

H_0: Stereotype threat will have no significant effect on academic performance of U.S. Mexican immigrants compared to Caucasians.

H_1: Stereotype threat will significantly decrease academic performance of U.S. Mexican immigrants compared to Caucasians.

Theoretical Framework

One theory relevant to the issues of this proposal is Bandura's self-efficacy theory. According to Bandura and Adams (1977), one's beliefs about his or her capabilities to perform a specific behavior can affect choices, the actual behavior, performance outcomes, and the persistence one exhibits. Decreased self-efficacy may lead individuals to avoid engaging in activities and show lack of effort when faced with challenges (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). It is hypothesized that if someone believes they are performing or behaving successfully, self-efficacy and motivation tend to increase (Bandura et al., 1996). Furthermore, it is thought that low self-efficacy results in low motivation, lack of persistence, and poor academic performance (Bandura et al., 1996; Schunk, 1991). Bandura's efficacy theory also posits that efficacy expectations are created from four sources a) personal performance and

accomplishments, b) modeling, c) emotional arousal, and d) social experiences (Anderson & Betz, 2001). It is hypothesized that social self-efficacy beliefs influence how one approaches social situations, performance outcomes on social skills or tasks, and persistence in social contexts (Anderson & Betz, 2001).

A second theory that will drive the hypotheses in this study is the stereotype threat theory (STT) developed by Steele. According to Steele (1997), STT explains the phenomenon of underperformance among minority students and women in academic settings. The idea is that when minority individuals and women are exposed to negative stereotypes that may seem relevant to them in those specific performance situations, an increase in anxiety lowers academic performance (Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995). In past studies conducted by Steele and Aronson (1995); Chung, Ehrhart, Ehrhart, Hattrup, and Solamon (2010); Gonzalez, Blanton, and Williams (2002); and Belmi, Barragan, Neale, and Cohen (2015), stereotype threat theory has been explored in terms of its affect on various types of efficacy and performance domains (e.g., math and verbal) mainly in stigmatized individuals and groups. Consistent with applications of this theory in past research, the use of stereotype threat theory in the current study will be to examine the effects of stereotype threat on social self-efficacy and academic performance, independent of each other. A detailed account of stereotype threat theory is discussed below in the Theoretical Foundation section.

Nature of the Study

The nature of this study will be quantitative in order to measure the impact that stereotype threat has on social efficacy and academic performance. Quantitative research

is ideal when taking a deductive approach, as in this study (Sandelowski, Voils, Crandell, & Leeman, 2013). This study will review two general theories of efficacy and stereotypes and seeks to explore the application of those theories to a new set of variables and specific population that has not yet been examined. A two-way factorial design with four distinct conditions will be used in this quantitative study. The first independent variable, stereotype threat, will have two levels- threat and no threat. The second variable will be ethnicity (Mexican and Caucasian). Because the researcher cannot manipulate ethnicity, it will serve as a quasi-independent, or predictor, variable in the factorial design. The four conditions will then be a) Mexican immigrants exposed to the stereotype threat, b) Caucasians exposed to the stereotype threat, c) Mexican immigrants without the stereotype threat, and d) Caucasians without the stereotype threat condition. The two dependent variables will be social self-efficacy and academic performance. This study is concerned with the effects of stereotype threat on social self-efficacy and the effect of stereotype threat on academic performance independent from one another. Neither academic performance nor social self-efficacy is assumed to be a moderator between stereotype threat and performance. Two separate two-way ANOVAs will be used to address the research questions, an analysis of variance test will be used to measure the difference between sample means of two distinct participant groups. An analysis of variance test is appropriate because more than two conditions are being compared (Field, 2009). This analysis is also appropriate because the independent variables are nominal and the dependent variables are interval level. The efficacy scale is a Likert-type scale, which Trochim (2006) asserts is an interval level of measurement. The Graduate Record

Exam (GRE) will be used to measure academic performance and is also a ratio level of measurement (Kuncel, Hezlett, & Ones, 2001). The statistics software, SPSS (Version 21.0), will be used to organize and carry out the data analysis.

Definitions

Stereotype threat. A situational, social-psychological threat that arises when an individual is in a situation where another's judgments or his or hers own actions might be negatively stereotyped in that particular domain. The individual experiencing the threat typically fears that he or she will be reduced to the negative stereotype, therefore confirming the stereotype (Steele, 1997, p. 613-614).

Social self-efficacy. One's confidence in his or her ability to initiate and maintain interpersonal relationships, successfully carrying out social skills, and being able to successfully engage in social interactions (Smith & Betz, 2000).

Academic performance. The extent to which an individual meets or has achieved educational standards or skills. In this study, academic performance will be measured using the Graduate Record Exam (GRE) developed by the Educational Testing Service in 1949 (Kuncel, Hezlett, & Ones, 2001). The GRE is a standardized test that is used for admission into graduate school and measures verbal reasoning, problem-solving ability, critical thinking, and analytical writing skills (Educational Testing Service, 2015).

Mexican immigrant. An individual born in Mexico who emigrated to and currently resides in the United States.

Caucasian. An individual who is light-skinned or of European descent (Oxford Dictionary of English, 2010).

Assumptions

One assumption in this study is that the participants who complete the tests using SurveyMonkey are authentically who they claim to be, therefore meeting the eligibility criteria. For example, it will be assumed that participants who consent to complete the tests as a member of the experimental group meet the criteria for being a Mexican immigrant. Additionally, it is assumed that the individuals participating are doing so willingly, can read and understand the English language, possess the cognition to understand the questions, and respond truthfully. It is also assumed that the instruments used in this study measure the constructs they purport to measure.

Scope and Delimitations

One delimiter of this study is the selection of the specific problem of academic underperformance among a narrow population, Mexican immigrants. There are two main reasons behind the selection of the research problem. First, this study was developed to further explore the impact of negative stereotypes, which burden so many stigmatized individuals and groups. This study will examine the effect of negative stereotypes on social self-efficacy with the intention of extending and applying stereotype threat theory to new variables. Second, focusing on the problem of underachievement among U.S. Mexican immigrants (CIS, 2010, 2011) will contribute to the body of research surrounding educational performance of immigrants and other minorities, which is currently a popular focus in psychology and educational research (Renn & Lane, 2015; Schaake, Burgers, & Mulder, 2014; Stephens, Hamedani, & Destin, 2014). However, the scope of the study is limited, because only Mexican immigrants over 18 years of age will

be examined. Because other minority and immigrant groups were excluded from this study, the results are not intended to generalize to groups other than those included in this study.

Limitations

One limitation of this study is that the privacy of the participants cannot be guaranteed if they choose to participate online using SurveyMonkey. It cannot be determined if the participants completed the study in a group or with other individuals present. A second limitation is that the eligibility criteria for Mexican immigrant status may be considered sensitive and therefore, participants may feel uncomfortable being forthcoming with such information. Due to ethical concerns, participants will not be asked any questions regarding the status of their citizenship. Additionally, recruiting and including only Mexican immigrant and Caucasian participants will result in a nonrandom sample, allowing for potential selection bias, sometimes called sampling bias (Frankfort-Nachmias & Nachmias, 2008). A third concern is self-report bias, because the social self-efficacy measure is a questionnaire. Self-report bias can threaten the validity of the study (Frankfort-Nachmias & Nachmias, 2008). One example of self-report is social desirability bias. Social desirability bias may be a limitation for this study if participants choose to respond in a way that they believe is socially desirable or acceptable, thus potentially creating an effect that does not reflect a true treatment effect (Dudley, McFarland, Goodman, Hunt, & Sydell, 2005).

Significance

This research is unique in that it will fill two gaps in the literature on stereotypes and efficacy. First, this study will explore how stereotypes impact social self-efficacy, which is a relatively recent and understudied concept in the stereotype and efficacy literature. According to Bandura (1977), social self-efficacy is the expectancy that one can convert their goals into actions establishing and maintaining relationships in an educational or social setting. Social self-efficacy is a specific domain of self-efficacy and differentiates from self-efficacy by placing the focus on one's confidence in the ability to successfully make and keep social ties, rather than how successful one is at performing a task (e.g., self-efficacy; Dinç, 2011). According to Bandura, Barbaranelli, Caprara, and Pastorelli (1996), a high sense of social efficacy fosters satisfying and supportive social relationships. In a scholastic setting, this translates into a student being able to seek out academic assistance from teachers and peers. Students who are successful in navigating their social environment, especially in school, "have a higher mastery of academic coursework" than those who are unsure of their social capabilities (Bandura et al., 1996, p. 1209). Hortaçsu's (1994) research demonstrated that an increase in social self-efficacy scores resulted in an increase in grade point average; however, this study only focused on Turkish children.

Another study, also involving Turkish students, revealed a positive correlation between social self-efficacy and communication and interpersonal problem solving skills (Erozkan, 2013). Social inefficacy can lead to social anxiety, social isolation, and depression (Anderson & Betz, 2001; Bandura, 1994). Anderson and Betz (2001) extend

the definition of social self-efficacy to include confidence in one's ability to successfully tackle social interactional tasks and career activities. Anderson and Betz (2001) assert that social self-efficacy positively correlates with successful career decision-making. Ferrari and Parker (1992) found that social self-efficacy is positively associated with college grade point average These studies are important to the current research, because they demonstrate that social self-efficacy has been linked to academic performance, social relationships, and communication, which are specific performance outcomes that this study claims will be negatively affected if the threat of a stereotype is introduced. Other studies involving negative stereotypes and various forms of self-efficacy such as general, science, coping, mathematics, and performance efficacy, to name a few, have revealed that stereotypes have a negative influence on self-efficacy, as well as on academic functioning and cognitive tests (Abrams, Eller, & Bryant, 2006; Nadler & Clark, 2011; Rice, Lopez, Richardson, & Stinson, 2013). Although research has examined the effects of stereotypes on various domains of self-efficacy, there is scant literature that has observed how stereotypes influence social self-efficacy, especially among United States Mexican immigrants.

Second, this research seeks to increase the understanding of the various ways that stereotypes impact the under-researched population of U.S. Mexican immigrants. It is important to examine this population, in particular, because this group of immigrants is greatly increasing in the United States and are undoubtedly faced with negative stereotypes (Center for Immigration Studies, 2010).

Investigating the consequences of stereotype threat on social self-efficacy and academic performance among U.S. Mexican immigrants may be able to extend Bandura's self-efficacy theory and the stereotype threat theory to individuals of Mexican, Latino, and Hispanic descent. Additionally, this research could provide insight into a potential relationship between stereotype threat and social self-efficacy, which would enhance the current literature.

Positive Social Change

Findings from this research may contribute to positive social change by facilitating the development or improvement of interventions and programs dedicated to the academic success and social well-being of Mexican immigrants in the United States. More specifically, practitioners can take steps to provide this population with tools to combat the effects of negative stereotypes. One way might be to educate individuals on stereotype threat and how negative stereotypes impact various aspects of their life. Offering this population services like this, either through one-on-one counseling or group therapy, can have long-term benefits. For example, helping individuals maintain a strong sense of social efficacy may allow them to feel more capable and worthy when it comes to finding employment (Bandura et al., 2001). Additionally, greater social self-efficacy may alleviate psychological symptoms of social anxiety (Anderson & Betz, 2001). A strong sense of social self-efficacy among Mexican immigrants may also have successful performance outcomes as exhibited in Hortaçsu (1994) and Erozkan's (2013) studies mentioned above. Furthermore, Zullig, Teoli, and Valois (2011) posit that a strong sense of social self-efficacy helps foster new and healthy relationships, while low social self-

efficacy may draw people to antisocial and aggressive behaviors. If researchers, practitioners, and educators collaborate in an ongoing effort to help immigrant children and adults, it is possible to reduce the unemployment rate, facilitate strong social relationships among Mexican immigrants and the general population, and increase high school and college graduation rates among U.S. Mexican immigrants.

Summary

This chapter highlighted the need to expand research in areas such as social self-efficacy and the academic performance of Mexican immigrants. Additionally, it was noted that Mexican immigrants face negative stereotypes that may impact levels of social self-efficacy and academic performance. Bandura's self-efficacy theory and stereotype threat will be the two main theories driving this research. Furthermore, this chapter identified that there is a gap in the literature concerning the impact of negative stereotypes on social self-efficacy and academic performance in general, and specifically among the Mexican immigrant population. The main research questions and hypotheses were introduced in this chapter, along the definitions of key terms. Finally, the limitations, assumptions, and delimitations were discussed. Chapter Two explores the background literature and the lack of studies that ultimately make the basis for this research.

Chapter 2: Literature Review

Introduction

The population of Mexican immigrants in the United States is rapidly increasing. Rodríguez (2014) posited that within the next ten years, Mexican immigrants will account for 25% of the entire U.S. population. The dropout rates and poor scholastic performance among this population is alarming (Center for Immigration Studies [CIS], 2011; U.S. Department of Education, 2013). Compared to Caucasian Americans and other U.S. minority groups, Mexican immigrants underperform on standardized tests and have low graduation rates in high school and college. It is imperative that researchers continue to address these statistics.

Additionally, Mexican immigrants are undoubtedly faced with negative social stereotypes upon entering the United States (Niemann, 2001). According to Hamilton and Mackie (2014), a stereotype is "a generalized belief system, abstracted from patterns of specific bits of information one has acquired about the group as well as from more general characterizations of the group one has learned from other sources" (p. 100). Niemann (2001) suggests that negative stereotypes of Mexicans in the U.S. label them as ignorant, inferior, thieves, submissive, bad tempered, promiscuous, unintelligent, ambitionless, unmannerly, poorly groomed, alcohol users, uneducated, unethical, irresponsible, passive, shy, violent, and lazy, to name a few. Group stereotypes can have negative effects on social cognition (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). For example, a number of studies have documented stereotypes result in decreased scores on cognitive ability tests such as mathematics, writing, problem solving, verbal ability,

and tests of memory (Chung, Ehrhart, Ehrhart, Hattrup, & Solamon, 2009; Schmader, Johns, & Forbes, 2008). Other research illustrates the negative consequences of stereotypes on self-efficacy, mathematics self-efficacy, and leadership self-efficacy (Bandura et al., 1996; Burnette, Pollack, & Hoyt, 2010; Schweinle & Mims, 2009). While research exists on stereotype threat and self-efficacy, there is very little known about how stereotype threat affects *social* self-efficacy. Social self-efficacy is an important construct, especially for minority individuals, because it helps foster positive interpersonal relationships, helps adapt to a new culture, and is crucial for social adjustment (Bandura et al., 2001; Wright, Wright, & Jenkins-Guarnieri, 2013; Xie, 2007). Therefore, the purpose of this study is to investigate the impact of stereotype threat on social self-efficacy and academic performance among this cultural group.

Chapter 2 reviews stereotype threat theory and self-efficacy theory, the two main theories driving this study. This chapter also includes a comprehensive synthesis of the existing literature on stereotype threat, social self-efficacy, and academic performance. Finally, this chapter provides justification for the rationale of selecting to explore stereotype threat, social self-efficacy, and academic performance among U.S. Mexican immigrants.

Literature Search Strategy

Databases and Key Search Terms

A comprehensive search of the literature was conducted using the following psychology databases from the Walden University library: PsycINFO, PsycARTICLES, SAGE Full-Text Collection, and ProQuest. The subject search terms that were used

include *stereotype threat theory, stereotype threat, immigrants, Mexican immigrants, minority, self-efficacy theory, Bandura, social self-efficacy,* and *academic performance*. A search using Google Scholar was performed using the following keywords and phrases, *stereotype threat theory, social self-efficacy, academic performance among Mexican immigrants, Mexican stereotypes*, and *stereotype threat meta-analysis*. There was no restriction on the range of years searched. For instance, the default range in SAGE was left at January 1847 through October 2014 in order to locate original theory papers. All scholarly articles used in this study are from peer-reviewed journals. Several nonpeer-reviewed websites such as National League of Cities: Center for Research & Innovation; Center for Immigration Studies; and U.S. Department of Education, National Center for Education Statistics were used to retrieve statistics for the problem statement.

Theoretical Foundation

Stereotype Threat Theory

One theory that is important for understanding minority academic performance is stereotype threat theory (STT) developed by Steele in the 1990s. Stereotype threat theory has been used to explain a decrease in writing, mathematic, and intellectual performance among minorities such as Asian Americans, Latinos/as, African Americans, and women (Gonzalez, Blanton, & Williams, 2002; Inzlicht & Ben-Zeev, 2000; Steele & Aronson, 1995). According to Steele (1997), STT provides one explanation for the underperformance rates among minority students and women in academic settings. Steele suggested that the achievement gap in standardized testing between minority students and Caucasians could, to some degree, be explained by evaluation apprehension and anxiety,

which result from negative stereotypes about one's group (Steele, 1995). The idea is that when individuals are exposed to negative stereotypes that may seem relevant to them in certain performance situations, a fear and an increase in anxiety lowers performance (Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995). The threat that one will be negatively stereotyped in a specific situation by one's own actions or others' appraisals can disrupt performance in that domain. The threat of a negative stereotype causes members of groups to fear that they may be reduced to that stereotype, ultimately harming performance (Steele, 1997).

A number of studies have supported the claim that performance can be negatively affected in the presence of stereotype threat (Kellow & Jones, 2005; Kellow & Jones, 2008; Steele, 1997; Steele & Aronson, 1995). Steele and Aronson conducted one of the original and arguably most popular studies that tested stereotype threat theory in 1995. Steele and Aronson (1995) examined the differences between intellectual test scores of Black and White students. The researchers gave two groups of Black students and White students the same version of a test; however, one group was told the test was diagnostic of ability, and the other group was told it was a nondiagnostic verbal test (Steele & Aronson, 1995). When the African American students thought they were taking a test that reflected their intellectual abilities (e.g., the test referred to as *diagnostic*), they performed significantly worse than those who thought they were taking a nondiagnostic verbal test. Those who were under the impression they were taking the nondiagnostic test performed just as well as the White students. Steele and Aronson concluded that Black students

experienced a stigmatized threat, the negative group stereotype about intellectual ability, which increased pressure to perform, thereby harming performance.

Since Steele and Aronson (1995) published their groundbreaking research, a number of studies have tested the claims of stereotype threat theory. In an attempt to extend the generalizability of stereotype threat theory, Kellow and Jones (2005) examined the effect that stereotype threat has on African American high school students, as opposed to college-age individuals. In order to further fill a gap in the existing stereotype threat literature, Kellow and Jones tested anxiety levels, and perceptions of ability and expectancies for success of high school students in group sessions, rather than individually. The researchers contend that testing students in groups is more similar to real-life situations of taking tests in a classroom (Kellow & Jones, 2005). The results revealed that African American freshman scored significantly lower on the spatial ability test than White students. Kellow and Jones (2008) replicated Kellow and Jones (2005) using an experimental design as opposed to a quasi-experimental design. Kellow and Jones (2008) induced stereotype threat in a testing situation for Black participants by presenting evaluative or nonevaluative instructions. The experimental group was given nonevaluative instructions wherein the researchers made gender and ethnicity salient (Kellow & Jones, 2008). The results of Kellow and Jones (2008) were statistically significant and consistent with Steele and Aronson's (1995) and Kellow and Jones' (2005) findings - that African Americans scored lower on high-stakes standardized tests under the stereotype threat condition when compared to their White counterparts, as well

as test performance of other African Americans not under stereotype threat (Kellow & Jones, 2008).

