

Imposter Syndrome and Academic Success: Supporting Students to Graduation and  
Beyond

by

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## ABSTRACT

Over the past several decades, there has been a shift toward gender parity in enrollment in colleges and universities across the United States. While more women have been enrolling in institutions of higher education, there has been a stagnation in the graduation rates of these women. This mixed methods study sought to understand the role that imposter syndrome, and its contributing factors, gender microaggression and stereotype threat, play in women persisting and graduating with their bachelor's degree. The literature suggests that imposter syndrome as well as its contributing factors of gender microaggression and stereotype threat can prompt women to opt out of situations where their feelings of self-doubt are subject to external confirmation.

To assess how participating in a series of Leadership Development Program (LDP) workshops affected these constructs, data collection was comprised of pre-post survey design and qualitative focus group interviewing. Survey analysis indicated that the symptoms of imposter syndrome decreased as a result of completing the LDP workshops. The focus group highlighted the importance of creating a support system that allows women to address feelings of imposter syndrome and to overcome the negative thought patterns. While this study did not provide definitive support for the LDP workshops in increasing the rate of women graduating with their bachelor's degree, it did provide insight into its effectiveness in addressing the symptoms of imposter syndrome and providing essential support to overcome associated negative thought processes.

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## **Chapter One: Larger and Local Context**

### **National Context**

Over the last 100 years, society has begun to see a shift in gender roles. During World War II, as men went off to fight overseas, women moved from the home into the workforce (Goldin, 1991). While women tended to work in administrative roles prior to World War II, the need for them to fill roles traditionally held by men increased (Eisenmann, 2005). Since then, the number of women in the professional setting has increased drastically, from less than 5% in 1890 to over 60% in 1990 (Goldin, 1991). In today's American society, the cultural norm is often to have two incomes within a household. While this may be out of necessity in some cases, many women feel that a professional career is something they can be proud of. While we as a society have seen more women entering the workforce, the belief in traditional gender roles persists today. These gender role beliefs have contributed to an alarming trend in women: *imposter syndrome*. In order to better understand how imposter syndrome has become a hurdle for women, it is important to understand what imposter syndrome is and what contributing factors play into its appearance. Imposter syndrome is the belief that one (typically a woman) "needs extra credentials, more evidence for her decisions, and a willingness to work hard to achieve the recognition that comes more easily to others" (Robinson-Walker, 2011, p. 1). Women often feel that they don't belong in their roles, that they're not qualified and one day, everyone will find out (Bothello & Roulet, 2019). These thought processes can be damaging to women, both in a mental health manner as well as in a professional manner (Stucky, 2020).

### **Stereotype Threat and Gender Microaggression**

The transition of women from the home to the workplace provided the opportunity for women to take on a professional role. However, traditional gender roles made that transition difficult, as women were still seen as caretakers. The persistence of traditional gender roles has contributed to imposter syndrome through gender microaggressions and stereotype threat. Gender microaggressions often are “intentional or unintentional actions or behaviors that exclude, demean, insult, oppress, or otherwise express hostility or indifference toward women” (Basford et al., 2014, p. 341). Stereotype threat can be defined as “the existence of such a stereotype means that anything one does or any of one’s features that conform to it make the stereotype more plausible as a self-characterization in the eyes of others, and perhaps even in one’s own eyes” (Steele & Aronson, 1995, p. 797). Capodilupo et al. (2010) found that gender microaggressions often appear in the form of more covert sexism. This sexism can lead to a variety of psychological stressors including lower self-esteem and feelings of anger and depression (Capodilupo et al., 2010). The subtle discrimination of women can often cause them to feel uncertain in regards to their perception of prejudice (Basford et al., 2014). This perception of prejudice often leads to feelings of anxiety and depression in women (Basford et al., 2014). In combination with gender microaggressions, we often see stereotype threat as a contributing factor to feelings of imposter syndrome. The subtleness of gender microaggressions often supports the belief of traditional gender roles, and when women rebuke these beliefs by taking on a professional career, they are often faced with instances of stereotype threat (Steele & Aronson, 2004).