Steele (1997) posits that stereotype threat usually affects members of minority groups and women, but may extend to members of any group about whom a negative stereotype exists. The threat can occur when one is alone or integrated among others. The type and degree of threat may vary from group to group and across settings, because stereotypes can differ in content and scope (Steele, 1997). For example, if a female in a classroom is faced with a situation in which a negative stereotype about her math skills is salient, she may underperform on that domain-specific test in that particular setting. However, if, later, she is taking an English test in the same setting, she may not experience the threat because she does not fear that a negative stereotype about English test-taking performance applies to or is relevant to her. Spencer, Steele, and Quinn (1999) were among the first to explore the math performance of women. Spencer and his colleagues noticed that when compared to men's, women's scores were lower on difficult math tests but not English tests. Spencer et al. (1999) presented female undergraduates, who had above average math scores on the SAT, with a gender stereotype relevant to their performance in math domains. The results of Spencer et al.'s research supported stereotype threat theory by showing that women underperformed compared to men in the control condition but performed equal to men when the stereotype was not gender related. A number of other researchers attempted to generalize the effects of stereotype threat on women's math performance (Fogliati & Bussey, 2013; Keller & Dauenheimer, 2003). Fogliati and Bussey (2013) found that Australian female undergraduates both

underperformed on math and were less motivated to attend math tutorials than those in the no-stereotype condition. Keller and Dauenheimer demonstrated that stereotype threat does exist among German high school students in a natural setting (e.g., high school classroom) and is not restricted to the laboratory.

Additionally, Keller and Dauenheimer (2003) found new evidence that stereotype threat theory may not only affect those who are highly identified with a domain. Steele notes that one does not even have to believe the stereotype is true of oneself to experience the threat. Internalization of the stereotype and identification with a specific domain can lead one to be susceptible to stereotype threat (Steele, 1997). Keller and Dauenheimer offer that individuals may experience the effects of stereotype threat with only attributing minimal importance to a domain. Fogliati and Bussey (2013) not only found that women in the stereotype threat condition performed worse than men and worse than women in the no-stereotyped condition, but that the effects of stereotype threat could potentially reduce one's motivation to improve. Furthermore, Inzlicht & Good (2006), Keller and Dauenheimer, Nguyen and Ryan (2008), and O'Brien and Crandall (2003) asserted, women underperformed on difficult math tests in a stereotype threat condition but performed equal to men on easy math tests. This evidence has been used to explain why the performance gap between genders is not solely due to intellectual ability.

Furthermore, a number of studies have shown that when the threat of stereotype is removed, performance among minority individuals (i.e., African Americans and women) improves to performance levels of majority students (Keller & Dauenheimer, 2003; O'Brien & Crandall, 2003; Steele, 1997). Spencer, Steele, and Quinn (1999) found that

when stereotype threat was reduced, women performed as well as men and better than the women in the stereotype threat condition.

Another feature of stereotype threat is that it is situationally contingent, meaning if some aspect of the situation seems relevant to oneself, there is a chance the person may feel he or she is being judged in terms of that stereotype or fear conforming to it, thus, confirming the stereotype (Steele, 1997). Recognizing that a negative group stereotype could apply to oneself in a given domain has the potential to cue stereotype threat (Steele, 1997). The degree of threat this recognition poses depends on the individual's identification with the stereotype-relevant domain. The result is that the more an individual identifies with a particular domain, the more likely he or she is to be susceptible to the negative stereotype. This is yet another reason why the type and degree of threat vary across settings and from person to person; certain situations make different aspects of one's identity salient. Steele (2003) noted that women had lower grades than men in difficult math classes, but scored the same or better in easier math classes at the elementary level. Steele and his graduate student thought this pattern existed because the women may have been experiencing a stigmatized pressure in the difficult class but not in the less difficult math class (Steele, 2003). A large group of studies have found that women perform worse on mathematics ability tests when placed in a context where they are outnumbered by men in the setting (Beaten et al., 2007; Ben-Zeev, Fein, & Inzlicht, 2005; Inzlicht & Ben-Zeev, 2000, 2003; Murphy, Steele, & Gross, 2007; Sekaquaptewa & Thompson, 2003).

An additional characteristic of stereotype threat theory, the disidentification hypothesis, has been the focus of a number of studies (Chapell and Overton, 2002; Griffin, 2002; Verkuyten & Thijs, 2004; von Hippel, Walsh, & Zouroudis, 2011; Woodcock, Hernandez, Estrada, & Schultz, 2012). According to Steele (1997), chronic exposure to stereotype threat may cause stigmatized individuals to disengage and disassociate with that domain. In other words, individuals experiencing stereotype threat may try to protect their self-identity by unidentifying with that particular domain in which they continually experienced stereotype threat. Griffin (2002), Verkuyten and Thijs (2004), and Woodcock, Hernandez, Estrada, and Schultz (2012) examined the effect of stereotype threat on disidentification among ethnic minority individuals. The results, however, varied across all studies. For example, Verkuyten and Thijs found that disidentification occurred under the stereotype threat condition among Turkish adolescents. The adolescents showed psychological disidentification in an academic domain, when exposed to a stereotype directed at their ethnicity (Verkuyten & Thijs, 2004). Research by Griffin (2002) and Woodcock et al. (2012) both examined African Americans and Hispanic individuals. In a cross-sectional study, Griffin found that Black and Hispanic students disidentified in an academic domain when compared to Asian and Whites. Woodcock et al. showed the longitudinal effects of stereotype threat causes significant disidentification in a scientific domain. Although African Americans reported greater levels of stereotype threat than Hispanic students, stereotype threat was only a predictor of disidentification for Hispanics (Woodcock et al., 2012). One explanation for Woodcock et al.'s findings is that African Americans discount performance feedback,

rather choosing to disidentify with the performance domain. In contrast, the effect that stereotype threat had on Hispanics caused these individuals to devalue and disengage from the domain (Griffin, 2002; Woodcock et al., 2012).

Stereotype threat and Mexican Americans. Mexican Americans experience stereotypes in various settings (Niemann, 2001; Rodriquez, 2014). Of particular importance are academic and educational settings. As evidenced above, stereotype threat can have detrimental effects on intellectual performance of minority and stigmatized individuals (Kellow & Jones, 2005, 2008; Steele, 1997; Steele, 2003). Niemann (2001) cited several examples of stereotypes that individuals of Mexican descent may experience in an academic setting, they include: ignorant, unintelligent, ambitionless, uneducated, dumb, inferior, dropouts, and less intelligent than Whites. Several studies applied stereotype threat theory to explore the effects that stereotype threat had on a variety of intellectual tasks including verbal ability, reading comprehension, working memory, and mathematics (Good, Aronson, & Inzlicht, 2003; Gonzalez, Blanton, & Williams, 2002; Schmader & Johns, 2003; Schultz, Baker, Herrera, & Khazian, 2002; Stone, 2002). When tests are described as diagnostic of intellectual ability, Hispanic Americans performed worse than Europeans on a mathematics test (Gonzalez, Blanton, & William, 2002). Overtime, stereotype threat can have harmful effects, casing anxiety, pressure to perform, and disidentification in an academic domain (Fischer, 2010). Experiencing stereotype threat over a long period of time may help explain why Hispanic and African American individuals have a lower graduation rate in high school and college compared to Caucasian Americans. Historically, studies on stereotype threat have examined African

Americas, women, Asians, and Hispanics. The Hispanic participants included in these studies were a heterogeneous group of individuals with origins from Europe, Central America and South America. In some cases, it may be acceptable to generalize the results of the research including Hispanic and Latino individuals; however, with the large (and increasing) number of Mexican immigrants in the United States, this population is deserving of a study that focuses specifically on their culture and factors that may negatively affect their academic journey once in the United States. Due to the issue of academic underperformance of Mexican immigrants in the United States, it is important that stereotype threat theory be applied to this particular population to determine the impact that stereotypes may have on Mexican immigrants' academic performance.

Self-efficacy Theory

Research shows an association between stereotype threat and self-efficacy (Burnette, Pollack, & Hoyt, 2010; Hoyt & Blascovich, 2007; Niemann, 2001; Rice, Lopez, Richardson, & Stinson, 2013; Steele, 1997). Ben-Zeev, Fein, and Inzlicht (2005) suggested that an underlying mechanism of stereotype threat theory is self-efficacy. Steele (1997) proposed that a low sense of self-efficacy results when stigmatized individuals internalize negative stereotypes. Hoyt and Blascovich (2007) documented a decrease in leadership self-efficacy reported by women after being primed with a negative stereotype. In addition to stereotype threat theory, Bandura's self-efficacy theory will help guide this research. The concept of self-efficacy is central to Bandura's social cognitive theory. Bandura (1982) defines perceived self-efficacy as being, "…concerned with judgments of how well one can execute courses of action required to deal with

prospective situations" (p. 122). According to Bandura and Adams (1977), one's beliefs about his or her capabilities to perform a specific behavior can impact choices, the actual behavior, performance outcomes, and one's persistence. Individuals may avoid engaging in activities and show lack of effort when faced with challenges if perceived self-efficacy is low (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). It is hypothesized that if someone believes they are performing or behaving successfully, self-efficacy and motivation tend to increase (Bandura et al., 1996). Self-efficacy beliefs are important because they influence people's actions, how much they will persevere in the face of challenges and setbacks, the amount of effort they put forth on tasks, their resilience to adverse situations, and their susceptibility to depression and stress while coping with failures and adversity (Bandura, 1997). Bandura's efficacy theory also posits that self-efficacy expectations are created from four sources of information a) personal performance and accomplishments, b) modeling, c) emotional arousal, and d) social experiences (Anderson & Betz, 2001).

Self-efficacy and performance. Performance accomplishments are one source from which efficacy is derived (Bandura, 1977). Successfully mastering personal performance accomplishments can increase efficacy expectations. Self-efficacy can have an affect on performance, because these beliefs influence the choices one makes, the effort expended, and the perseverance one exerts (Bandura, 1989, 1993, 2012). Silver, Mitchell, and Gist (1995) exhibited that successful performance enhanced efficacy beliefs while poor performance may result in less persistent behavior when it comes to mastering future tasks. A strong set of efficacy beliefs has been shown to generalize across a wide

range of performance domains. For example, McCormick and McPherson (2003) and Ritchie and Williamon (2012) examined self-efficacy and musical performance. McCormick and McPherson's work illustrated that there was a direct link between efficacy and music performance. Ritchie and Williamon extended McCormick and McPherson's findings to show that scores from the self-efficacy for musical performing questionnaire were a significant predictor of performance quality. A second study evidenced that self-efficacy for musical performance scores also predicted level of performance (Ritchie & Williamon, 2012).

In addition to musical performance, self-efficacy has been shown to influence performance in other areas as well. Bandura (2012) maintains that a strong sense of self-efficacy can result in high motivation and academic performance. Aguayo, Herman, Ojeda, and Flores (2011) demonstrated that self-efficacy was a predictor of academic performance in college undergraduates. Elias and MacDonald (2007) showed that high academic performance predicted increased self-efficacy among college students. Fenollar, Roman, and Cuestas (2007) found that students' efficacy beliefs positively correlated with academic success. Pajares and Valiante (1997), Pajares and Miller (1995), and Williams and Williams (2010) studied efficacy and performance in various academic domains. Pajares and Valiante (1997) found that elementary students' self-efficacy significantly predicted writing performance, specifically essay writing. Both Bandura (1997) and Pajares and Valiante agree that beliefs and perceptions about one's own writing capabilities directly influence academic performance. As such, it is believed that the students' self-efficacy beliefs about their writing performance are as important as the

students' actual competence. Pajares and Miller (1995) and more recently, Williams and Williams (2010) examined mathematics self-efficacy. Pajares and Miller found that students' confidence to solve math problems was a stronger predictor of their actual ability to solve these problems than was their ability to perform math-related tasks or succeed in math courses. The emphasis in Pajares and Miller's research is that the predictability of the students' confidence to solve the math problems was limited to their confidence in solving math problems and did not extend to (or predict) performance in other math-related tasks or success in math courses. The results imply that it is important that the measure assesses the same skills required to perform the task. Specifically, the strength of the prediction is heightened as self-efficacy more closely corresponds to the type of performance being measured (Pajares & Miller, 1995). Williams and Williams (2010) also studied self-efficacy and mathematics performance. Agreeing with Bandura (2010), Williams and Williams assert that self-efficacy beliefs affect performance by influencing the extent to which one puts forth effort, the choice of activity, the persistence one displays, and various meta-cognitive strategies. Williams and Williams found that in 26 out of 33 countries, self-efficacy both directly and indirectly influenced mathematics performance among a wide range of grade levels. It is evident that a plethora of literature exists on self-efficacy and performance. However, a review of the literature revealed that there is scant research on academic performance and *social* self-efficacy, specifically. Furthermore, no such study has examined social self-efficacy and academic performance of Mexican immigrants. Even the self-efficacy literature failed to explore this population. For example, studies conducted by Elias and MacDonald,

Fenollar et al., Williams and Williams, and Pajares and Valiante (mentioned above) did not include Mexican immigrants as participants. Aguayo et al.'s study showing college self-efficacy predicts college academic performance included Mexican American undergraduates but only those who were born in the United States. Based on the lack of studies investigating *social* self-efficacy and the exclusion of Mexican immigrant individuals in studies surrounding this construct, it is evident that research is needed to explore social self-efficacy levels and academic performance of one of the largest growing immigrant groups in the United States, U. S. Mexicans.

Decreased self-efficacy. In addition to self-efficacy's positive impact on academic outcomes, it is critical to acknowledge the literature on decreased self-efficacy in order to find direct and indirect strategies to address and improve low efficacy. Research demonstrates that low acculturation, racism, negative stereotypes, performance experiences, and discrimination may all contribute to decreased self-efficacy (Bandura, Barbaranelli, Caprara, & Pastorelli, 2001; Burke et al., 2009; Patel, Salahuddin, & O'Brien, 2008). Bandura et al. (2001) and Burke et al. (2009) reported that low self-efficacy can have damaging effects on societal and individual functions such as academic performance, occupational goals, social identities, level of motivation, and mental and physical health. This can be useful for explaining why Mexican immigrants trail behind their US counterparts in areas such as academic performance.

Importance of social self-efficacy. Social self-efficacy can be defined as confidence in one's own ability to participate in an array of social interactional tasks that are necessary to form and maintain interpersonal relationships (Xie, 2007). Bandura,

Barbaranelli, Caprara, and Pastorelli (2001) contend that a strong sense of social self-efficacy helps promote supportive social relationships. Social self-efficacy is crucial for social adjustment and has been found to positively correlate with life satisfaction, prosocial behaviors, and positive self-regard (Connolly, 1989; Bandura et al., 2001; Wright, Wright, & Jenkins-Guarnieri, 2013). Mexican immigrants are faced with challenges upon entering a new country and being exposed to a new culture. These difficulties include having to move into unsafe neighborhoods, working multiple jobs, language barriers, limited community resources, challenges finding a job, culture shock, loneliness, interpersonal stress, and racial and ethnic discrimination (Constantine, Okazaki, & Utsey, 2004; Hernandez, 2004; Leidy, Guerra, & Toro, 2010). Constantine, Okazaki, and Utsey (2004) concluded that social self-efficacy can be vital for acculturation and social adjustment for international individuals moving to the United States. The skills and tasks associated with social self-efficacy are important for individuals of all ages, but this construct may be especially important to individuals like immigrants who struggle with social challenges upon arrival. For Mexican immigrants who experience social isolation, trouble making friends, or seeking help and community resources, a strong sense of social self-efficacy can be extremely valuable for social engagement, seeking help, social confidence, and social assertiveness (Bandura et al., 2001; Wright et al., 2013).

Being labeled with stereotypes is just one form of discrimination that affects immigrants and minority group members. However, it is important to understand the effects that stereotypes have on social self-efficacy. Merely being aware of a stereotype

can inhibit an immigrant or minority individual from engaging with members from the majority group and fear those members will not socially accept the newcomer (Gonzalez, Blanton, & Williams, 2002). Being unable to engage socially and initiate interpersonal contact or relationships because of lack of confidence in one's ability to do so comes back to the issue of social self-efficacy. Social self-efficacy differs from general self-efficacy in that general self-efficacy is a more broad construct concerned with an individual's belief in their capabilities to complete a certain accomplishment or task (Bandura, 1982; Bandura, 2005). Bandura (1982) asserts that general perceived self-efficacy impacts behaviors, thought patterns, and emotional arousal. Bandura goes on to explain that individuals possess very different types of efficacy based on factors that play a role in the formation of a particular efficacy domain such as the context of one's life and what an individual has been exposed to. According to Bandura, Barbaranelli, Caprara, and Pastorelli (2001), the construct of social self-efficacy addresses efficacy in the specific domain social behavior (e.g., forming interpersonal relationships, navigating social tasks, etc.). While there is a copious amount of research on perceived self-efficacy, there is rather limited research on social self-efficacy, specifically.

The purpose of the current study is to investigate the impact of stereotype threat on the social self-efficacy and academic performance of U.S. Mexican immigrants. Addressing the issue of negative stereotypes, social self-efficacy, and poor academic performance among this population can help reduce the difficulties and challenges (mentioned above) this group may face in the United States. These difficulties include having to move into unsafe neighborhoods, working multiple jobs, language barriers,

limited community resources, challenges finding a job, and discrimination (Hernandez, 2004; Leidy, Guerra, & Toro, 2010).

Self-efficacy and stereotype threat. In addition to self-efficacy and performance, it is necessary to consider what current literature reveals about self-efficacy and stereotype threat. Ben-Zeev, Fein, and Inzlicht (2005) state that one underlying mechanism of stereotype threat may be self-efficacy. A number of studies have explored self-efficacy as a mediating variable of stereotype threat (Chung, Ehrhart, Ehrhart, Hattrup, & Solamon, 2010; Mayer & Hanges, 2003; Smith, 2004; Spencer, Steele, & Quinn, 1999). For example, Chung et al. (2010) observed participants in an actual employment setting and found that self-efficacy mediated the relationship between stereotype threat and performance. Stereotype threat was found to decrease self-efficacy, which in turn, led to lower performance on a job promotion test (Chung et al., 2010). Mayer and Hanges (2003) also examined self-efficacy as a mediating variable between stereotype threat and test performance among African American and Caucasian undergraduates; however, Mayer and Hanges' results failed to support the hypothesis that self-efficacy had a mediating role in the relationship between stereotype threat and performance. Similarly, in a meta-analysis, Smith (2004) found that self-efficacy did not mediate the effect between stereotype threat manipulations and performance expectancies or performance outcomes. Similarly, Spencer, Steele, & Quinn (1999) also showed no evidence that self-efficacy was a mediator between stereotype threat and women's math performance.