Currently more women than men are graduating with a bachelor’s degree (Bustamante, 2020). However, post-graduation employment data shows that fewer

women are entering the workforce. In 2014, 83% of women who held a bachelor's degree were employed at least part-time (U.S. Department of Education, 2016). This is in comparison to men, of whom 90% were employed at least part-time after the completion of their bachelor's degree. In addition, the percentage of women who were labelled as "Not in Labor Force, Not in Graduate School" was higher as compared to their male counterparts (U.S. Department of Education, 2016). The role of the college or university is to not only provide an education, but to provide the skills necessary for the graduates to be successful professionals. As such, universities and colleges should look to provide support to their female students that addresses the feelings of self-doubt and a lack of skills and knowledge. Women are often unlikely to acknowledge their feelings of imposter syndrome as this could open the possibility of their feelings being confirmed (Bothello & Roulet, 2019). In order to best reach the population, schools should seek to implement support that is less overt and more nuanced as women seek to find their footing and their strength in the academic environment.

### **Women in Higher Education**

It is not only in the professional setting that women experience instances of imposter syndrome, gender microaggression, and stereotype threat. Women often experience this in an academic setting (Good et al., 2012). While we have seen an increase in women pursuing higher education, and opting to pursue traditional male dominated fields, we continue to see women struggle with a feeling of "belonging" in these realms (Good et al., 2012). In the early 1900s, enrollment in colleges and universities was focused on men (Eisenmann, 2005). Many of the top institutions, such as Johns Hopkins University and Harvard, focused enrollment on men, with women



attending smaller, women-only universities. These smaller institutions often lacked funding and were limited in degree options (Thelin et al., 2018). As the decades passed, more women enrolled in larger institutions. While this was a great stepping-stone in working toward gender equality, women were often faced with symptoms of imposter syndrome as they worked to achieve their education.

The ever-changing environment of higher education is often tied to the political and social climate of the time (Eisenmann, 2005). In the late 1800s and early 1900s higher education in the United States was centered in institutions that focused on academic and research pursuits. Access was often limited to those whose families were in the upper class (Baum et al., 2013). In the early-1900s, college was not seen as the natural next step after completing high school. Many Americans believed that high school graduation was the completion of their education, and they were to move on into the workforce (Thelin et al., 2018). Americans were able to gain on-the-job experience at factories that had strong support from unions. Individuals were out to obtain a stable job that would support a family, providing the opportunity for them to purchase a house and a car (Baum et al., 2013).

During the First and Second World Wars, higher education in the United States began to shift. This is often attributed to the shift in society and political views that focused on the creation of an educated society (Eisenmann, 2005). As the industrial revolution transitioned to an era of knowledge and new technology, education became an important component of the continued growth of the United States as a world leader. After WWII, there was a dramatic increase in the enrollment numbers at universities across the country (Geiger, 2016). On-the-job training became less common. More high

school graduates found that the natural path forward was to enroll in college. Better opportunities were provided to those who had obtained a college degree, and rather than moving straight into the workforce, it became the norm for high school graduates to enroll in college (Geiger, 2016). Still, access to higher education was radically unequal (Baum et al., 2013). University and college enrollment was determined largely by family income or racial and ethnic background. In 1900, 80.9% of bachelor's degrees were awarded to men. This is in comparison to 2018, where that percentage dropped to 42.7% (U.S. Department of Education, 2020). A cultural shift had also occurred where women were no longer expected to stay at home while men were the primary breadwinners. While more women were enrolling in college and university, there was still a deficit in the opportunities presented to them (Eisenmann, 2005).

In 2009, 70% of high school graduates enrolled in some form of post-secondary education (Baum et al., 2013). In addition, the education options had increased, allowing students to attend two-year vocational schools, four-year public institutions, and major research institutions and pursuing training and education in a variety of fields. The increase in the variety of educational opportunities for both men and women began early in the 1990s, seeing its greatest growth in the early 2000s. Over the past several decades, women have begun to surpass men in the national percentage of graduation rates, with 62% of women graduating as compared to 59% of men (U.S. Department of Education, 2020). Between 2007-2017, the percentage of both men and women enrolled in college increased, with the women making up the majority of enrolled students at 57% (U.S. Department of Education, 2020). Considering we are seeing more women enrolling in college and graduating, why does there still seem to be a discrepancy in female

representation in the work force? How is the women's experience in college or university influencing their decisions post-graduation? This research project seeks to explore the relationship, if any, between the experience of imposter syndrome as well as the contributing factors of gender microaggression and stereotype threat, and graduation rates and post-graduation outcomes.