In addition to the conflicting evidence of self-efficacy as a mediator of stereotype threat, there are mixed results concerning the direct relationship of stereotype threat and self-efficacy. Ryan and Ryan (2005) posit that while stereotype threat may not have an immediate effect on self-efficacy, as one faces difficult, threatening situations overtime, self-efficacy may decline. Burnette, Pollack, and Hoyt (2010) showed that high initial self-efficacy acted as a buffer for the detrimental effects of a gender-related stereotype on self-efficacy as well as self-esteem among undergraduates. Burnette et al.'s (2010) sample only included women (with the majority being Caucasian), for which the findings may not generalize well to immigrant men and women from Mexico. A more recent study by Deemer, Thoman, Chase, and Smith (2014) found that stereotype threat had a significant negative effect on the science self-efficacy of female undergraduates. In turn, Deemer et al. (2014) believe this affects science, technology, engineering, and mathematics (STEM) career choices. Rice, Lopez, Richardson, and Stinson (2013) similarly expected women's science self-efficacy to decrease when stereotype threat was primed in the form of a negative gender stereotype; however, stereotype threat had no significant effect on science self-efficacy. Although this study contributes to the body of literature on stereotypes and efficacy, the population (Caucasian Americans) and variables examined in this study provide no insight into the issue of stereotype threat and *social* efficacy among Mexican immigrants. In a study on stereotype threat and academic self-efficacy, Schweinle and Mims (2009) hypothesized that Black students' academic efficacy would decrease when negative stereotypes were made salient. The results, however, showed that Black students' self-efficacy was not adversely affected when

exposed to stereotype threat (Schweinle & Mims, 2009). With opposing findings among the literature on stereotype and self-efficacy and few studies that focus on immigrants, specifically, Mexican immigrants, this study seeks to explore efficacy from a slightly different perspective. The focus will be on social self-efficacy, an understudied construct that extends from Bandura's self-efficacy theory and social cognitive theory.

Literature Review Related to Key Variables/Concepts

The current study will investigate the extent to which stereotype threat impacts social self-efficacy and academic performance among U. S. Mexican immigrants. Accordingly, the independent variable is the presence of stereotype threat, and the quasi-independent variable is ethnicity. The dependent variables are social self-efficacy and academic performance. What follows is an overview of the current literature on each of these variables, a synthesis of the studies that have explored any combination of the aforementioned variables, and a justification of the rationale for selecting these particular variables.

Social Self-efficacy

To date, self-efficacy research has been applied in occupational and educational areas such as career decision-making, occupational tasks, vocational outcomes, and science and mathematic domains (Smith & Betz, 2000). Successful outcomes in the previous mentioned areas require a certain level of social skill. For example, social skills help a new employee develop and maintain valuable relationships in the workplace (Bandura, 1994). A set of social skills can also foster a positive, successful academic environment for children and adolescents by opening the lines of communication

between educator and student; building positive peer relationships that deter students from disruptive, transgressive behavior; and prevent social isolation (Bandura, 1994; Bandura & Adams, 1977; Bandura, Pastorelli, Barbaranelli, & Caprara, 1999). Bandura (1994) explains that the majority of social learning occurs among one's peers. Peer relationships and social influences facilitate and broaden self-knowledge, which supports social learning (Bandura, 1994). Bandura contends that cultivating social networks requires social efficacy, and receiving social validation of one's cognitive abilities can help increase social self-efficacy.

Smith and Betz (2000) defined social self-efficacy as "an individual's confidence in her/his ability to engage in the social interactional tasks necessary to initiate and maintain interpersonal relationships" (p. 286). Bandura, Barbaranelli, Caprara, and Pastorelli (2001) describe social self-efficacy as beliefs in one's capabilities to form and sustain social relationships, collaborate with others, and "manage different types of interpersonal conflicts" (p. 192). According to Briones, Tabernero, and Arenas (2007), it is imperative to promote social self-efficacy in people who are at higher risk of experiencing social exclusion; in this context, social self-efficacy can be a useful tool for avoiding challenges that may arise when adapting to a new environment. Hechanova-Alampay, Beehr, Christiansen, and Van Horn (2002) found a significant, positive correlation between social self-efficacy and adaptation to the new culture among international undergraduate and graduate student sojourners. These findings suggest that a strong sense of social self-efficacy is an indispensible attribute for individuals who are entering into and adapting to a new environment, such as U. S. Mexican immigrants

when the transition from the culture in Mexico to the culture in the United States. Erozkan (2013) believes that individuals with high social self-efficacy tend to have self-confidence about their ability to handle challenging social situations. This confidence, along with qualities such as social group participation, outgoing behaviors, and giving and receiving help, can improve an individual's ability to effectively solve problems, form interpersonal relationships, and engage in positive social interactions (Coleman, 2003; Erozkan, 2013). While there is no social self-efficacy theory to date, the concept of social self-efficacy is derived from self-efficacy theory, which is embedded in Bandura's social cognitive theory. Researchers believe that social self-efficacy beliefs influence how one approaches social situations, performance outcomes on social skills or tasks, and persistence in social contexts (Anderson & Betz, 2001; Di Giunta et al., 2010).

Social self-efficacy and academic performance. Although social motivation and cognitive performance are not new concepts, there are relatively few studies that have concurrently explored both social self-efficacy and academic performance as dependent variables. The research that does investigate social aspects of self-efficacy and academic performance are outdated. For example, Bandura, Barbaranelli, Caprara, and Pastorelli (1996) showed that children's perceived social efficacy and their belief that they could successfully manage peer pressure for unfavorable conduct contributed to academic achievements. Wentzel and Wigfield (1998) assert that children's perceptions of interpersonal relationships motivate and guide academic behavior. Students who exhibit socially appropriate classroom behavior may have higher competence-related beliefs, control beliefs, and social and academic achievement goals (Wentzel & Wigfield, 1998).

Although Wentzel and Wigfield provide an informative discussion of social motivation and academic performance, the article did not report on minority or immigrant individuals. Hackett, Betz, Casas, and Rocha-Singh (1992) posited that social support and perceptions of acceptance and interpersonal relationships might be especially important for individuals of color. Language difficulties from minority individuals may decrease one's social self-efficacy if the language difficulties interfere with social relationships or social perceptions (Buriel, Chavez, DeMent, Moran, & Perez, 1998). In turn, these social stressors could place a strain on the educational experience.

Among the limited literature on social self-efficacy and academic performance, there seems to be a lack of research involving the participants at the center of this study, U. S. Mexican immigrants. With the existing literature emphasizing that social efficacy is integral to a successful educational experience (e.g. Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Bandura, Caprara, Barbaranelli, Gerbino, & Pastorelli, 2003; Hackett et al., 1992), it is necessary to include U. S. Mexican immigrants, a population who faces social challenges and whose academic scores fare lower than other ethnic groups (Center for Immigration Studies [CIS], 2011; Semple, 2011; U.S. Department of Education, 2013). Additionally, much of the literature on social self-efficacy and academic performance treats social self-efficacy as a predictor variable. The current study will be different in that both social self-efficacy and academic performance will be treated as dependent variables, because research has found both variables to be impacted by stereotype threat (see synthesized review below). Since there appears to be a gap in the

literature examining how stereotype threat affects academic performance and *social* self-efficacy*,* rather than other forms of self-efficacy, this study seeks to fulfill that gap.

Stereotype Threat and Academic Performance

In addition to understanding the rationale for the dependent variables, it is important to recount what the literature reveals about stereotype threat, the independent variable, and academic performance. As mentioned, research reveals that stereotype threat influences academic performance. Steele and Aronson (1995) were among the first researchers to study and yield significant findings that suggested individuals from minority groups and people of color perform worse on academic tasks under the threat of a negative stereotype when compared to those in a no-threat condition or those from a majority group, for which the stereotype was not necessarily threatening. Steele (1997) provided an adequate account of the effects negative stereotypes may have on stigmatized individuals, finding that stereotype threat significantly reduced standardized test scores of African Americans and women; however, the focus of Steele's study was gender stereotypes and African American scholastic performance and not immigrants.

A number of subsequent studies have confirmed that negative stereotypes can negatively affect the academic performance of members from stigmatized groups (Aronson, 2004; Guyll, Madon, Prieto, & Scherr, 2010; Massey & Fischer, 2005; Mayer & Hanges, 2003; Rodríguez, 2014; Steele, 1997). It is well documented that African Americans perform worse on cognitive and academic tests when exposed to a negative group stereotype (Aronson, 2004; Deaux et al., 2007; Kellow & Jones, 2005; Kellow & Jones, 2008; Massey & Fischer, 2005; Mayer & Hanges, 2003; Nguyen & Ryan, 2008;

Steele & Aronson, 1995; Taylor & Walton, 2011). Deaux et al., Kellow and Jones, Massey and Fisher, Mayer and Hanges, and Nguyen and Ryan all found that African American undergraduate's performance decreased when told that the test was a measure of their intellectual ability under the stereotype threat condition (e.g., diagnostic ability). Additionally, Taylor and Walton found that stereotype threat significantly negatively affected both academic performance and processes involved with learning academics. Deaux et al. and Massey and Fischer were among the few that included Latinos or immigrants in addition to African Americans. Deaux et al. found that, similar to African American trends among the stereotype literature, Afro-Caribbean immigrants' performance decreased when participants were told that the test was diagnostic of their intellectual ability. Massey and Fischer evidenced that Latinos indeed exhibited lower grades when internalizing a negative stereotype and experienced a "performance burden" when externalizing the negative stereotype (p. 53); however, the regional background of the Latinos was not specified. In other words, it is not known whether the Latino samples were Americans, Spanish, Mexican, or South American. Undoubtedly, these studies have all significantly contributed to the stereotype threat and academic performance literature; however, none examined U.S. Mexican immigrants specifically.

It is important for studies to focus on the population of U.S. Mexican immigrants and not just assume previous literature generalizes to this minority group for three reasons. First, Mexicans emigrating from Mexico unequivocally face different stereotypes in different contexts compared to other minority groups in American, such as African Americans. Individuals with African heritage who were born in the United States

are thought to belong to one of United States' many minority groups (Simpson & Yinger, 2013); however, these minority individuals do not have to acquire a new language or assimilate to a new culture, since they spent much of their life in America (Niemann, 2001). Second, statistical reports on Mexican immigrants' education illustrate that this specific group of immigrants, as opposed to all Latin immigrants more generally, is underperforming on various academic levels. Meaning, there is a past and current trend of academic underperformance that requires more research to determine an action plan to improve the educational experiences of Mexican immigrants. Third, the current social and political milieu may impact how members of the majority group view immigrants coming from Mexico. Recently, the media and society has placed a negative stigma on Mexican immigration (Brown, 2013). Additionally, politicians cannot seem to agree on various immigration policies. Many American citizens disapprove of the way the government is handling decisions surrounding immigration in the United States (Brown, 2013).

Despite scant literature specifically including a sample of U.S. Mexican immigrants, several studies have examined stereotype threat and academic performance among Hispanic and Latino groups (Gonzalez, Blanton, & Williams, 2002; Guyll, Madon, Prieto, & Scherr, 2010; Rodríguez, 2014). Guyll et al. (2010) provided an intriguing, non-experimental commentary on Latinos, proposing that Latino students may experience greater effects from stereotype threat than other stigmatized groups. Guyll et al. (2010) further assert that negative group stereotypes are more readily activated in Latinos who are less acculturated or have strong ethnic identities. For instance, a Latino/a

with a strong sense of ethnic identity may want to represent their group in a favorable light. Academic underperformance then occurs when Latino/a individuals experience anxiety in a situation where they reflect on the stereotype that Latino groups exhibit low test scores, which would, in turn, confirm the stereotype (Guyll et al., 2010; Niemann, 2001). While qualitative in nature, Guyll et al.'s study did not provide a measurable effect that stereotypes may have on academic performance among the Latino/a Americans. Gonzalez et al. (2002) and, more recently, Rodríguez (2014) posited that stereotype threat had a significant negative influence on the academic performance of Latino and Hispanic groups. Similar to the paradigms used by Mayer and Hanges (2002) and Kellow and Jones (2008), Gonzalez et al. found that Latino/a undergraduates underperformed on a mathematical and spatial test when informed that the test was diagnostic of their ability compared to those who were told the test was non-diagnostic and to Whites. Similar to Gonzalez et al., Rodríguez reported that college-aged students in the high-threat condition performed worse on standardized exams than those in the low-threat and control groups. Whereas Gonzalez et al. and Rodríguez only studied undergraduates, the current study hopes to extend the generalizability of stereotype threat by examining Mexican immigrants 12 years of age and older. Furthermore, Rodríguez's sample consisted of only Hispanic students. This research will include a comparison group consisting of Caucasian individuals in order to determine the magnitude of disparity, if one exists, between U.S. Mexican immigrants and a U.S. majority group. Notably, Rodríguez also suggested, "the extent to which negative stereotypes influence the academic performance of Hispanic students on academic tasks is largely unknown"

(p. 194). Steele's (1997) legitimate concern is that individuals will come to devalue scholastic performance and underperform if exposed to stereotype threat over a long period of time.

Stereotype threat and social self-efficacy

Although research exists on stereotype threat and academic performance (Aronson, 2004; Guyll, Madon, Prieto, & Scherr, 2010; Massey & Fischer, 2005; Mayer & Hanges, 2003; Rodríguez, 2014; Steele, 1997) and academic performance and social self-efficacy (Anderson & Betz, 2001; Bandura, Barbaranelli, Caprara, & Pastorelli, 1996; Wentzel & Wigfield, 1998), there is less known about the extent to which stereotype threat influences social self-efficacy, specifically among U.S. Mexican immigrants. An extensive search of the literature from various databases (e.g., PsycINFO, SAGE Premier, PsycArticles, and Google Scholar) revealed that no study has investigated both stereotype threat and social self-efficacy. The primary purpose for selecting social self-efficacy as a dependent variable in the current study is due to the lack of literature directed at social self-efficacy and stereotype threat. Smith and Betz (2000) define social self-efficacy as "…an individual's confidence in his or her ability to engage in the social interactional tasks necessary to initiate and maintain interpersonal relationships" (p. 286). Social self-efficacy is derived from self-efficacy, and the two constructs share general principles. With all forms of efficacy, individuals measure their capabilities in relation to the abilities of others (Bandura, 1993). People compare themselves to others they encounter in order to judge their own ability. Stereotype threat is defined as a situational phenomenon in which one feels vulnerable and worries about

being judged by the stereotype or fear that he or she will confirm the negative social stereotype (Smith, 2004). An experimental study conducted by Kashdan and Roberts (2004) was one of the few studies that came closest to examining constructs of the current study, stereotype threat and social self-efficacy. In the manipulation condition, Kashdan and Roberts assigned a confederate to ask a participant a series of emotionally charged questions. Positioning a video camera either on the participant or on the confederate during the dialogue created the socially threatening situation. The findings revealed that social threat caused a decrease in perceived social self-efficacy in highly socially anxious individuals (Kashdan & Roberts, 2004). This study claimed to be the first to examine the impact of social threat on social self-efficacy and interpersonal curiosity; however, social threat was not operationalized in the same way stereotype threat will be in the current study. Furthermore, Kashdan and Roberts preselected participants who scored extremely high and extremely low on the social anxiety measure, excluding those who fell in between. Burnette, Pollack, and Hoyt (2010) found that stereotype threat had a significant negative impact on efficacy beliefs. More important, Burnette et al. (2010) affirm that stereotype threat can lead to poor self-evaluations—self-evaluations that play a critical role in forming and maintaining a strong sense of social self-efficacy. If stereotype threat has been found to lead to poor self-evaluations, and social self-efficacy relies heavily on positive self-evaluations (Bandura et al., 1996), then it is quite possible stereotype threat may impact one's social self-efficacy.

Another way in which stereotype threat theory could potentially impact social self-efficacy is at school and in the workplace. In social contexts such as school, students

engage in interpersonal contact to build supportive relationships with peers and faculty. A high sense of social self-efficacy is crucial for seeking out and cultivating these social relationships (Bandura, Barbaranelli, Caprara, & Pastorelli, 1996). Individuals who are accepted by their peers experience a more favorable educational environment that is more conducive for learning than students who are rejected by others (Bandura et al., 1996). These supportive relationships offer models for navigating challenging social situations and for buffering the adverse of effects of social stressors (Bandura et al., 1996). Stereotype threat works as a social barrier by invoking anxiety, fear, and decreased confidence in social contexts (Abdou & Fingerhut, 2014). The threat of a stereotype in the classroom could create a social stressor for an individual trying to successfully form interpersonal relationships or complete collaborative tasks, qualities that are pertinent to building social self-efficacy. For example, if a Mexican American student was required to collaborate on a class project with a group comprised mostly of Caucasian students and the class was taught by a Caucasian faculty member, he or she will likely experience stereotype threat, according to literature (Gonzalez, Blanton, & Williams, 2002; Guyll, Madon, Prieto, & Scherr, 2010; Rodríguez, 2014; Steele & Aronson, 1995; Steele, 1997). At the same time, interacting successfully and effectively with his or her peers in the group is significant for forming and maintaining a strong sense of social self-efficacy (Bandura et al., 1996; Di Giunta et al., 2010).

Similar to academic contexts, a high sense of social self-efficacy aids employees in forming supportive work relationships, overcoming challenges that may arise in the workplace, and successfully executing social interactional tasks (Hochwarter, Kiewitz,

Gundlach, & Stoner, 2004). A sense of social self-efficacy is essential for effectively collaborating on group projects and when communicating with one's superior (Wright & Perrone, 2010). One way that stereotype threat could affect social self-efficacy is through social feedback in the workplace. According to Bandura (1993), individuals strengthen and evaluate their social self-efficacy by using feedback from others in their social environment. Under stereotype threat, individuals may be hesitant to use another person's social feedback to evaluate their own social self-efficacy if they feel that in doing so the social stereotype will be confirmed. For example, if a stereotype about Mexican immigrants being poor workers and anti-social (Niemann, 2001) is salient during a situation at work, a Mexican immigrant employee may not be receptive to social feedback from coworkers in that context for fear of confirming the stereotype that Mexican immigrants underperform in the workplace. Being hesitant to participate in group tasks, due to stereotype threat, will prohibit individuals from successfully engaging in social responsibilities at work and forming sustainable relationships that are pertinent for one's social self-efficacy (Kashdan & Roberts, 2004).

Additionally, Beilock and McConnell (2004) and Steele and Aronson (1995) contend that all that is required for unfavorable outcomes to occur is to be presented with a scenario in which a negative group stereotype about one's performance exists. For stereotype threat to apply to a situation, one has to be able to establish that there are indeed commonly held stereotypes about one's group that pertain to that domain (Beilock & McConnell, 2004). Furthermore, the authors noted that the individual being exposed to the threat has to be aware that this stereotype exists, but does not necessarily need to

believe the stereotype. For instance, communication skills and adapting to a new culture are important in developing a strong sense of social self-efficacy (Erozkan, 2013; Hechanova-Alampay, Beehr, Christiansen, & Van Horn, 2002). Therefore, if a Mexican immigrant is presented with a stereotype about having poor communication skills or not being able to fit in with others at work, it is likely that this threat can depress one's level of social self-efficacy (Niemann, 2001).

Just as stereotype threat has shown to have significant negative effects on math efficacy, musical efficacy, athletic efficacy, general self-efficacy, and health efficacy (e.g., Abdou & Fingerhut, 2014; Beilock & McConnell, 2004; Deemer, Thoman, Chase, & Smith, 2014; Hansen & Wänke, 2009; Schweinle & Mims, 2009; Ryan & Ryan, 2005), it is hypothesized that stereotype threat will adversely affect social self-efficacy in U.S. Mexican immigrants. Specifically, activating a social stereotype about Mexican individuals will cause situational anxiety and a fear of confirming decrease post-social-self-efficacy measures. For stereotype threat to have an impact on U.S. Mexican immigrants' social self-efficacy, the content of the stereotypes will refer to a socially held belief about this group's ability to effectively form and maintain relationships and successfully navigate their social environment (Beilock & McConnell, 2004; Deaux et al., 2007).

Summary and Conclusions

The main variables in the current study are stereotype threat (independent variable), social self-efficacy (dependent variable), and academic performance. A large body of existing literature demonstrates stereotype threat negatively impacts academic

performance outcomes (Aronson, 2004; Guyll, Madon, Prieto, & Scherr, 2010; Massey & Fischer, 2005; Mayer & Hanges, 2003; Rodríguez, 2014; Steele, 1997). A few studies have illustrated the negative effect that stereotype threat has on the cognitive and intellectual performance of Hispanic and Latino individuals (Gonzalez et al., 2002; Nadler & Clark, 2011; Rodríguez, 2014); however, none specifically sampled U.S. Mexican immigrants.

Despite evidence that stereotype threat decreases performance outcomes, the literature on stereotype threat and social self-efficacy is almost nonexistent. However, research does indicate that stereotype threat affects other types of self-efficacy (i.e., math, athletic, and musical) while also creating social stressors and barriers for individuals under threat. This study is unique in that it will fill two gaps. First, investigating the impact that stereotype threat has on social self-efficacy will add to the scant body of literature on the construct of social self-efficacy and may also help extend stereotype threat theory to include social self-efficacy in future studies. Second, this study will explore three variables (stereotype threat, social self-efficacy, and academic performance) in a population that has yet to be studied (U.S. Mexican immigrants).

Among the literature on stereotypes and academic performance, there is a need to examine the effects of stereotype threat on Mexican immigrants' performance, especially considering the current state of academic underperformance among this group and the stereotypes specifically targeted at this particular immigrant group. Additionally, it is evident that Mexicans crossing the border to start a new life encounter social barriers, career challenges, and even social isolation (Niemann, 2001; Rodríguez, 2014). It is

imperative that researchers continue to expand the literature and understand the myriad ways in which stereotype threat can affect various minority groups and what social cognitive implications may arise in different contexts among these different groups. Not all stereotypes can be generalized to all the other minority groups; therefore, not all research findings on one particular minority group should logically be extended to the other groups.

Chapter Two provided a detailed literature review on the concepts, theories, and main variables. Additionally, Chapter Two demonstrated how all the variables are linked through past studies. Finally, in Chapter Two the gaps in the literature were identified along with an explanation and justification as to the ways in which the current study will try to fill those gaps. In Chapter Three, the research design, methodology, sampling, instrumentation, and psychometric properties are discussed.

Chapter 3: Research Method

Introduction

Because of the problem of decreased self-efficacy, low academic scores, and lack of literature on stereotypes and social efficacy among Mexican immigrants, the purpose of the current study is to investigate the impact of stereotype threat on social self-efficacy and academic performance. In this chapter, the researcher presents an explanation and rationale of the research design, methodology, population, and sampling strategy. Additionally, specific processes concerning participation, eligibility criteria, and the use of SurveyMonkey for data collection are discussed. The hypotheses and research questions are listed followed by an account of the type of statistical test that is best suited for this study. Finally, threats to validity and ethical procedures relevant to this study are explained.

Research Design and Rationale

The current study will employ a quantitative, experimental research design. A quantitative design was chosen in order to measure the impact that stereotype threat has on social efficacy and academic performance. Quantitative research is ideal when taking a deductive approach (Sandelowski, Voils, Crandell, & Leeman, 2013). The current study will apply two general theories of efficacy and stereotypes, and seeks to explore the application of those theories to a new set of variables and population that have not yet been examined. An experimental design is best suited for this study in order to observe the effect that the presence of stereotype threat, the independent variable, has on the outcome variables, academic performance and social self-efficacy scores. Creswell

(2009) states that experimental designs are efficient when testing the impact of an intervention on an outcome variable. A two-way factorial design will be used in this experimental study. The first independent variable, stereotype threat, will have two levels- threat and no threat. The second, quasi-independent variable will be ethnicity- Mexican and Caucasian. The four conditions will then be a) Mexican immigrants exposed to the stereotype threat, b) Caucasians exposed to the stereotype threat, c) Mexican immigrants not exposed to the stereotype threat, and d) Caucasians not exposed to the stereotype threat condition. The two dependent variables will be social self-efficacy and academic performance.

The main research question this study seeks to address is, to what extent does stereotype threat impact social self-efficacy and academic performance among U. S. Mexican immigrants compared to scores of Caucasian Americans. One way to analyze the data is by using a two-way ANOVA. To best address the research questions, an analysis of variance test will be used to measure the difference between sample means of two distinct participant groups. An analysis of variance test is appropriate because more than two conditions are being compared (Field, 2009). This analysis is also appropriate because the independent variables are nominal and the dependent variables are interval and ratio level. The efficacy scale is a Likert-type scale, which Trochim (2006) asserts is an interval level of measurement. Twenty questions derived from the GRE will be used to measure academic performance. The GRE is an interval scale. The statistics software, SPSS (Version 21.0), will be used to organize and carry out the data analysis.

Methodology

Population

The aim of the current quantitative study is to investigate how stereotype threat affects both social self-efficacy and academic performance of U.S. Mexican immigrants. The population of interest for this research consists of males and females from the United States. Because of the difficulty of obtaining a comprehensive list of all the individuals in the United States, the sampling frame will be U.S. male and females, at least 18 years old, with access to Walden University's Participant Pool, and SurveyMonkey, which both require internet access.

Sampling and Sampling Procedures

Characteristics of sample. The intended criteria for the sample include females and males at least 18 years of age, born in Mexico, currently reside in the United States, and they must be able to understand, read, and, preferably, speak English. It should be noted that there is a distinction between Mexican and Latino populations. Particular Latino groups may include individuals of Mexican lineage. According to Klenke (2013) the concepts 'Hispanic' and 'Latino' are often used interchangeably, but Mexican populations are not necessarily synonymous with both Latino and Hispanic populations. Data will be collected in two different ways in order to obtain an adequate number of immigrant participants required to achieve an acceptable statistical power. One way in which participants can elect to participate is by completing the questionnaires on SurveyMonkey. Additionally, this research will be shared with Walden University's

Participant Pool. In addition to the sample of Mexican immigrants, a comparison group consisting of Caucasian Americans will be included in the study.

Sample size. Sample size has been determined using G*Power, a software that aids in power analysis and determining appropriate sample size (Laureate Education, Inc., 2009g). The researcher simply chooses the options that correspond to the type of statistical test, power, and effect size required or preferred for his or her study and G*Power generates the sample size. The total sample size in this study will be 212. Using a 2 x 2 between-subjects factorial design, each of the four groups will therefore contain 53 participants. The sample size for this study was generated by G*Power by selecting ANOVA: Fixed effects, special, main effects and interactions as the statistical test, 80% power, a Cohen's *f* value of .25, and an alpha level set at $\alpha = .05$.

Sampling strategy and procedures. Due to the relatively small sample size of this study and the potential difficulties in recruiting immigrant participants, the current study will employ a type of nonprobability sampling called purposive sampling. According to Creswell (2009) and Trochim (2006), purposive sampling is when participants are selected based on predetermined criteria about a population. Purposive sampling can also be selected to help address the purpose of the study (Tongco, 2007). In addition to ease of recruitment, purposive sampling was selected for two reasons: to ensure that individuals chosen for the experimental group were Mexican immigrants currently living in the United States, and for the purpose of addressing the research questions.

Social self-efficacy and academic performance scores will be obtained from U.S. Mexican immigrants and Caucasians who select to participate in this research using SurveyMonkey or through Walden University's Participant Pool. With permission, flyers detailing the study will be placed at the Community College of Aurora, the University of Colorado in Denver, and the University of Colorado Anschutz Medical Campus in order to help recruit participants. For a detailed description of how the sample will be obtained, see Participant Recruitment section below.

Eligibility Criteria. The eligibility was chosen based on the proposed control group as well as the experimental group. Eligibility for the study includes anyone male or female and 18 or older who was born in Mexico and now lives in the U.S. The participants must be able to understand, read, and preferably speak English. The participants will not be forced to complete any portion of the study if they do not feel comfortable or do not understand what is being asked of them. Participants may choose to participate in the study online via SurveyMonkey or through Walden University's Participant Pool. Additionally, the group of Mexican immigrants will be compared to the control group, which will be comprised of Caucasians. The eligibility for the Caucasian group is any male or female 18 or older, born in and currently living in the United States, and who identify as Caucasian.

Procedures

Participant Recruitment. Flyers will be posted at local universities and a community college in the Denver metro area. The flyer will indicate that the researcher is seeking volunteers for a study about stereotype threat, social self-efficacy, and academic

performance. Because the researcher will administer a standardized achievement test to the participants and not rely on school grades, no minimum education level is required to partake in the study. The flyer will also state the criteria that a participant must be either Caucasian American or a Mexican immigrant 18 or older who now resides in the U.S. and can understand English. The flyer will indicate that interested individuals may participate by going online to SurveyMonkey. Additionally, the flyer will indicate that the study will be posted in Walden University's Participant Pool for members of the Walden community.

Consent for Participation. Participants will be required to read and complete an informed consent form based on Walden University's guidelines. To ensure the rights of the participant throughout the study and in all aspects of the experiment, the researcher will carefully and strictly adhere to the American Psychological Association's Code of Ethics (2002). The consent form will include the purpose of the study, procedures, a sample of a research question, risks and benefits for all individuals involved, an introduction to the researcher, an explanation of the voluntary nature of the study, a statement indicating there will be no compensation or reimbursement, how the researcher will ensure privacy, and contact information for asking further questions.

Data Collection

After informed consent is obtained, the participants in the stereotype threat condition, both Mexican immigrants and Caucasian nonimmigrants, will read a paragraph containing stereotypes associated with social behavior, interpersonal interactions, and social competence (i.e., reflecting social self-efficacy skills). The exact paragraph appears

in Appendix B. In addition, those in the experimental condition will be told that the academic performance measure is "a test of their true ability" and "diagnostic of intellectual ability" (Steele & Aronson, 1995, p. 799). Informing participants that the test is a measure of one's true intellectual ability should activate stereotype threat for the academic performance measure for those individuals the experimental group (Steele & Aronson, 1995). Gonzalez, Blanton, and Williams (2002) and Nadler and Clark (2011) demonstrated that one can invoke stereotype threat by making explicit references to a stigmatized group or by making a biased statement relevant to one's group prior to testing.

Additionally, all participants will be asked to fill out a few questions about his/her ethnicity in order to make race salient (Nadler & Clark, 2011). The questionnaire also asks if the individual is at least 18 years old in addition to a few other questions that reflect the inclusion criteria. This questionnaire appears in Appendix A. Spencer et al. (1999) activated stereotype by informing the experimental participants that his or her group (i.e., any group to which the individual identifies with, whether it be by race, gender, sex, etc.) performed worse in a domain than another group. This study will incorporate Spencer et al.'s method for activating stereotype in an academic domain. After the individuals answer the race and ethnicity questions, the researcher will state that Mexican Americans, especially U.S. Mexican immigrants, underperform in various academic domains compared to Caucasian Americans (CIS, 2011; U.S. Department of Education, 2013). For the Mexican immigrant and Caucasian nonimmigrant groups assigned to the "no threat" situation (e.g., the control group), the individuals will

complete the social self-efficacy and academic performance measures without being exposed to the paragraph of stereotypes first. The instruments will not be administered in a group setting.

Upon exiting the study, participants will be debriefed, reiterating the intent of the study and potential benefits. They will be provided with the researcher's contact information should they have any concerns or questions following the study. No follow-up procedures will be necessary. The PSSE and the GRE questions will not be administered in Spanish, because many standardized tests given in high schools and colleges are offered in English (e.g., the Graduate Record Exam; Pennock-Roman, 1998).

Instrumentation and Operationalization of Constructs

Instrumentation

Social Self-efficacy. Social self-efficacy will be measured using a Scale of Perceived Social Self-Efficacy (PSSE) developed by Smith and Betz in 2000. The PSSE is a 25-item scale that measures perceived efficacy expectations in social situations including shyness, social anxiety, global self-esteem, and skills confidence (Smith & Betz, 2000). Wright, Wright, and Jenkins-Guarnieri (2013) posited that the PSSE is psychometrically sound and one of the few measures of social self-efficacy that align with Bandura's self-efficacy theory. The PSSE was found to have good concurrent and construct validity (Fan, Meng, Gao, Lopez, & Liu, 2010; Smith & Betz, 2000). The PSSE has been found to be internally consistent with a coefficient alpha of .94 and a test-retest coefficient of .82 (Smith & Betz, 2000). The PSSE has also been successfully

administered to diverse populations (Constantine, Okazaki, & Utsey, 2004; Gong & Fan, 2006)

Academic Performance. Six questions from the Graduate Record Exam (GRE) verbal reasoning and six questions from the GRE quantitative measure will be selected and used to measure academic performance. The GRE was developed to measure basic abilities and material related to graduate school performance (Kuncel, Hezlett, & Ones, 2001). According to Kuncel, Hezlett, and Ones (2001), the GRE quantitative measure contains quantitative comparison and interpretation questions. The GRE verbal reasoning is composed of questions that test reasoning skills and the ability to evaluate relationships between words and sentences in various contexts (Kuncel et al., 2001). The verbal reasoning consists of three sections: reading comprehension, sentence equivalence, and text completion (Peterson's, 2014). Using ten to twenty questions derived from the GRE to measure academic performance is well cited and common among stereotype threat and performance literature (Aronson et al., 1999; Clark, Eno, & Guadagno, 2011; Gonzalez, Blanton, & Williams, 2002; Inzlicht & Ben-Zeev, 2003; Jamieson & Harkin, 2009; Rodriguez, 2014; Steele & Aronson, 1995). A GRE validity analysis revealed that the verbal, analytical, and quantitative measures of the GRE are valid predictors of grade point average in first year graduate school students, faculty ratings, and comprehensive exam scores (Kuncel et al., 2001). Additionally, the meta-analysis compiled by Kuncel et al. confirmed the validity of the GRE does generalize across departments, areas, and situations and is unlikely to be "moderated by unexamined variables" (p. 174). Butler et al. (2012) posited that the criterion validity for the GRE verbal reasoning was $r = .12$ and

r = .20 for the quantitative measure. Kuncel et al. noted an average internal consistency reliability value of .83. Kingston (1985) asserted that the GRE verbal reasoning measure had an estimated reliability of .92, and the quantitative measure had a reliability of .91.

Both the PSSE and the GRE are interval levels of measurement (i.e., they measure interval-level data). Therefore, the PSSE and the GRE are appropriate for measuring social self-efficacy and academic performance, respectively. The scale and test will be administered online using the data collection tool, SurveyMonkey in addition to being posted on Walden University's Participant Pool.

Stereotype Threat. Niemann (2001) discussed a number of common stereotypes that target Mexicans and Latinos. The topics of those stereotypes included unemployment, socioeconomic status, and education, among others (Niemann, 2001). Because the dependent measures are academic performance and social self-efficacy, the content of the stereotype threat manipulation paragraph must contain stereotypes related to these constructs (Jamieson & Harkins, 2010; Steele, 1997; Steele & Aronson, 1995). Jamieson and Harkins (2010) and Steele and Aronson (1995) attest that as long as the stigmatized participants know the stereotype and are a member of the group of which the stereotype targets, there is the potential for threat-based concerns. There are two dependent variables, social self-efficacy and academic performance. For example, stereotypes about social behavior may not create a threat in the air when the participant is completing the academic measure. Similarly, a stereotype aimed at a group's academic abilities may not create a threatening situation for someone completing social self-efficacy items. Therefore, there will be two ways in which stereotype threat will be

activated. This method of stereotype threat manipulation has been used by several studies (Abrams, Eller, & Bryant, 2006; Aronson et al., 1999; Clark, Eno, & Guadagno, 2011; Eich, Murayama, Castel, & Knowlton, 2014; Jamieson & Harkins, 2009; Jamieson & Harkins, 2010).

The first method will require participants in the experimental group to read a paragraph containing several negative stereotypes pertaining to interpersonal interactions, social behavior, and social tasks targeted at Mexican individuals. This form of stereotype threat activation is intended to create a threat "in the air" for the individuals on the social self-efficacy measure. The exact paragraph appears in Appendix B. The second method is intended to activate stereotype threat for the participants when completing the academic performance measure. Prior to testing, participants in the experimental group will be told that the academic performance measure is "a test of their true ability" and "diagnostic of intellectual ability" (Steele & Aronson, 1995, p. 799). As previously mentioned, this method has demonstrated to invoke stereotype threat and cause a decrease in academic scores for African Americans and Hispanics (Clark, Eno, & Guadagno, 2011; Gonzalez, Blanton, & Williams, 2002; Steele & Aronson, 1995). In addition, the participants in the stereotype threat condition will be asked to fill out a few questions about his/her ethnicity in order to make race salient (Nadler & Clark, 2011). This short questionnaire appears in Appendix A. After the individuals complete the race and ethnicity questionnaire the researcher will read aloud to the participant that Mexican Americans, especially U.S. Mexican immigrants underperform in various academic domains compared to Caucasian Americans (CIS, 2011; U.S. Department of Education, 2013). According to Spencer et al.