Female students pursuing higher education are at greater risk of experiencing symptoms of imposter syndrome (Good et al., 2012). Many women, when faced with self-doubt, are likely to step back (not complete their degree) in order to prevent others from discovering that they are not capable (Bothello & Roulet, 2019). Cowie et al. (2018) believe "with a perceived pressure to perform and a need to prove one's competency, even minor tasks may take on an urgent quality and make people particularly vulnerable to day-to-day stress arising from academic demands." As this pressure mounts, especially in women, the inclination may be to "quit while they're behind."

### **The Opportunity Discrepancy Between Graduation and the Workforce**

While enrollment of women in institutions of higher education has grown and continues to be strong, compared to men, proportionately fewer women are entering the workforce post-graduation. In 2014, 82% of men were employed full-time following the completion of their bachelor's degree (NCES, 2016). In contrast, only 70% of women were employed full-time after completion of their bachelor's degree (NCES, 2016). The percentage of women employed part-time or not at all in the labor force was also higher in comparison to men (NCES, 2016). The drop-off from graduation to employment for women raises concerns and questions regarding the latent effects of higher education. If

women are graduating at a rate that is comparable to men, why are fewer of them entering the workforce and what can be done about it while they are still in college?

While many of the cultural norms that encouraged women to be stay-at-home caretakers have eroded over time, there is still a discrepancy in the access to higher education for them. Fewer women are likely to complete higher education as they are confronted with gender microaggressions (Good et al., 2012). This is especially true for traditionally male dominated fields such as business and science, technology, engineering, and math (STEM) disciplines (Good et al., 2012). The same gender microaggressions and stereotypes that often hinder women from pursuing these fields underpin fewer men entering traditionally female dominated fields such as elementary education. The fight for gender equality persists not just in the workforce, but for acceptance in higher education as well (Bustamante, 2020). While cultural values may have shifted to promote women in the workforce, there is still a gender gap in opportunities (Bustamante, 2020). This has led many women to experience feelings and symptoms of imposter syndrome (Clance & Imes, 1978; Cowie et al., 2018; Robinson-Walker, 2011). Women, more often than men, experience these feelings of self-doubt and are more likely to perceive peers to be better trained and more confident than themselves (Bothello & Roulet, 2019). In fact, this perception is often quite distorted, with women especially, experiencing the same symptoms of self-doubt as their peers.

As our society continues to strive for gender equity, it is important to build a strong foundation of support. Within the higher education realm, this means helping women overcome the symptoms of imposter syndrome and find academic success. As we begin to see an increase in inclusion of women within traditionally male dominated

degrees such as business and STEM fields, we as a society should be supporting these women to success. With this success in higher education, we can expect to see a trickle-down effect into the workforce, providing the opportunity for gender parity as well as gender equality.

### **Local Context**

My current context is within Regional University (pseudonym). This university is one of several within the state, with a total enrollment of over 40,000 students. It currently offers several associates' and bachelor's degrees, a limited number of master's degrees, and several technical programs and certificates. It is a public university in a suburban setting. Of the students enrolled, 36% are first generation students and 19% are people of color. The student body is comprised of 52% males and 48% females (U.S. Department of Education, 2020). A majority of the students come from a middle-class background according to FAFSA data.

In recent years, my university, Regional University, has seen graduation rates that are significantly below that of the national average, with the university reporting six-year graduation rates of 35% while the national six-year graduation rate is 58% (Graduation Rates, 2020). When I examine the gender break down, 38% of women graduated within six years of starting their bachelor's degree, while men graduated at a rate of 25%. While more women are enrolling in the university, comprising 48% of the population, few of them are making it to graduation. Looking at these numbers, it appears that women graduate at higher rates than men. While this may be the case at Regional University, my early cycles of research have shown that women within this population are overcoming the additional hurdle of imposter syndrome in their efforts to graduate. The feelings of

inadequacy and a lack of skills can often present an additional hurdle in women which men do not often encounter (Good et al., 2012). In an effort to increase the graduation rates, Regional University has begun to look at and implement ways to support the students. These efforts include a department dedicated to women's success with support systems such as mentoring and academic tutoring. Unfortunately, graduation rates for Regional University female students have remained stagnant over the past 10 years (U.S. Department of Education, 2020).