(1999) informing one that their group performs worse than another group on a task activates stereotype threat.

It is important to note that participants from both the Mexican immigrant and Caucasian experimental groups will read the stereotype threat manipulation paragraph and be informed the academic measure is a diagnostic test of true intellectual abilities. Comparing stigmatized individuals (e.g., Mexican immigrants) with nonstigmatized individuals (e.g., Caucasians) is a design commonly found in stereotype threat literature (Blascovich, Spencer, Quinn, & Steele, 2001; Davies, Spencer, Steele, 2005; Steele & Aronson, 1995; Steele, James, & Barnett, 2002). This method allows one to see whether the no-threat condition is associated with equally good performance as the Caucasians in the study. The paragraph's relevance to Caucasians is unimportant, as it is more essential to have an equivalent manipulation for both groups. The lack of relevance means the stereotype threat should have no effect on the Caucasian participants.

Operational Definitions

Social self-efficacy is a construct coined by Bandura and is derived from his social cognitive theory. Smith and Betz (2000) define social self-efficacy as "an individual's confidence in her/his ability to engage in the social interactional tasks necessary to initiate and maintain interpersonal relationships" (p. 286). Social self-efficacy deals with one's perception about his or her ability to seek out, develop, and maintain satisfying social relationships; his or her ability to meet others' expectations; the extent to which one exhibits assertiveness around others; one's ability to resist peer pressure; and one's ability ask and receive advice and criticism. It is important to note

that this is the definition that Smith and Betz used to construct the scale of Perceived Social Self-Efficacy, which is the selected measure for one of the dependent variables in this study. By using Smith and Betz's definition, the researcher is ensuring that the scale appropriately measures the variable social self-efficacy. The other dependent variable, academic performance, is defined by an increase or decrease in scores on GRE verbal reasoning and quantitative measures. The GRE was developed to measure basic abilities and material related to graduate school performance (Kuncel, Hezlett, & Ones, 2001). According to Kuncel, Hezlett, and Ones (2001), the GRE quantitative measure contains quantitative comparison and interpretation questions. The GRE verbal reasoning measure is composed of questions that test analytical thinking and reasoning skills (Kuncel et al., 2001).

Although the focus of the current study is specifically on Mexican immigrants, the literature review and other sections of this paper cite studies involving Hispanics and/or Latinos. It is important to note that Latino and Mexican populations are distinct; Latino groups can encompass individuals of Mexican descent. The terms 'Hispanic' and 'Latino' are often used interchangeably, but Mexican populations are not necessarily synonymous with Hispanic and Latino groups.

Data Analysis

Data Cleaning and Screening

Before running the statistical analysis, data should be cleaned and screened (DeSimone, Harms, & DeSimone, 2015). First, in order to clean data, the researcher will detect and delete or modify the outliers in the dataset. Second, the researcher will check

to see if the distribution of scores is normal, also referred to as normality of variables (Van den Broeck, Argeseanu Cunningham, Eeckels, & Herbst, 2005). If non-normality exists, the dependent variable can be transformed or a non-parametric equivalent can be used (Van den Broeck et al., 2005). Third, the researcher should check if more than 5% of the data is missing. If this is the case, a frequency should be run to find missing data in the variables. Missing data can be deleted, renamed as another category, or estimated by the researcher (DeSimone et al., 2015). Van den Broeck et al. (2005) also posits that for missing data, a researcher can measure and remeasure the data if time permits. Fourth, the variances in all levels of the independent variable on the dependent variable should be the same. According to DeSimone et al., a Levene's test, Fligner Killeen test, and Bartlett's test can be used to test for homogeneity of variance.

Statistical Test

The current study will have a 2 x 2 between-subjects factorial design with four distinct conditions. The first independent variable, stereotype threat, will have two levels-threat and no threat. The second, quasi-independent variable will be ethnicity-Mexican and Caucasian. The four conditions will then be a) Mexican immigrants exposed to the stereotype threat, b) Caucasians exposed to the stereotype threat, c) Mexican immigrants without the stereotype threat, and d) Caucasians without the stereotype threat condition. The two dependent variables will be social self-efficacy and academic performance. To best address the research questions, two separate two-way analysis of variance tests will be used to test the difference between sample means of two distinct participant groups. One will test the effect of the two predictor variables on social self-efficacy, and the

second analysis will test the same predictor variables on academic performance. These will be run as two separate two-way ANOVAs, because this study is interested in the effect of stereotype threat on academic performance and social self-efficacy independent from one another. An analysis of variance test is appropriate because more than two conditions are being compared (Field, 2009). This analysis is also appropriate because the independent variables are nominal and the dependent variables are interval level. The efficacy scale is a Likert-type scale, which Trochim (2006) asserts is an interval level of measurement. The Graduate Record Exam (GRE) will be used to measure academic performance and is also an interval level of measurement (Kuncel, Hezlett, & Ones, 2001). The statistics software, SPSS (Version 21.0), will be used to organize and carry out the data analysis.

Research Questions and Hypotheses

Research Question 1: Will stereotype threat significantly decrease social self-efficacy scores of U.S. Mexican immigrants compared to Caucasians?

H_0: Stereotype threat will have no significant effect on social self-efficacy scores of U.S. Mexican immigrants compared to Caucasians.

H_1: Stereotype threat will significantly decrease social self-efficacy scores of U.S. Mexican immigrants compared to social self-efficacy scores of Caucasians in the stereotype threat condition, Caucasians in the no threat condition, and Mexican immigrants in the no threat condition.

Research Question 2: Will stereotype threat significantly decrease academic performance of U.S. Mexican immigrants compared to Caucasians?

H_0: Stereotype threat will have no significant effect on academic performance of U.S. Mexican immigrants compared to Caucasians.

H_1: Stereotype threat will significantly decrease academic performance of U.S. Mexican immigrants compared to Caucasians in the stereotype threat condition, Caucasians in the no threat condition, and Mexican immigrants in the no threat condition.

Threats to Validity

External Validity

According to Campbell and Stanley (1963), external validity is an issue of generalizability. In the current study, one threat to external validity might be inclusion criteria for the sample (Creswell, 2009). The specific characteristics- being born in Mexico, currently residing in the United States, and must speak/understand English- of the participants in the experimental group may limit to whom the researcher can generalize the results. For example, the results from this particular study could not be generalized to German immigrants living in England, because the experimental group will not include individuals beyond Mexican American immigrant status. To avoid overgeneralizing or incorrectly generalizing to other populations, the researcher will limit claims about groups to which the results cannot be generalized (Creswell, 2009).

A second threat to external validity could potentially be reactive effects of the setting and treatment (Campbell & Stanley, 1963; Creswell, 2009). The setting of this study will vary and is widely unknown due to the use of SurveyMonkey and the Walden University Participant Pool, which are accessed using the Internet. Individuals could choose to participate in a group setting or solitude, depending on where they can or

choose to have access to the Internet. Therefore, the results may not likely generalize to individuals in a real-life, real-time setting. One way to respond to this particular threat is for researchers to conduct the current study in a variety of settings (Creswell, 2009).

Internal Validity

In addition to external validity, threats to the internal validity of a design are equally important. Internal validity deals with whether the experimental treatment actually made a difference in the outcome or whether the effects are due to extraneous variables (Campbell & Stanley, 1963; Creswell, 2009). One threat to internal validity in this study is selection of participants (Creswell, 2009). Participants in the U.S. Mexican immigrant group will be selected based on specific criteria and by employing a purposive sampling technique (previously discussed- see Eligibility Criteria). This group may have biases or differ from the Caucasian nonimmigrant comparison group from the beginning in terms of academic ability, knowledge of and experience with the Internet, etc., even without the manipulation.

According to Creswell (2009), a second threat to internal validity that may arise is mortality. If participants choose to withdrawal from the study or dropout unexpectedly, the values or outcomes for these participants will be unknown (Creswell, 2009). This threat may be unlikely, since the data will be collected at a single point in time. To mitigate this threat, the researcher will select more participants than the required 212 generated by G*Power.

Diffusion of treatment is a third possible threat to internal validity. Creswell (2009) describes this threat as when there is communication between those in the control

and those in the experimental group. Although unlikely, this could potentially happen in the current study, because the internet will be used for data collection; there will be no way of knowing whether individuals in either group are in contact. A recommendation and explanation of the importance of completing the measures in privacy will be suggested to the participants.

Construct Validity

According to Westen and Rosenthal (2003), construct validity refers to the "extent to which a measure adequately assesses the construct it purports to assess" (p. 609). A lack of construct validity makes it difficult to interpret the results of a study (Westen & Rosenthal, 2003). Trochim (2006) claims that inadequately operationally defining a construct can threaten construct validity. In the current study, operational definitions from the scale developers were used to ensure adequate operational definitions of the constructs. Additionally, Trochim suggests that interaction of testing and treatment could threaten construct validity. Trochim mentions that the test or measurement itself could make the participants more sensitive to the treatment. In this study, for example, informing the participants that they will be asked to complete an academic achievement test could unknowingly make them anxious. Trochim pointed out "the testing is in effect a part of the treatment, it's inseparable from the effect of the treatment" (n.p.).

Trochim (2006) also notes that threats to construct validity can stem from social and human nature. For example, participants may anticipate or "guess" what a study or test is about and therefore, base their behavior or responses on that guess. Hence, the outcome may not be a true effect of the independent variable. Trochim labels this as

evaluation apprehension. If the researcher feels this is the case in the current study, she will acknowledge and document this when discussing the data. Similar to evaluation apprehension, experimenter expectancies could also threaten construct validity (Trochim, 2006). Participants may attempt to answer questions in a way that they believe the researcher desires. Participants may want to appear to do a "good job" or respond in a way that makes them "look good" in the eyes of the researcher.

Ethical Procedures

According the American Psychological Association (2010), researchers should take the appropriate steps to ensure the ethical protection of those involved in the study. In the case that participants reach out to the researcher and state that they need assistance or are having trouble understanding any part of the study, a Spanish translator will be consulted. If a Spanish translator is needed, he or she will help ensure that the participants comprehend the instructions and consent form, know their rights as a participant, and feel comfortable asking any questions before or during the study. The informed consent form will include the researchers name and contact information, the purpose of the research, the procedures, the risks and benefits of participation, and privacy and confidentiality rights (APA, 2010). In addition, the researcher will inform the individuals that participation is voluntary and they can abort the study at any time without any consequences.

Because this study focuses on a potentially sensitive population that may have been stereotyped or experienced discrimination, the researcher will be sensitive to participant reactions before, during, and after the data collection. The intention of the

study is to help this population, not place anyone under additional, undue stress in order to acquire data.

The researcher will complete and submit for approval the IRB application. The IRB approval number was 12-24-15-0084611. The information in the IRB application will seek to demonstrate that the benefits of this study outweigh the costs, and that the procedures of the study are based on the ethical principles of beneficence, justice, and respect for persons (American Psychological Association, 2010). Additionally, the data will be stored, in electronic format only, on a personal computer to which only the research knows the password. Only the researcher will have access to the original data. The data will be anonymous, because there will be no identifiers tied to the participants' responses. Also, the data will be shared with the researcher's committee members, but will remain anonymous.

Summary

In this chapter, hypotheses and research questions were developed based on the purpose of the study, the theories that underlie the study, and the operational definitions. The rationale for a quantitative, 2 x 2 between-subjects factorial design was discussed. It was determined that two separate two-way ANOVA statistical tests and SPSS (Version 21.0) will be used to test the research questions and hypotheses. Specific steps regarding participant selection, eligibility criteria, participant recruitment, and how the study will be carried out were discussed. The chapter ended with an explanation of threats to validity and how the researcher will carry out ethical procedures. In Chapter 4, the results will be reported after data collection and analyses have been run.

Chapter 4: Results

Introduction

Because of the problem of decreased self-efficacy, low academic scores, and lack of literature on stereotypes and social efficacy among Mexican immigrants, the purpose of the current study is to investigate the impact of stereotype threat on social self-efficacy and academic performance among this cultural group. This study addresses the questions of whether stereotype threat significantly decreases social self-efficacy scores of U.S. Mexican immigrants compared to Caucasians and whether stereotype threat significantly decrease academic performance of U.S. Mexican immigrants compared to Caucasians. It is hypothesized that stereotype threat will adversely affect social self-efficacy and academic scores in U.S. Mexican immigrants.

Chapter 4 presents an overview of the data collection process and descriptive statistics; a report of the current findings including results of the statistical analyses, confidence intervals, effect sizes; and the results of the hypotheses tests. A discussion of the answers to the research questions will conclude Chapter 4.

Data Collection

Time Frame, Recruitment, and Response Rates

This research study was made available to willing participants via a link set up on SurveyMonkey. Participant responses were collected between the months of February and July 2016. After six months of data collection, participant responses slowed. Although 355 individuals attempted the study, the breakdown of equal participants into the four groups was not equal, as expected (Caucasian no threat, $n = 155$; Caucasian

threat, $n = 94$; Mexican immigrant no threat, $n = 21$; Mexican immigrant threat, $n = 10$). This was most likely due to time constraints on the data collection and targeting a narrow population of U.S. Mexican immigrants. A breakdown of the number of participants who completed the three dependent variables is as follows: 255 completed the analytical reasoning questions with 100 missing data, 225 completed the quantitative analysis questions with 130 missing data, and 218 completed the social self-efficacy scale with 137 missing data. The fluctuation in sample size across the three measures can only be speculated. Some participants may have quit the study early, not completing all three measures; others may have not followed directions; and some may have simply chosen not to answer some questions. There were 270 (76.1%) females and 81 (22.8%), and 4 missing values (1.1%) for a total of 351 (98.9%). Based on the power analysis discussed in Chapter 3, the target sample size was initially 212. A 2 x 2 between-subjects factorial design was used, so it was anticipated that each group have an equal number of participants of 53.

Approval to use the Scale of Perceived Social Self-Efficacy was given by Dr. Heather Smith via email (see Appendix I). Catherine Trouth of Aurora Community College granted permission for the research flyers to be placed on campus (see Appendix H). The website for Educational Testing Service, creators and administrators of the GRE, state that tests can be used for research purposes. The site goes on to state that if one wants to change some of the questions, permission from the author is required. Permission is also needed from the author to use the test for any reason other than research, or to change or alter any test items (Educational Testing Service, 2017). For this

study, the GRE questions were used for research purposes and no questions were changed or altered, meeting the requirements to use the questions from the GRE.

Descriptive Statistics and Demographic Characteristics of the Sample

Table 1 shows the sample sizes for each variable. For the dependent variables, 255 (71.8%) completed the analytical reasoning measure, 225 (63.4%) completed the quantitative analysis measure, and 218 (61.4%) completed the social self-efficacy scale. For the independent variable, 129 (36.3%) received the stereotype threat and 194 (54.6%) did not receive the threat (e.g., this was the control group) for a total or 323 (91.0%) participants. There were 270 (76.1%) Caucasians and 33 (9.3%) Mexican immigrants. There were 270 females (76.1%) and 81 males (22.8%) with four missing values. All participants were age 18 or older, and all participants reported being able to understand and read English.

Table 1

Demographics for Overall Sample (n = 355)

Variable	*n*	%
Analytical reasoning	255	71.8
Quantitative analysis	225	63.4
Social self-efficacy	218	61.4
Stereotype	323	91.0
Threat	129	36.3
No threat	194	54.6
Ethnic Group	303	85.4
Caucasians	270	76.1
Mexican immigrants	33	9.3
Females	270	76.1
Males	81	22.8

Table 2

Means and Standard Deviations for Caucasians and Mexican Immigrants

		Analytical Reasoning		Quantitative Analysis		Social Self-Efficacy	
IVs		(*n*) *M*	*SD*	(*n*) *M*	*SD*	(*n*) *M*	*SD*
Ethnicity	Stereotype						
Caucasian							
	Threat	(74) 9.92	1.74	(65) 2.51	1.68	(63) 3.53	.88
	No Threat	(124) 10.16	1.68	(106) 2.69	1.41	(101) 3.50	.79
Mex Imm							
	Threat	(10) 5.80	3.99	(10) 1.70	1.77	(10) 2.24	1.08
	No Threat	(18) 4.06	2.31	(21) 1.71	1.38	(21) 1.80	.52

Note. Mex Imm = Mexican immigrant.

Representativeness of the Sample

Based on the power analysis, the sample size was anticipated to be 212 with 53 participants in each of the four groups. Although the sample size turned out to be more than planned (n = 355), there were not equal participants in each of the groups. It proved more challenging than anticipated recruiting Mexican immigrants. Another reason for the difference in group sample sizes was because of the way SurveyMonkey is set up. The SurveyMonkey support team stated that the independent variable could only be presented randomly but not necessarily equally to what would be the experimental group. This was due, in part, to the fact that assignment was random. This caused the Mexican immigrant group who received the stereotype threat to be small (n = 10) compared to the Caucasians

who received the stereotype threat (n = 94). Similarly, there were many more Caucasians who did not receive the stereotype threat (n = 155) than Mexican immigrants who did not receive the stereotype threat (n = 21) for a total of N = 280. As discussed in Chapter 3, purposive sampling was used in order to best address the research questions. The inclusion criteria as well as the small sample of Mexican immigrants (n = 31) decreased external validity and therefore, reduced the generalizability (Creswell, 2009). Because of the small sample size of the Mexican immigrant participants, it is worth mentioning that this is not representative of the greater population of Mexican immigrants compared to what it could have been if the sample size had been larger.

Results

Test of Assumptions

Assumption of normality. In order to determine if the data was distributed normally, Kolmogorov-Smirnov and Shapiro-Wilk tests were conducted on the whole sample using SPSS. The statistics for analytical reasoning, quantitative analysis, and social self-efficacy indicated non-normality. The results are shown in Table 3.

Table 3

Test of Normality for Analytical Reasoning, Quantitative Analysis, and SSE by Stereotype and Ethnicity

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistic	*df*	Sig.	Statistic	*df*	Sig.
Analytical reasoning	.216	215	.000	.814	215	.000
Quantitative						

analysis	.172	215	.000	.941	215	.000
Social self-efficacy	.070	215	.013	.975	215	.001

Note. ST = Stereotype Threat condition; No Thr = No Stereotype Threat; Cauc = Caucasian; Mex = Mexican Immigrant.
* This is a lower bound of the true significance.