### **The Ambassador Program**

I manage the Ambassador Program at Regional University. The Ambassadors consist of undergraduate students who are enrolled full-time, and they assist in the recruitment of prospective high school students, working alongside an Admissions Counselor. The Ambassador's responsibilities typically include high school visits, events for both prospective students and admitted students, and providing campus tours. As the voice of the student experience, the Ambassadors play a crucial role in the recruitment of prospective students to the university. Overall, I manage a total of 42 Ambassadors: 34 Recruitment Ambassadors, 8 Project Leads who plan, organize and implement our events, and 8 Ambassador Managers who each run a team of Recruitment Ambassadors. The Recruitment Ambassadors are assigned a high school to work with at the beginning of the academic year and it is their responsibility to schedule visits, plan events, and assist the Admissions Counselor in their recruitment efforts. All Ambassadors are also provided leadership training that focuses on topics such as effective teamwork and communication, diversity and inclusion, and networking and career planning.

The Ambassador program is not only a leadership opportunity, it is also a scholarship opportunity. Recruitment Ambassadors are provided with a \$2000/year scholarship and Project Lead Ambassadors are provided with a \$2700/year scholarship. The Ambassador program is highly competitive, with an 8% acceptance rate. Those Ambassadors seeking to be a Project Lead typically have a minimum of one year of experience within the program. Individuals are recruited into the Ambassador program during their senior year in high school and start their first semester in university. Recruitment Ambassadors have the opportunity to connect with prospective students as well as prospective Ambassadors. Our Leadership Project Leads design events such as day conferences, networking events, and webinars, that also help highlight the Ambassador program to both high school students and current university students. With the continued COVID-19 pandemic, these events have moved to a virtual format, which has increased our outreach capabilities. The 2021-2022 composition of the Ambassador program is 28 women and 14 men, or 67% and 33%, respectively. During an earlier investigation, I invited all of the women within the program to complete the Clance and Imes Imposter Syndrome Survey. Of the 36 women in the program at the time, 14 of them completed the survey. Once these data were analyzed, I found that all of the participants cited experiencing at least a moderate level of imposter syndrome, with many of the participants (8) citing frequent experiences of imposter syndrome. These data have provided insight into the needs of the Ambassadors and the university.

### **Leadership and Imposter Syndrome in Higher Education**

Cowie et al. (2018) found that socially prescribed perfectionism (feelings of the need to be perfect in what we do based on the social contacts an individual holds) is a

noted contributor to academic stress and imposter syndrome. In an effort to overcome this, women and men within the Ambassador program have been invited to participate in a Leadership Development Program (LDP). The workshops within the LDP focused on building the skills needed to recognize the symptoms of imposter syndrome and help them overcome the negative thoughts of self-doubt. The LDP seeks to address areas of confidence, leadership, and career ownership, providing the support that is needed to increase graduation rates within the university and take further steps to achieving gender equity in our society. The workshops were designed in response to results of the Imposter Syndrome Survey the Ambassadors complete during my earlier investigation. Each respondent (only female participants during my earlier investigation) marked feelings of a lack of confidence in their abilities as well as concerns about their qualifications to hold leadership roles.

At Regional University, of the seven University Vice Presidents, two are women, while all of the Administrative Assistants for the Vice Presidents are female. While the University is led by a female President, senior leadership is still disproportionately represented by men. Gangone and Lennon (2014) examined the percentage of women in senior leadership roles in both for-profit organizations as well as non-profit organizations (such as universities). Their examination found that women are disproportionately underrepresented in leadership roles, however, they are often some of the highest performing employees within their organization (Gangone & Lennon, 2014). While great strides have been made in the last five decades to increase female representation in higher education enrollment, there is still a gap in the representation of women in leadership roles (Madsen, 2012). O'Connor (2012) noted while progress has been made in the



representation of women in leadership roles in higher education, women continue to be underrepresented and lag behind their male counterparts. Gender parity has been achieved at the assistant professor role in universities throughout the United States, however, men continue to be the majority of full professors in the college and university setting (O'Connor, 2010). I have seen this lack of representation of women among senior leadership reflected in colleges and universities throughout the country. While more women are enrolling in higher education institutions, the representation of women in leadership positions continues to lag behind.