To further examine the distribution, *z*-scores for skewness were calculated by dividing skewness by their standard error of skewness (Brys, Hubert, & Struyf, 2012). For analytical reasoning, the *z*-score for skewness was -9.34, meaning the data are significantly negatively skewed. For quantitative analysis, the *z*-score for skewness was 2.22, which is just greater than 1.96. This means the data are slightly positively skewed. The *z*-score for social self-efficacy was -1.96, meaning the data were normally distributed based on the 95% confidence level. See Table 4 for skewness and kurtosis values.

Table 4

Central Tendency, Standard Deviation, Skewness, and Kurtosis of Analytical Reasoning, Quantitative Analysis, and Social Self-Efficacy

Variable	*M* (*SE*)	Median	*SD*	Skewness (*SE*)	Kurtosis (*SE*)
Analytical reasoning	9.47 (.183)	10.00	2.69	-1.55 (.166)	2.03 (.330)
Quantitative analysis	2.49 (.103)	2.00	1.51	.369 (.166)	-.270 (.330)
Social self-efficacy	3.29 (.065)	3.40	.955	-.325 (.166)	-.662 (.330)

Note. ST = Stereotype Threat condition; No Thr = No Stereotype Threat; Cauc = Caucasian; Mex = Mexican Immigrant.

Test for Homogeneity of Variance

A Levene's Test of Equality of Error Variances was used to determine homogeneity of variance. The results are shown in Table 5. According to the analysis run in SPSS, the variances were not equal for the analytical reasoning variable $F(3, 222) = 13.17$, $p < .05$ and for the social self-efficacy variable $F(3, 191) = 3.48$, $p < .05$. However, the variances were equal for the quantitative analysis variable $F(3, 198) = 1.33$, *ns*.

Table 5

Levene's Test of Equality of Error Variances for Analytical Reasoning, Quantitative Analysis, and Social Self-Efficacy

DV	*F*	*df*1	*df*2	*p*
Analytical reasoning	13.17	3	222	.000
Quantitative analysis	1.33	3	198	.265
Social self-efficacy	3.48	3	191	.017

Note. $p < .05$.

Results From the Analysis of Variance

The initial data analyses plan required two, two-way ANOVAs. However, the way in which the academic performance measure was scored resulted in two separate sets of scores- one for the analytical reasoning portion and a second for the quantitative analysis portion Therefore, three, two-way ANOVAs were performed- stereotype threat and ethnicity being the two factors and analytical reasoning, quantitative analysis, and social self-efficacy being the measured outcomes. Organized by the research questions and hypotheses, the results from the analysis of variance are below (also see Table 6).

Because the analytical reasoning and social self-efficacy variables violated the assumption of homogeneity of variance, bootstrapped effects were generated for these variables. A further justification and findings (see pages 85 and 86) of the bootstrapped results directly follows the original ANOVA results.

RQ1-Quantitative: Will stereotype threat significantly decrease social self-efficacy scores of U.S. Mexican immigrants compared to scores of Caucasians? It was hypothesized that stereotype threat will significantly decrease social self-efficacy scores of U.S. Mexican immigrants compared to Caucasians. There was not a significant main effect of stereotype threat on social self-efficacy, $F(1, 191) = 2.03$, $p = .155$, $\eta_p^2 = .011$. There was a statistically significant main effect for ethnicity and social self-efficacy, $F(1, 191) = 78.17$, $p = .001$, $\eta_p^2 = .290$. Mexican immigrants had significantly lower scores ($M = 1.94$) than Caucasians ($M = 3.51$) on the social self-efficacy scale (see Figure 1). There was no observed statistically significant interaction between the independent variables, stereotype threat and ethnicity, on the dependent variable, $F(1, 191) = 1.45$, $p = .230$, $\eta_p^2 = .008$ (see Table 6 and Figure 1).

RQ2-Quantitative: Will stereotype threat significantly decrease academic performance of U.S. Mexican immigrants compared to scores of Caucasians? It was hypothesized that stereotype threat will significantly decrease academic performance of U.S. Mexican immigrants compared to Caucasians. A separate two-way ANOVA was used to test whether there were statistically significant differences among stereotype threat, ethnicity, and analytical reasoning scores. There was not a significant main effect

of stereotype threat on analytical reasoning, $F(1, 222) = 3.51$, $p = .062$, $\eta_p^2 = .016$. There was a statistically significant difference between ethnicity and analytical reasoning, $F(1, 222) = 162.80$, $p = .001$, $\eta_p^2 = .423$. Mexican immigrants performed significantly worse ($M = 4.68$) than Caucasians ($M = 10.07$) on the analytical reasoning (see Figure 2). There was a statistically significant interaction between ethnicity and stereotype threat for analytical reasoning, $F(1, 222) = 6.15$, $p = .014$, $\eta_p^2 = .027$ (see Table 6). Bootstrapping and post hoc tests revealed that in the no stereotype threat condition, Caucasians performed the best. In the no threat condition, Mexican immigrants performed the worst (see Tables 7 and 9). A more detailed look at the interaction and proposed explanation of why Mexican immigrants may have scored the lowest in the no threat condition is discussed in Chapter 5.

In addition to examining the impact of the independent variables on analytical reasoning, a separate two-way ANOVA was used to test whether there were statistically significant differences among stereotype threat, ethnicity, and quantitative analysis scores. There was not a significant main effect of stereotype threat on quantitative analysis, $F(1, 198) = .096$, $p = .757$, $\eta_p^2 = .001$. There was a statistically significant main effect of ethnicity and quantitative analysis, $F(1, 298) = 8.01$, $p = .005$, $\eta_p^2 = .039$. Mexican immigrants performed significantly worse ($M = 1.71$) than Caucasians ($M = 2.62$) on the quantitative analysis (see Figure 3 and Table 7). There was not a statistically significant interaction between ethnicity and stereotype threat on quantitative analysis, $F(1, 198) = .070$, $p = .792$, $\eta_p^2 = .001$ (See Table 6).

Table 6

ANOVA Test Results of Stereotype Threat and Ethnicity on Analytical Reasoning, Quantitative Analysis, and Social Self-Efficacy

Variable		*df*	*F*	Sig.	Partial η^2
Analytical reasoning	ST	1	3.51	.062	.016
	Ethnicity	1	162.80	.001	.423
	ST*Ethnicity	1	6.15	.014	.027
Quantitative analysis	ST	1	.096	.757	.001
	Ethnicity	1	8.01	.005	.039
	ST*Ethnicity	1	.070	.792	.001
Social self-efficacy	ST	1	2.03	.155	.011
	Ethnicity	1	78.17	.001	.290
	ST*Ethnicity	1	1.45	.230	.008

Note. ST = Stereotype Threat condition; Cauc = Caucasian; Mex = Mexican Immigrant.
*$p < .05$.

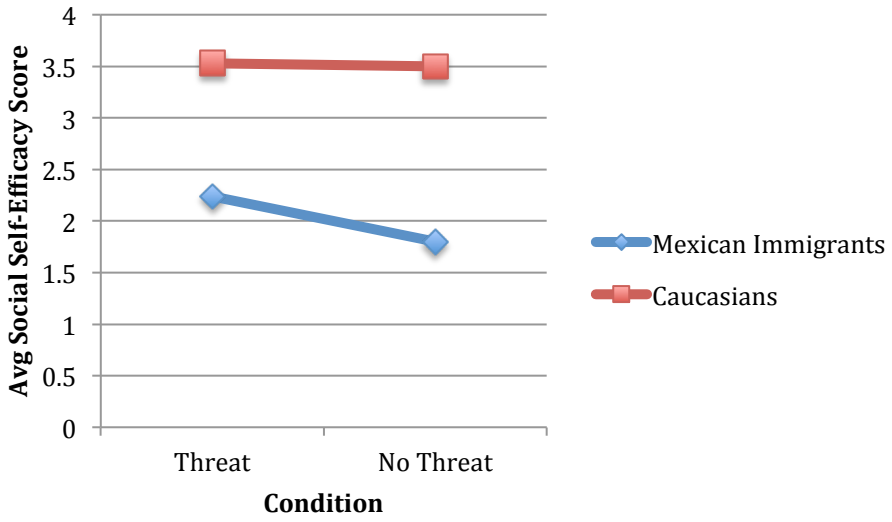

Figure 1. Average means of Mexican immigrants' and Caucasians' performances on the social self-efficacy questionnaire.

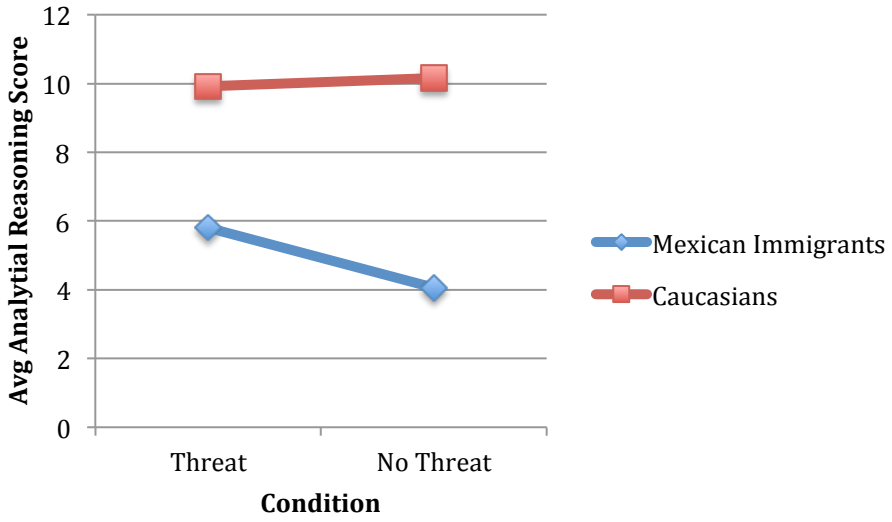

Figure 2. Means of Mexican immigrants' and Caucasians' performances on the analytical reasoning measure.

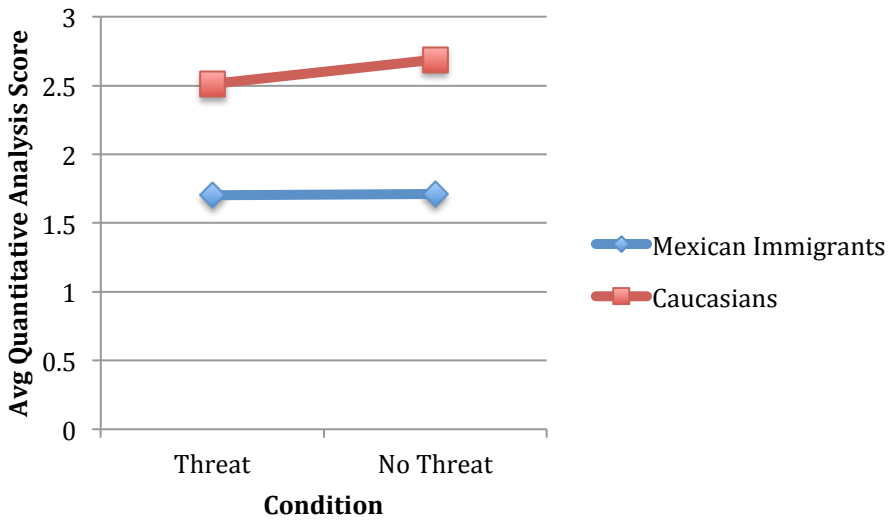

Figure 3. Means of Mexican immigrants' and Caucasians' performances on the quantitative analysis measure.

Bootstrapping for Assumption Violations

Analysis of variances were performed to identify the source of significant effects, and bootstrapping was then used to probe the significant effects that were obtained from the two-way ANOVA. In order to address the issue of skewness and heterogeneous variances from the Levene's test for analytical reasoning and social self-efficacy, an inverse data transformation was performed. According to Osborne (2010), inverse transformations can be helpful for improving the results of analyses that are considered to be robust. The inverse transformation still did not satisfy the assumptions, so the ANOVA was performed again using the bootstrap option. According to Dogan (2007), bootstrapping is a nonparametric approach to statistical tests whereby samples of the data are taken with replacement to derive an error distribution based on the sample data. This resampling method does not require an a priori assumption regarding a population error

distribution (Austin & Small, 2014; Koopman, Howe, Hollenbeck, & Sin, 2015). Therefore, bootstrapped comparisons are not subject to the same statistical assumptions that are associated with parametric tests (Dogan, 2007). Bootstrapping can be an effective tool to test statistical significance, especially when dealing with small samples and when assumptions of certain statistical tests have been violated (Koopman et al., 2015). One purported advantage to bootstrapping is that this method is less likely to result in a Type II error, because it is believed to be more statistically powerful (Koopman et al., 2015).

Bootstrap Results. Because the analytical reasoning and social self-efficacy variables violated the assumption of homogeneity of variance, bootstrapped effects were generated for these variables. Due to a significant interaction for analytical reasoning after bootstrapping was applied, simple effects using bias corrected bootstrapped confidence intervals were examined. Tables 9 and 10 illustrate the results from applying bootstrapping, including standard errors and bias corrected confident intervals. Bootstrapped pairwise comparisons were used to determine if the simple effects for the groups in the analytical reasoning and social self-efficacy variables were significant. It was found that the bootstrapped confidence intervals from the stereotype groups for analytical reasoning and social self-efficacy confirm the significant main effect found in the original ANOVA results. A more detailed explanation of the bootstrapped results as well as which particular groups scored significantly higher follows.

In the no threat condition for analytical reasoning, there was a statistically significant difference between the Caucasian group and the Mexican immigrant group 95% CI [4.90, 7.30] and [-7.12, -5.00], respectively (see Table 9). Based on the original

means, the direction of this difference showed that Caucasians (M = 10.16) performed better than Mexican immigrants (M = 4.06; see Table 7). In the threat condition for analytical reasoning, there was also a statistically significant difference between the Caucasian and Mexican immigrant groups 95% CI [1.41, 6.70] and [-6.65, -1.42], respectively (see Table 9). The means indicated that Caucasians (M = 9.92) outperformed Mexican immigrants (M = 5.80). Additionally, Mexican immigrants in the threat group M = 5.80, 95% CI [-.829, 4.63] performed slightly better than Mexican immigrants in the no threat group M = 4.06, 95% CI [-4.56, .730], although results were not statistically significant.

In the no threat condition for social self-efficacy, there was a statistically significant difference between the Caucasian group and Mexican immigrant group 95% CI [1.38, 1.98] and [-1.96, -1.41], respectively (see Table 10). Based on the original means, Caucasians (M = 3.50) outperformed Mexican immigrants (M = 1.80). In the threat condition for social self-efficacy, there was also a significant difference between the Caucasian group and Mexican immigrant group 95% CI [.484, 1.99] and [-1.95, -.532], respectively (see Table 10). The means revealed that Caucasians (M = 3.53) outperformed Mexican immigrants (M = 2.24).

Results for Individuals Groups

Analytical reasoning variable. Table 7 shows the individual means and standard deviations broken down by ethnicity and stereotype threat. The main effects for the ANOVA test showed a statistically significant difference between ethnicity and analytical reasoning. The effect of stereotype threat on analytical reasoning was not statistically

significant (see Table 6). See the paragraphs above for specific *F*-values, effect sizes, and *p*-values for all the analyses. Mexican immigrants in the stereotype threat condition (*M* = 5.80) performed worse on the analytical reasoning than Caucasians in the threat condition (*M* = 9.92). Mexican immigrants in the no threat condition (*M* = 4.06) performed worse than Caucasians in the no threat condition (*M* = 10.16). Mexican immigrants in the threat condition (*M* = 5.80) performed better than Mexican immigrants in the no threat condition (*M* = 4.06). Caucasians in the no threat condition (*M* = 10.16) performed better than Caucasians in the threat condition (*M* = 9.92). The bootstrapped confidence intervals confirm the significant main effects found in the original ANOVA results for analytical reasoning, which is that Caucasians outperformed Mexican immigrants in both the no threat and the threat conditions (for bootstrapped results, see Tables 7 and 9).

Quantitative analysis variable. The main effects for the ANOVA test revealed a statistically significant difference between the quasi-independent variable ethnicity and quantitative analysis (see Table 6). There was no significant effect between stereotype threat and quantitative analysis. Table 7 shows the individual means and standard deviations. Mexican immigrants in the stereotype threat condition (*M* = 1.70) performed worse on the quantitative analysis than Caucasians in the stereotype threat condition (*M* = 2.51). Mexican immigrants in the no threat condition (*M* = 1.71) performed worse than Caucasians in the no threat condition (*M* = 2.69). Mexican immigrants in the threat condition (*M* = 1.70) performed slightly worse than Mexican immigrants in the no threat condition (*M* = 1.71). Caucasians in the no threat condition (*M* = 2.69) performed better than Caucasians in the stereotype threat condition (*M* = 2.51).

Social self-efficacy. The main effects for the ANOVA test revealed a statistically significant difference between ethnicity and social self-efficacy (see Table 6). There was no significant effect between stereotype threat and social self-efficacy. Table 7 shows the individual means and standard deviations. Mexican immigrants in the stereotype threat condition (M = 2.24) performed worse on the social self-efficacy questionnaire than Caucasians in the stereotype threat condition (M = 3.53). Mexican immigrants in the no threat condition (M = 1.80) performed worse than Caucasians in the no threat condition (M = 3.50). Mexican immigrants in the threat condition (M = 2.24) performed better than Mexican immigrants in the no threat condition (M = 1.80). Caucasians in the threat condition (M = 3.53) performed slightly better than Caucasians in the no threat condition (M = 3.50). The bootstrapped confidence intervals confirm the significant main effects found in the original ANOVA results for social self-efficacy, which is that Caucasians outperformed Mexican immigrants in both the no threat and the threat conditions (for bootstrapped results, see Table 10).

Table 7

Individual Means and Standard Deviations for Analytical Reasoning, Quantitative Analysis, and Social Self-Efficacy

		Analytical reasoning		Quantitative analysis		Social self-efficacy	
Ethnicity	ST	*M* (*SD*)	N	*M* (*SD*)	N	*M* (*SD*)	N
Caucasian	No Thrt	10.16 (1.68)	124	2.69 (1.41)	106	3.50 (.788)	101
	Threat	9.92 (1.74)	74	2.51 (1.68)	65	3.53 (.875)	63
	Total	10.07 (1.71)	198	2.62 (1.52)	171	3.51 (.820)	164
Mexican	No Thrt	4.06 (2.31)	18	1.71 (1.38)	21	1.80 (.524)	21
	Threat	5.80 (3.99)	10	1.70 (1.77)	10	2.24 (1.08)	10

	Total	4.68 (3.07)	28	1.71 (1.49)	31	1.94 (.761)	31
Total	No Thrt	9.39 (2.70)	142	2.53 (1.45)	127	3.20 (.986)	122
	Threat	9.43 (2.49)	84	2.40 (1.70)	75	3.36 (1.00)	73
	Total	9.40 (2.62)	226	2.48 (1.54)	202	3.26 (.992)	195

Note. ST = Stereotype condition; No Thrt = No threat condition; Threat = those who received stereotype threat; Mexican = Mexican immigrant.