My local context presents a potentially confounding variable to this research. The majority of the members of my population hold very strong religious values, with 72% of the population reporting their religious beliefs as The Church of Jesus Christ of Latter-Day Saints. Within these values, more traditional gender roles are something that is emphasized (C. Ely, Personal Communication, 2020). From my experience with individuals in this faith, they tend to marry in their early 20's, younger than the national average of marriage at 31 and 28 for men and women, respectively (United States Census, 2020). The church encourages its congregation not to postpone marriage (The First Presidency and Council of the Twelve Apostles of The Church of Jesus Christ of Latter-Day Saints, 2018). The belief that individuals can accomplish all things through hard work and dedication is often a motivator for members to marry young, should they find their life partner early. Many individuals within this faith hold strong values in large families and starting those families early in the marriage. Gender roles hold a large place in how they approach this. Many women take on the role of caregiver, opting to stay home and care for the children and the household (C. Ely, Personal Communication,

December 2020; Heaton, 1992). While women do graduate from high school and enter college, I have witnessed these strong religious values prompt them to leave college before finishing their degree program. While I have experienced some changes within these values and beliefs among my population over the last ten years, they could be confounding variables that influence the impact and outcome of the LDP.

### **Personal Context**

I have an educational background in psychology and a professional background in university admissions. My journey into higher education was not a planned one, but rather one of chance. One that led me to find my passion as an educator. Throughout my tenure in higher education, I have found that stress and anxiety are managed differently by students pursuing their undergraduate and graduate education. This stress and anxiety manifests in a variety of ways but the causes cited by the students tend to split along gender lines. While the teaching profession in both K-12 and higher education tends to be female dominant in terms of workforce, more men hold higher level positions than women do. In the early twentieth century, teaching and education was viewed as a more feminine professional role (Wong, 2019). As gender roles influenced the professional decision of both men and women, fewer men entered the teaching profession. In the 2017-2018 school year, the education profession, both K-12 and higher education, saw a closing of the gender gap in the teaching force (Wong, 2019). However, researchers found that as high-level leadership roles were examined, the gender disparity widened, with more men holding higher leadership roles (Wong, 2019). As a researcher, a female educator, and a member of university leadership, my experiences with imposter syndrome have prompted me to examine how I can contribute to the university's mission

and goals. Women are at far greater risk for experiencing the symptoms of imposter syndrome (Bothello & Roulet, 2019; Clance and Imes, 1978; Edwards, 2019; Good et al., 2012). I am not alone in my feelings. Many women pursuing their education experience the same feelings and it can often feel so overwhelming that the only perceived option is to quit.

In recent years, I have observed more female students working to “break the mold” by pursuing education and careers that have been traditionally male dominated. These areas include engineering and technology and business. While there are more women paving the way to gender equity in these areas, the women appear to experience great self-doubt and struggle to find academic success. Within my context, my university has seen a stagnation in the graduation rates among women. There are several resources throughout the university to help those who are first generation college students, or students from high-risk populations, but there is little support directed at women facing symptoms of imposter syndrome. The goal of my action research project is to explore the phenomena of imposter syndrome and its contributing factors of gender microaggression and stereotype threat in an effort to provide support to women and assist them in finding academic success. The development of more effective thought processes and the ability to overcome their self-doubt can be key in overcoming obstacles put in their path to graduation.

Within my current context, I know how my experience with imposter syndrome can impact my population as well as support students to graduation. Often I have heard women state that they do not feel they are smart enough to be enrolled in their degree program. They have also cited feelings of inadequacy when comparing themselves to

their classmates. I, myself, have wondered when my leadership team will realize I am not actually skilled enough to be in my role. All of these thoughts and beliefs align with instances of imposter syndrome. The students are more than capable of pursuing their degree; their knowledge and ability got them into the program. This study provides the opportunity to better understand the imposter syndrome symptoms among my student population and how they feel they can best be supported. This study also provides an opportunity to evaluate the leadership development component within the Ambassador Program. With my redesign of the leadership development curriculum, I have the opportunity to provide greater social and academic support for my student population, help to address the symptoms of imposter syndrome, and help to overcome the pervasive feelings of self-doubt within the female student population. As the researcher, I conducted workshops to target many of the contributing factors of imposter syndrome, such as gender microaggressions and stereotype threat. Building on common goals and norms, I looked to strengthen the support system within the Ambassador program as well as the university at large.