Table 8

Confidence Intervals for Analytical Reasoning, Quantitative Analysis, and Social Self-Efficacy

			95% CI	
Variable		*M*(*SE*)	*LL*	*UL*
Analytical reasoning	ST			
	Threat	7.86 (.321)	7.23	8.49
	No Thr	7.11 (.240)	6.64	7.58
	Ethnicity			
	Cauc	10.04 (.140)	9.77	10.32
	Mex	4.93 (.375)	4.19	5.67
Quantitative analysis	ST			
	Threat	2.10 (.258)	1.60	2.61
	No Thr	2.20 (.181)	1.84	2.56
	Ethnicity			
	Cauc	2.60 (.119)	2.36	2.83
	Mex	1.71 (.291)	1.13	2.28
Social self-efficacy	ST			
	Threat	2.89 (.138)	2.62	3.16
	No Thr	2.65 (.097)	2.46	2.84
	Ethnicity			
	Cauc	3.52 (.065)	3.39	3.64
	Mex	2.02 (.156)	1.72	2.33

Note. CI = confidence interval; *LL* = lower limit; *UL* = upper limit; *SE* = standard error; ST = Stereotype Threat condition; No Thr = No Stereotype Threat; Cauc = Caucasian; Mex = Mexican Immigrant.

Table 9

Bootstrapped Confidence Intervals for the Pairwise Comparisons for Analytical Reasoning

				95% CI	
Stereotype	Ethnicity	MD	SE	LL	UL
No Thr	Cauc	6.11	.564	4.90	7.30
	Mex	-6.11	.564	-7.12	-5.00
Threat	Cauc	4.12	1.30	1.41	6.70
	Mex	-4.12	1.30	-6.65	-1.42
Ethnicity	Stereotype				
Cauc	No Thr	.242	.247	-.226	.691
	Threat	-.242	.247	-.764	.263
Mex	No Thr	-1.74	1.40	-4.56	.730
	Threat	1.74	1.40	-.829	4.63

Note. CI = confidence interval; LL = lower limit; UL = upper limit; SE = standard error; No Thr = No Stereotype Threat; Cauc = Caucasian; Mex = Mexican Immigrant.
a Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Table 10

Bootstrapped Confidence Intervals for the Pairwise Comparisons for Social Self-Efficacy

				95% CI	
Stereotype	Ethnicity	MD	SE	LL	UL
No Thr	Cauc	1.70	.146	1.38	1.98
	Mex	-1.70	.146	-1.96	-1.41
Threat	Cauc	1.29	.358	.484	1.99
	Mex	-1.29	.358	-1.95	-.532
Ethnicity	Stereotype				
Cauc	No Thr	-.037	.137	-.304	.251
	Threat	.037	.137	-.218	.279
Mex	No Thr	-.444	.361	-1.25	.202
	Threat	.444	.361	-.189	1.24

Note. CI = confidence interval; LL = lower limit; UL = upper limit; SE = standard error; No Thr = No Stereotype Threat; Cauc = Caucasian; Mex = Mexican Immigrant.
a Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

Summary

Chapter 4 included findings from the data analyses, including main effects, interaction effects, effect sizes, violations of assumptions, and confidence intervals. For the first hypothesis test, the two-way ANOVA revealed a mix of statistically significant and nonsignificant mean differences. Stereotype threat had no statistically significant effect on social self-efficacy. However, there was a statistically significant difference for the quasi-independent variable, ethnicity, on social self-efficacy. There were also mixed results for the second hypothesis test, which involved the academic performance variables, analytical reasoning and quantitative analysis. Stereotype threat had no statistically significant effect on analytical reasoning. There was a statistically significant difference for ethnicity on analytical reasoning. Stereotype also had no statistically significant effect on quantitative analysis. Results did reveal a statistically significant difference between ethnicity for quantitative analysis. Bootstrapped results indicated that Caucasians significantly outperformed Mexicans on both the analytical reasoning measure and social self-efficacy scale. However, when Mexican immigrants in the threat group and Mexican immigrants in the no threat group were compared, those in the threat group performed better. Although this does not specifically reflect any of the hypotheses in this research, because the hypotheses referred to Caucasians compared to Mexican

immigrants, it is important to understand this finding was not consistent with stereotype threat theory. A further explanation can be found in the Interpretation of Findings section. Chapter 5 will provide a concise summary, analysis, and interpretation of the research findings. A review of the limitations previously mentioned as well as the limitations after the data was collected and analyzed will be discussed. Recommendations for future research and implications for social change will also be explored.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

Because of the problem of low self-efficacy, academic underperformance, and lack of literature on stereotypes and *social* self-efficacy among U.S. Mexican immigrants, the purpose of this research was to investigate the impact that stereotype threat had on social self-efficacy and academic performance among this cultural group.

The nature of this study was quantitative in order to measure the impact that stereotype threat had on social efficacy and academic performance. This study reviewed social self-efficacy theory and stereotype threat theory, and sought to explore the application of those theories to a new set of variables and specific population that has not yet been examined. This research was concerned with the effects of stereotype threat on social self-efficacy and the effect of stereotype threat on academic performance, independent from one another. Three separate two-way ANOVAs were conducted to address the research questions.

Key findings showed that compared to Caucasians, Mexican immigrants performed significantly worse on all of the dependent variables- social self-efficacy, quantitative analysis, and analytical reasoning compared to Caucasians. Based on the significant interaction for analytical reasoning, bootstrap pairwise comparisons were generated. This interaction meant that stereotype threat had a different effect on analytical reasoning scores depending on the ethnicity of the individual. Stereotype threat had a small negative impact on Caucasians' scores compared to other Caucasians' scores in the no threat condition (threat $M = 9.92$, no threat $M = 10.16$). However, stereotype

threat seemed to have the opposite effect when Mexican immigrants from the stereotype group were compared with Mexican immigrants from the no threat group. Mexican immigrants in the stereotype threat condition performed better than Mexican immigrants in the no threat condition (threat $M = 5.80$, no threat $M = 4.06$).

Upon further examination of the simple effects for the groups for the analytical reasoning variable, findings indicated that in the no threat group, there was a significant difference in means for Caucasians and Mexican immigrants with Caucasians outperforming Mexican immigrants. In the stereotype threat group, there was also a significant difference in means for Caucasians and Mexican immigrants with Caucasians outperforming Mexican immigrants (see Tables 7 and 9). One more important finding for the analytical reasoning measure was that Mexican immigrants in the stereotype threat condition performed better than Mexican immigrants in the no threat condition. This does not support the hypothesis that stereotype will negatively impact academic scores. A further explanation and theoretical links are discussed in the Interpretation of Findings section below.

Although the differences in means were not statistically significant, results showed that Mexican immigrants in the stereotype threat condition performed worse on the quantitative analysis measure compared to Caucasians. Mexican immigrants in the no threat condition performed worse on all three dependent measures compared to Caucasians in the no threat condition. Mexican immigrants in the stereotype threat condition performed slightly worse on the quantitative analysis measure compared to Mexican immigrants in the no threat condition. However, stereotype threat seemed to

have the opposite effect for analytical reasoning and social self-efficacy, where Mexican immigrants in the threat condition actually performed better than Mexican immigrants in the no threat condition (see Table 7). Caucasians in the no threat condition performed better than Caucasians in the threat conditions on the analytical reasoning and quantitative analysis variables. On the social self-efficacy questionnaire, Caucasians in the threat condition performed slightly better than Caucasians in the no threat condition.

Interpretation of the Findings

Ethnicity

In the first research question, the ANOVA revealed statistically significant mean differences in social self-efficacy, analytical reasoning, and quantitative analysis as they related to ethnicity. This means that overall, Mexican immigrant individuals performed worse on these measures than Caucasians. This finding is consistent with previous research that asserts that Mexican immigrants underperform on standardized tests compared to majority and other nonminority individuals (CIS, 2010, 2011; Gonzalez, Blanton, & Williams, 2002; Niemann, 2001; Renn & Lane, 2015; Schaake, Burgers, & Mulder, 2014; Stephens, Hamedani, & Destin, 2014; U.S. Department of Education, 2013). Not only do the findings on ethnicity, social efficacy, and academic performance corroborate existing research, but they also extend the research. In the future, it may be worth examining how stereotype affects other factors in Mexican immigrants' lives (e.g., self-esteem, academic efficacy, social development in general, etc.). Additionally, it may be beneficial to replicate this study but survey more Mexican immigrants, making the sample sizes of Caucasians and Mexican immigrants more similar. Although it is well

documented that Mexican immigrants underperform academically, there is scant to no research indicating their levels of social self-efficacy (CIS, 2011; U.S. Department of Education, 2013; Semple, 2011; Wahala, 2013). This research revealed that Mexican immigrants reported lower social self-efficacy compared to Caucasians (see Table 2).

Stereotype Threat

In the second research question, the data analyses revealed no statistical significance for analytical reasoning, quantitative analysis, and social self-efficacy as they related to stereotype threat. This was unexpected due to a large body of research that asserts that stereotype threat negatively impacts academic performance as well as self-efficacy (Guyll, Madon, Prieto, & Scherr, 2010; Steele, 1997; Steele & Aronson, 1995). Much of the current stereotype threat research has involved African Americans, women, and other minority groups (Di Giunta et al., 2010; Steele, 1997; Steele & Aronson, 1995). No study has looked exclusively at how stereotype threat impacts the performance of Mexican immigrants. This study attempted to extend the research to this large group of minorities. Additionally, this study hoped to extend the efficacy research by including a social self-efficacy measure.

It is worth noting that although stereotype threat did not significantly affect social self-efficacy and academic performance, the means did indicate that Mexican immigrants' scores were lower than Caucasians when stereotype threat was introduced and when it was not present. This finding is consistent with research that has found minority individuals underperform compared to Whites in general and specifically when stereotype threat is involved (Aguayo, Herman, Ojeda, & Flores, 2011; Aronson, 2004;

Deaux et al., 2007; Steele, 1997; Williams & Williams, 2010). Additionally, Mexican immigrant scores were also lower than Caucasians' scores in the no threat condition for all three dependent variables. The fact that Caucasians outperformed Mexican immigrants in both stereotype threat conditions circles back to why this research was initially conducted. Like this study, national statistics show Mexican immigrants are outperformed by Caucasians and other minority groups (CIS, 2011; U.S. Department of Education, 2013; Semple, 2011; Wahala, 2013). This research was an attempt to discover factors that may contribute to that underperformance.

One noteworthy finding was that Mexican immigrants in the stereotype threat group performed better on the analytical reasoning and social self-efficacy measures than Mexican immigrants in the no threat. This is inconsistent with the literature on stereotype threat theory. There are a few possible explanations for this. First, it is impossible to know if the Mexican immigrant participants were honest when reporting their ethnicity. This could impact how stereotypes about their ethnicity actually impact their performance. A second reason for the unexpected results for social self-efficacy, specifically, is perhaps social self-efficacy is a moderator and that stereotype threat only harms performance for those currently low in social self-efficacy. This study was not set up to test for this as social self-efficacy was measured after stereotype threat was introduced, not before. There is no current research to support this, but it may be interesting to consider for future research.

A third reason for the unexpected findings as explained by Bosson, Haymovitz, and Pinel (2004), is that some stigmatized individuals are aware of others' impressions of

them. With this awareness, they try to convey a favorable image in their self-reports in order to appear less vulnerable to these stereotypes. Steele and Aronson (as cited in Jencks & Phillips, 2011, p. 402) also point out that stereotype threat can have greater harm on academic performance for those who are more academically successful and invested in their academic abilities than those who do not care about academic performance or success. Steele and Aronson (as cited in Jencks & Phillips, 2011, p. 402) further explain that those who weakly identify with school or are less confident in their academic abilities may feel less of the threat and their performance may not be impacted by stereotype threat. This is a possible explanation for what occurred in this research. Individuals may have not had a strong, confident academic identity, and therefore, stereotype threat may not have harmed their performance in the way it would have if someone cared deeply about their academic performance. A suggestion for future research might consider pretesting for an individual's academic success (e.g., past standardized test scores) or the extent to which they value or are confident in his or her academic abilities.

Limitations of the Study

As anticipated and discussed in Chapter 1, targeting such a specific cultural group like Mexican immigrants posed several challenges. Flyers were strategically placed in locations where Mexican immigrants would have better access to the flyers (e.g., community colleges, library, etc.), and only data from Mexican immigrants and Caucasians was used. The nonrandom sampling method subjected the research to selection bias. Selection bias or sampling bias can pose a threat to validity (Johnson,

Beaton, & Murphy, 2004). Sampling bias can lead to inaccurate estimation of population parameters because the sample may not adequately represent the population (Johnson, Beaton, & Murphy, 2004). The sampling bias and nonrandom sampling method pose threats to the external validity of the results. Therefore, the findings should not be generalized to other populations and other situations (Campbell & Stanley, 1963; Creswell, 2009).

In addition to the issue of sampling bias, and quite possibly because of sampling bias, only 33 Mexican immigrants compared to 270 Caucasians completed the study. The vast difference in sample sizes from each of the groups can lead to misleading findings and interpretations (Xu, Yang, Abula, & Qin, 2013). It is likely that the difference in sample sizes of the two groups contributed to the violation of the assumption of homogeneity of variances. Although ANOVA is a fairly robust test, unequal sample sizes and unequal variances can influence the overall power of the ANOVA test (Rusticus & Lovato, 2014). A nonsignificant finding could imply that the groups are comparable, but it could also be a reflection of an inadequate sample size (Rusticus & Lovato, 2014).

Although the population of Mexican immigrants in the United States exceeds 11.7 million, collecting data from this population proved to be challenging. There may have been several factors that inhibited Mexican immigrants from participating. First, the study was available for around seven months. This may not have been a realistic time frame from which to gather data from such a specific population. Second, the sensitivity or nature of the study may have deterred individuals from participating. Stereotypes may be a sensitive or emotional topic to some individuals. Furthermore, having to report that

one is a Mexican immigrant for this study may have made people feel apprehensive or uncomfortable. Additionally, Mexican immigrants may have not had the resources to participate in this research. For instance, this study was exclusively online through Walden Participant Pool and SurveyMonkey. If individuals did not have access to the internet, they would not have been able to complete the study. Moreover, collecting data exclusively from an online survey makes it difficult to know the true identity (in terms of age, ethnicity, etc.) of the participant taking the survey. In this research, the survey did not ask the age of the participant. This is a limitation because, in hindsight, this should have been included in the demographic questions. It is difficult to be certain the degree to which the sampled participants share characteristics with the larger population (Johnson, & Wislar, 2012). As such, caution should be used when drawing conclusions from this study. Due to the small sample size of the Mexican immigrant groups, unequal number of participants in the comparison groups, and the nonprobability sampling method, findings should not be generalized to the larger population until this research can be replicated using a larger and possibly equal sample size among the groups using random sampling.

A final limitation is that the way in which the survey was set up in SurveyMonkey, the independent variable, stereotype threat, could only be presented randomly, but not equally to the different groups. That is why 194 did not receive the stereotype threat and 129 did receive the stereotype threat.

Recommendations

This study the impact of a relatively new construct, social self-efficacy, on an understudied but rapidly growing population, Mexican immigrants. To that note, there is

an opportunity to replicate and even expand on this study. Further research could reexamine the impact of these variables with this population using a larger sample size. That, in turn, would increase the generalizability of the findings.

This research did not examine Mexican immigrants' level of social self-efficacy in isolation. While the concept of self-efficacy has been extensively researched, it may be helpful for future research to get a clear understanding of social self-efficacy among Mexican immigrants before adding in other variables. There seems to be limited research on social self-efficacy even among nonminority groups. The studies that do exist emphasize the importance of social self-efficacy in forming and maintaining relationships, adjusting to new environments, and engaging in social situations (Constantine, Okazaki, and Utsey, 2004; Fan, Meng, Gao, Lopez, & Liu, 2010; Wright, Wright, & Jenkins-Guarnieri, 2013). Hence, further research on social self-efficacy among immigrants would be invaluable.

An additional recommendation is to use a standardized test less difficult than the Graduate Record Exam (GRE) questions for the academic performance measure. There were several people who provided feedback claiming that the questions were really difficult. Although the questions should be challenging, they should not be so hard that the majority of respondents guess on every question. It is unsure how many respondents guessed on the academic performance questions, but based on the feedback, subsequent studies should consider moderately challenging questions.

A final recommendation might be to examine if social self-efficacy mediates stereotype threat and academic performance. For instance, it is possible that stereotype

threat causes low social self-efficacy, which then could result in low academic performance. Past research asserts that stereotype impacts self-efficacy (Burnette, Pollack, & Hoyt, 2010; Deemer, Thoman, Chase, and Smith (2014) and that academic underperformance can result from low efficacy (Aguayo, Herman, Ojeda, & Flores, 2011; Bandura, 2012). Could it be that the stereotype threat and academic performance are possibly linked by social self-efficacy? Several studies have explored self-efficacy as s mediator between stereotype threat and performance, but none have exclusively looked at social self-efficacy as a mediator (Chung, Ehrhart, Ehrhart, Hattrup, & Solamon, 2010; Mayer & Hanges, 2003; Smith, 2004; Spencer, Steele, & Quinn, 1999). Future research examining social self-efficacy as a mediator could bring a deeper and more refined understanding of the relationships between stereotype threat and academic performance.

Implications

This research has the potential impact for positive social change a various levels. The results of this study corroborate with previous literature and statistics that claim Mexican immigrants underperform on academic measures. Additionally, group means revealed that Mexican immigrants had lower social self-efficacy and academic performance than Caucasians when presented with the stereotype threat (see Table 7). At the individual level, this research could inform immigrants about what to expect upon coming to this country from Mexico. It could extend the conversation about the important negative impact that stereotypes can have on many aspects of immigrants' lives. Stereotypes that Mexican immigrants experience once in the United States may be a type of discrimination these individuals were not exposed to in their native country (Niemann,

2001). Although stereotype threat did not significantly impact performance, it is the hope that this research opens the door for more researchers to examine stereotype, social self-efficacy, and academic outcomes among the Mexican immigrant population.