In order to assess the effects of the LDP as a support system, I pose the following research questions (RQ):

RQ #1: How do workshops addressing areas of imposter syndrome and gender inequity help to alter the symptoms of imposter syndrome in women?

RQ #2: To what extent do workshops addressing areas of imposter syndrome and gender inequity help to alter symptoms of imposter syndrome in women?

RQ #3: How do workshops addressing areas of imposter syndrome and gender inequity increase the likelihood that women will graduate?

RQ #4: To what extent do workshops addressing areas of imposter syndrome and gender inequity increase the likelihood that women will graduate?

RQ #5: How do workshops addressing areas of imposter syndrome and gender inequity alter the perception of the likelihood to graduate?

## **Chapter Two: Supporting Literature and Theoretical Frameworks**

As enrollments continue to grow at colleges and universities across the country, my experience has shown that the focus of many schools has shifted to building academic success and increasing graduation rates. Over the past several decades, the pursuit of higher education has become a social norm. As of 2009, 70% of U.S. high school graduates enrolled in college or university and were pursuing a bachelor's or technical degree, up from 45% of high graduates in 1960 (Baum et al., 2013). This equates to nearly 20 million people pursuing education within the college and university systems in the United States (Baum et al., 2013). In 2019, 35% of the U.S. population had completed at least four years of college education (Bustamante, 2020). This is up from 46% in 1940. The current national college graduation rate in the United States is 58% (U.S. Department of Education, 2020). This graduation rate reflects the six-year rate of completion, meaning that among those students who began their degree in 2012, 58% of them graduate by 2018.

Bustamante (2020) collected data on college enrollment statistics dating back to 1940. The data shows that until 2015, men outnumbered women in enrollments, with the largest gender gap occurring between 1965 and 2000 (Bustamante, 2020). As the percentage of women obtaining at least four years of education increases, it is important to understand the unique support this population needs. It is not simply about providing academic support, it is also about helping these students to overcome specific factors that are potentially influencing their success.

### **Supporting Literature**

Over the past several decades, there has been an increase in the number of students who enroll in college or university after high school. While the number of enrolled students has increased, the graduation rate has decreased (Baum et al., 2013). This is, in part, to be expected as there is a greater pool of individuals seeking to obtain a college degree. However, the makeup of the population has changed, which brings into question, are there other factors that are leading to the decrease in the graduation rate? In 2009, women made up nearly 57% of enrolled students, bucking a long-term trend where they were underrepresented (Baum et al., 2013). In an effort to better support women in achieving academic success, it is important to understand the factors that influence them. This includes the symptoms of imposter syndrome and contributing factors such as gender microaggressions and stereotype threat. Providing support for women to overcome these hurdles can be key in helping women achieve academic and post-graduate success. Among the research conducted into this area, the following are the common themes.

### **Themes of Gender Marginalization Research**

When researching imposter syndrome and its impact on academic success, three main themes arose within the literature: *imposter syndrome*, *gender microaggression*, and *stereotype threat*. Within this section, I will first discuss the literature associated with imposter syndrome. This literature will provide context and descriptors to provide a more detailed picture of the symptoms that are cited by the participants within my study. In conjunction with imposter syndrome, much of the research finds two primary contributing factors: gender microaggressions and stereotype threat. I will dive into the literature on these two areas and how researchers and practitioners have found gender

microaggression and stereotype threat to play a role in this experience of imposter syndrome.

### *Imposter Syndrome*

Clance and Imes brought imposter syndrome to light with their seminal work in 1978, *The Imposter Phenomenon in High Achieving Women: Dynamics and Therapeutic Intervention*. Their research found that women across all walks of life and in a variety of different professional and personal roles experienced symptoms of imposter syndrome. These symptoms often present as negative thought processes that further the feeling of self-doubt within the individual. Edwards (2019) quotes Clance and Imes “despite outstanding academic and professional accomplishments, women who experience the imposter phenomenon persist in believing that they are really not bright and have fooled anyone who thinks otherwise” (p. 18-19). For those suffering from imposter syndrome, they often feel unqualified and may harbor feelings that they have fooled others to get to where they are now. These feelings of inadequacy often manifest in physical ways. These physical or clinical symptoms can present in the form of generalized anxiety, a lack of self-confidence, depression, and frustration (Bothello & Roulet, 2019; Clance & Imes, 1978; Good et al., 2012). These feelings of anxiety and depression often lead women to believe that their failure is due to a lack of ability. In contrast, men who experience failure are more likely to believe it is due to bad luck or the difficulty of the task (Clance & Imes, 1978). These distinct differences in the way men and women approach their education and career can help us as researchers to understand the support needed for women in various settings.