Additionally, this research highlighted the importance of social self-efficacy, especially among immigrants. It is important to understand that social self-efficacy derives from but is also different from self-efficacy. Social efficacy is critical for seeking out, forming, and maintaining relationships; successfully engaging in and performing social behaviors; and adjusting to new social contexts (Constantine, Okazaki, and Utsey, 2004; Fan, Meng, Gao, Lopez, & Liu, 2010; Wright, Wright, & Jenkins-Guarnieri, 2013). Parents, educators, practitioners, and researchers can benefit from knowing that social self-efficacy can be impacted by stereotypes. Practitioners, especially, can better personalize their care and emphasize how beneficial a strong sense of social self-efficacy can be in adjusting to a new culture and society in the United States. Helping individuals maintain a strong sense of social efficacy may encourage them to feel more capable and worthy when it comes to seeking out and obtaining employment (Bandura et al., 2001). This study focused on Mexican immigrants, and as such they should benefit the most from this research. This research was not particularly set up to be immediately applicable to Mexican immigrants' lives; however, providing a greater understanding and awareness of the importance of social self-efficacy and the effects that stereotype can have on efficacy and academic performance can be helpful for Mexican immigrants, practitioners, and researchers.

This research can also provide educators with an understanding of how stereotypes may negatively impact Mexican immigrants' academic progress. Although not statistically significant, Mexican immigrants' scores were lower than Caucasians' scores for all dependent measures when presented with stereotype threat (see Table 7). Simply knowing that stereotypes can have an impact on academic success can give educators insight as to why Mexican immigrants underperform; at least at the collegiate level, because this research did not extend to individuals under the age of 18. As mentioned in Chapter 1, this research can lend insight to professionals for facilitating the development or improvement of programs that focus on improving academic performance among Mexican immigrants. When developing such programs, individuals should take into consideration the harmful effects of stereotypes on academic performance and social self-efficacy.

This research can also be useful in extending Bandura's self-efficacy theory. Scant research has been devoted to the concept of social self-efficacy, even though Bandura's self-efficacy theory appears ubiquitously in the literature. Bandura showed us the importance of self-efficacy in numerous contexts (Bandura, 1977; 1982; 1986; 1994; 1997; 2012). One goal for selecting the topic of social self-efficacy was to extend the research and understanding of this important concept and for others to join in and continue researching social efficacy.

Conclusion

With the rapidly increasing population of Mexican immigrants in the United States, the low secondary and post-secondary completion rates among this group, and the

existence of cultural stereotypes, it has become clear that research and action is vital to alleviate the hardships Mexican immigrants experience. This study attempted to take a step toward positive social change by gaining a better understanding of the ways in which stereotype threat impacts social self-efficacy and academic performance among Mexican immigrants. The results interestingly revealed stereotype threat positively and negatively impacting Mexican immigrants' scores, depending on the dependent variable. While this study may have fallen short of being able to make statistically significant assertions about stereotype threat on social self-efficacy and academic performance, what it did reveal is that Mexican immigrants have a lower sense of social self-efficacy and underperformed on all the academic measures compared to Caucasians. The topic of stereotypes, social efficacy, and academic performance among Mexican immigrants warrants further research, and the researcher encourages others to explore these topics in order to stimulate positive social change.

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Appendix A: Demographic Questionnaire

Note: The answers you provide will remain anonymous, meaning your name or identity will never be associated with your answers.

1. Do you understand written English?

   YES

   NO

2. Do you understand spoken English?

   YES

   NO

3. Are you age 18 or older?

   YES

   NO

4. Which gender do you identify with (select one)?

   FEMALE

   MALE

5. Please select your Ethnicity of Origin (or Race):

   - White or Caucasian
   - African American or Black
   - Latino
   - Native American or American Indian
   - Asian or Pacific Islander
   - Hispanic

- Other

6. Were you born in the United States? Select yes or no.

   YES

   NO

7. If you selected ‘NO’ for question #6, please specify in which country you were born:

Appendix B: Social Stereotype Paragraph

Mexican individuals speak little English or have poor English-speaking skills. Mexican children who speak little English upon entering school in the United States feel confused, shy, ashamed, different, and find it hard to meet and make friends. As a result of speaking little English, Mexican children tend to feel inferior and lonely; this may cause them to dislike attending school.

There is a widely held belief that Mexicans are illegal immigrants, have low moral standards, unintelligent, promiscuous, violent, and ignorant. Many believe that Mexicans are less qualified for positions of power within institutions, unreliable, and lack ambition. Mexicans are less sociable than Americans and lack social assertiveness and confidence. Overall, Mexicans have lower grades, lower high school graduation rates, and attend college less than any other group in the United States.

Appendix C: Academic Performance Measure

Verbal Reasoning Directions: Each sentence below has two blanks. Choose the word for each blank that best fits the meaning of the sentence as a whole. For the first blank, select the best response from the three choices in the 'Blank (i)' list; For the second blank, select the best response from three choices in the 'Blank (ii)' list.

1. The cotton gin played a (i) _____ role in advancing the textile industry, (ii) _____ its negative effects can be seen in the rapid development of slavery as the economic base of the American South.

Blank (i)	Blank (ii)
A. controversial	D. although
B. crucial	E. so
C. trivial	F. plus

2. St. Elmo's fire is a weather phenomenon that, (i) _____ it has been documented since ancient times, was not (ii) _____ until recently.

Blank (i)	Blank (ii)
A. because	D. incinerated
B. since	E. reported
C. although	F. understood

3. Though the poet's work was praised highly by critics, sales of his anthologies were (i) _____; it is possible the poor sales were due to his language being too (ii) _____ to be readily understood.

Blank (i)	Blank (ii)
A. scanty	D. lucid
B. robust	E. prosaic
C. singular	F. abstruse

4. (i) _____ its many difficult and mature themes, *Hamlet* remains a (ii) _____ choice for introducing teenagers to Shakespeare.

Blank (i)	Blank (ii)
A. Due to	D. neglected
B. Despite	E. popular
C. Because of	F. spurned

5. The spice saffron is made from the stigma of the *Crocus sativus* plant; the (i) _____ number of blossoms required to produce saffron and the (ii) _____of the flower makes the spice the most expensive in the world.

Blank (i)	Blank (ii)
A. vast	D. color
B. meager	E. hardiness
C. unique	F. delicacy

6. The field of cryptozoology is the search for animals known to science and those for which we have no scientific attestation; (i) _____ physical evidence, it relies upon (ii) _____ sightings for proof of creatures such as the Loch Ness Monster.

Blank (i)	Blank (ii)
A. ignoring	D. anecdotal
B. lacking	E. imagined
C. needing	F. nominal

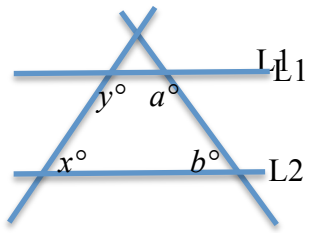
Quantitative Reasoning Directions: Choose the best answer to each question.

1. What is the average (arithmetic mean) of $2x + 3$, $5x - 4$, $6x - 6$, and $3x - 1$?

A. $2x + 4$
B. $3x - 2$
C. $3x + 2$
D. $4x - 2$
E. $4x + 2$

2. Which of the following statements must be true about the figure shown below?

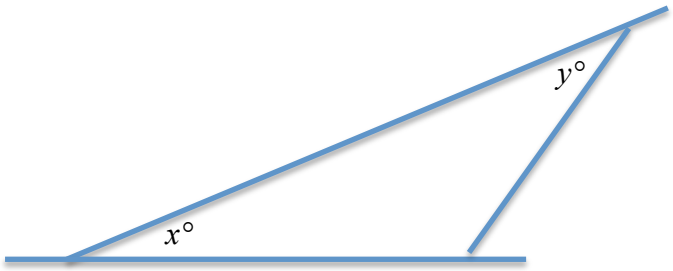
L1 is parallel to L2



A. $x = a$

B. $x = b$
C. $a = b$
D. $y = b$
E. $x + y = a + b$

3. Based on the diagram, please indicate the best answer about Quantity A and Quantity B.



Quantity A	Quantity B
$x + y$	180

A. Quantity A is greater.
B. Quantity B is greater.
C. The two quantities are equal.
D. The relationship cannot be determined from the information given.

4. Based on the given equations, choose the best answer that describes Quantity A and Quantity B.

$$4x - 5y = 10$$
$$-3x + 6y = 22$$

Quantity A	Quantity B
33	$x + y$

A. Quantity A is greater.
B. Quantity B is greater.
C. The two quantities are equal.
D. The relationship cannot be determined from the information given.

5.

Quantity A	Quantity B
$(x - 1)^2$	$(x - 1)^3$

A. Quantity A is greater.
B. Quantity B is greater.
C. The two quantities are equal.
D. The relationship cannot be determined form the information given.

6. A 7 by 24 rectangle is inscribed in a circle. What is the circumference of the circle?

A. 7π
B. 12.5π
C. 24π
D. 25π
E. 31π

GRE test questions and answers derived from:

Kaplan Test Prep and Admissions. (2011). *New GRE premier, 2011-2012*. New York, NY: Kaplan Publishing, Inc.

Appendix D: IRB Approved Informed Consent Form

CONSENT FORM

You are invited to take part in a research study about stereotypes, academic performance, and social efficacy. The researcher is inviting male and female Mexican immigrants, at least 18 years old and male and female Caucasian nonimmigrants to be in the study. This form is part of a process called "informed consent" to allow you to understand this study before deciding whether to take part. This study is being conducted by a researcher named Jessica Holmes, who is a doctoral student at Walden University.

Background Information:
In attempt to address the issue of low academic performance and efficacy in the U.S., the purpose of this study is to determine if stereotypes have a negative effect on academic scores and social efficacy.

Procedures:
If you agree to be in this study, you will be asked to:

- Completely read through this informed consent form. Please email or call the researcher with any questions that you may have at any time during this study. You will find the contact information for the researcher at the end of this form. This step may take around five minutes to complete.
- Fill out a brief demographic questionnaire (about six questions). This may take three to five minutes to complete.
- Some participants will be asked to read a two-paragraph passage. Not all participants will necessarily be asked to read this passage. This may take two to three minutes.
- Answer 12 questions derived from the Graduate Record Exam (a standardized test). The time it takes to complete these questions may vary between 10 and 20 minutes. There is no time limit placed on this section.
- Answer a 25-question social self-efficacy questionnaire. This may take five minutes.
- Read a brief page that debriefs the study. This debriefing will include information about the nature of the study, the purpose, and the implications for the results.

Voluntary Nature of the Study: This study is voluntary. Everyone will respect your decision of whether or not you choose to be in the study. No one at Walden University, the Community College of Aurora, or your own institution will treat you differently if you decide not to be in the study. If you decide to join the study now, you can still change your mind later. You may stop at any time. There are no consequences for not participating in the study or for stopping at any time in the middle of the study.

Risks and Benefits of Being in the Study: Being in this type of study involves some risk of the minor discomforts that can be encountered in daily life, such as stress or becoming upset. Being in this study would not pose risk to your safety or wellbeing. Potential benefits of this study may be for people to gain awareness of the harmful consequences that negative stereotypes can have on peoples' lives. This study could also help immigrants and researchers understand the importance of social efficacy. The results could benefit educators and students by providing a greater understanding of academic performance among Mexican immigrants.

Payment:
There will be no monetary or other form of compensation for voluntarily participating in this study.

Privacy:
Any information you provide will be kept anonymous. There will be no way to link your answers to your identity. Not even the researcher will know specific, identifying information about who will participate in this study. The researcher will not use your personal information for any purposes outside of this research project. Also, the researcher will not include your name or anything else that could identify you in the study reports. Data will be kept secure by using a password protected storage method on a password-protected computer. Data will be kept for a period of at least 5 years, as required by the university.

Contacts and Questions:
You may ask any questions you have now. Or if you have questions later, you may contact the researcher via email at Jessica.klenke@waldenu.edu or by phone at (503) 705-0175. If you want to talk privately about your rights as a participant, you can call Dr. Leilani Endicott. She is the Walden University representative who can discuss this with you. Her phone number is 612-312-1210. Walden University's approval number for this study is **12-24-15-0084611** and it expires on **December 23, 2016.**

Please print or save this consent form for your records.

Obtaining Your Consent
If you feel you understand the study well enough to make a decision about it, please proceed.

Appendix E: IRB Approval Letter (Email)

Dear Ms. Holmes,

This email is to notify you that the Institutional Review Board (IRB) has approved your application for the study entitled, "The impact of stereotype threat on social self-efficacy and academic performance of U.S. Mexican immigrants."

Your approval # is 12-24-15-0084611. You will need to reference this number in your dissertation and in any future funding or publication submissions. Also attached to this e-mail is the IRB approved consent form. Please note, if this is already in an on-line format, you will need to update that consent document to include the IRB approval number and expiration date.

Your IRB approval expires on December 23, 2016. One month before this expiration date, you will be sent a Continuing Review Form, which must be submitted if you wish to collect data beyond the approval expiration date.

Sincerely,
Libby Munson
Research Ethics Support Specialist
Office of Research Ethics and Compliance
Email: irb@waldenu.edu
Fax: 626-605-0472
Phone: 612-312-1283

Office address for Walden University:
100 Washington Avenue South, Suite 900
Minneapolis, MN 55401

Information about the Walden University Institutional Review Board, including instructions for application, may be found at this link:
http://academicguides.waldenu.edu/researchcenter/orec

Appendix F: Research Flyer

Join the Study!

VOLUNTEER RESEARCH STUDY

Seeking **Mexican immigrants** and **Caucasian nonimmigrants,** must be 18 yrs or older, and understand and preferably speak English. For ethical purposes, participants will **NOT be asked about citizenship status.** Length of study will be approximately 30 min or less. The entire study is available online at **http://www.surveymonkey.com/r/jessicaholmes**

The study focuses on stereotypes, social self-efficacy, and academic performance. Eligible individuals can participate online at www.SurveyMonkey.com/r/jessicaholmes

Please tear off the link provided below to participate!

This research is being conducted to fulfill requirements for my doctoral degree in psychology at Walden University.

WALDEN UNIVERSITY IRB APPROVAL NUMBER: 12-24-15-0084611

Appendix G: Scale of Perceived Social Self-Efficacy (PSSE)

Directions: Please read each statement carefully. Then described how much confidence you have that you could perform each of these activities successfully. Use the following scale to indicate your level of confidence.

---

1 = No confidence at all
2 = Little confidence
3 = Moderate confidence
4 = Much confidence
5 = Complete confidence

How much confidence do you have that you could:

_____ 1. Start a conversation with someone you don't know very well.

_____ 2. Express your opinion to a group of people discussing a subject that is of interest to you.

_____ 3. Work on a school, work, community or other project with people you don't know very well.

_____ 4. Help to make someone you have recently met feel comfortable with your group of friends.

_____ 5. Share with a group of people an interesting experience you once had

_____ 6. Put yourself in a new and different social situation

_____ 7. Volunteer to help plan or organize a social event

_____ 8. Ask a group of people who are planning to engage in a social activity (e.g., go to a movie) if you can join them.

_____ 9. Get invited to a party that is being given by a prominent or popular individual.

_____ 10. Volunteer to help lead a group or organization.

_____ 11. Keep your side of the conversation.

_____ 12. Be involved in group activities.

_____ 13. Find someone to spend a weekend afternoon with.

_____ 14. Express your feelings to another person.

1 = No confidence at all
2 = Little confidence
3 = Moderate confidence
4 = Much confidence
5 = Complete confidence

How much confidence do you have that you could:

_____ 15. Find someone to go out to lunch with.

_____ 16. Ask someone out on a date.

_____ 17. Go to a party or social function where you probably won't know anyone.

_____ 18. Ask someone for help when you need it.

_____ 19. Make friends with a member of your peer group.

_____ 20. Join a lunch or dinner table where people are already sitting and talking.

_____ 21. Make friends in a group where everyone else knows each other.

_____ 22. Ask someone out after he or she was busy the first time you asked.

_____ 23. Get a date to a dance that your friends are going to.

_____ 24. Call someone you've met and would like to know better.

_____ 25. Ask a potential friend out for coffee.

Appendix H: Community Partnership Letter (Email)

January 25, 2016

Hi, Jessica,

Your request to post fliers for finding research participants at CCA has been approved with the following provisions:

1) Follow CCA procedures for posting fliers at CCA (see attached)
2) Cabinet would like to know when you plan on removing the fliers

If you have questions about where you can post fliers, please contact Kathryn Sturtevant, Director of Student Life. Kathryn, Cabinet has approved Jessica to recruit research participants for her dissertation through posting fliers at CCA; would you or someone in your office be available for questions on where to post if she has questions?

If there is any change to your IRB or research project, please inform me as soon as possible. Also let me know if you have any more questions about approval to conduct your research at CCA.

Catherine Trouth
Director of Institutional Research and Effectiveness
Community College of Aurora
Phone: 303-361-7365
E-mail: Catherine.Trouth@CCAurora.edu

Appendix I: Permission Verifications

Permission to use the Scale of Perceived Self-Efficacy (PSSE):

October 2, 2015

Hi Jessica,

Yes, you have found the correct Smith! Thanks for your interest in using the Scale of Perceived Social Self-Efficacy in your research. You have our permission to do so. Please find the scale attached here. Please let us know if you have additional questions.

Best regards,

Heather M. Smith, Ph.D., ABPP
Board Certified in Clinical Geropsychology
Lead Psychologist
Milwaukee VA Medical Center
Associate Professor
Psychiatry and Behavioral Medicine
Medical College of Wisconsin
5000 W. National Avenue
Milwaukee, WI 53295
Heather.Smith7@va.gov
(414) 384-2000, x.41667

Appendix J: Debrief

Thank you for your participation.

Why this experiment was developed- This study was designed to answer the question of whether stereotypes affect social self-efficacy and/or academic performance among Mexican immigrants. Social self-efficacy is one's belief in his or her ability to initiate and maintain relationships with others. Social self-efficacy is important for carrying out social skills and being able to engage in social interactions. The presence of stereotypes in certain situations has been known to have a negative influence in various areas of people's lives, academic performance and efficacy being just two of those areas.

Hypotheses- It is hypothesized that being aware of stereotypes that exist about one's group or culture may impact social efficacy in a negative way. Similarly, the researcher hypothesized that stereotypes can potentially decrease academic performance. There were two groups in this study. Individuals in the experimental group were asked to read a short paragraph of stereotypes before answering the questionnaires. The control group did not read the stereotype paragraph but instead proceeded straight to the questionnaires.

Why this information is important- It is important for individuals to know how their social self-efficacy or academic performance can potentially be affected. Also, it is essential to have a better understanding of the many ways in which stereotypes continue to negatively impact people's lives.

Please feel free to contact the researcher with any questions or concerns. You will not be asked any identifying information.

Phone: (503) 705-0175

Email: Jessica.klenke@waldenu.edu

***If, after knowing the nature of the study and why it was developed, you wish to withdraw your responses from the experiment, you may still do so without any adverse consequences.**