Social context can play a crucial role in imposter syndrome (Edwards, 2019). Women, as compared to men, often rely on others in their social circle to determine what characteristics make them an authentic academic or professional (Edwards, 2019). Women compare their accomplishments, actions, and beliefs to their peers. These comparisons can foster self-doubt within the individual and are often skewed to be negative (Bothello & Roulet, 2019). The negative skewedness stems from the perception that their colleagues are more successful when in actuality, the colleagues simply may have more visibility (Bothello & Roulet, 2019). In other words, women often compare their lack of achievement against other women who appear to have achieved more. In actuality, women are comparing themselves to individuals who are in leadership positions that provide more opportunity to highlight their successes. This visibility can distort women's vision into believing that this is the norm, rather than the exception. Women often build their self-image around the perceived views of society and its cultural norms. In many cases, this results in a self-image of being phony that is built around the societal belief that women are not competent (Clance & Imes, 1978; Good et al., 2012; Robinson-Walker, 2011). These symptoms of imposter syndrome can lead women to experience depression and performance anxiety (Robinson-Walker, 2011). This can also lead women to experience feelings of depression and anxiety that can be attributed to a disproportionate perception of their capabilities and the specific challenges that their roles present (Robinson-Walker, 2011). The symptoms of imposter syndrome can also lead women to work harder and compete harder, to the point of being overworked, in an effort to combat these feelings of self-doubt. This burnout can discourage women from speaking out authoritatively in positions of leadership, even going so far as to avoid

taking on roles with greater responsibility and contribution to the organization (Robinson-Walker, 2011).

In many cases, when women see success within their personal or professional lives, they are more likely than men to attribute it to luck or effort (Bothello & Roulet, 2019; Clance & Imes, 1978; Edwards, 2019). In such cases, women will maintain that their success is something that is fleeting and likely will not come again unless they luck into it or exert a large effort towards obtaining it. Women also tend to hold lower expectations than men of their abilities, prompting them to look for outside factors that could be influencing their success. Men in similar situations are more likely to attribute their success to their internal, stable ability (Clance & Imes, 1978; Edwards, 2019).

Clance and Imes (1978) state “Horner indicates that many women have a motive to avoid success out of a fear they will be rejected or considered less feminine if they do succeed” (p.245). Women, more than men, tend to avoid success because of the fear of failure (Cowie et al., 2018). If they do fail, it would then be confirmation that they are not capable and have merely had good luck getting to this point. Their self-image would be confirmed, and their lack of skills and ability would be made public. The feelings of imposter syndrome can have a large impact on a variety of areas within a women’s life, and it is important to understand how these feelings and thought processes present themselves.

### *Gender Microaggressions*

The first contributing factor to imposter syndrome that presents itself within the research is that around gender microaggressions. This concept often ties into the perpetuation of the feelings of imposter syndrome. In recent years, these has been a

decline in overt sexism and discrimination (Basford et al., 2014). Significant progress has been made since the passage of the Nineteenth Amendment and the adoption of the Civil Rights Act (Capodilupo et al., 2010). However, sexism and subtle discrimination based on gender persist throughout our society (Capodilupo et al., 2010). Often when the topic of sexism is raised, it is thought of as overt or blatant forms – those that refer to harmful or unfair treatment of women that is intentional, visible, and unambiguous (Capodilupo et al., 2010). What is seen in today’s society is more subtle; it has become part of our cultural norms. Gender microaggressions are “intentional or unintentional actions or behaviors that exclude, demean, insult, oppress, or otherwise express hostility or indifference toward women” (Basford et al., 2014) these subtle actions and words further contribute to women’s feelings of self-doubt and inadequacy. Cappdilupo et al. (2010) revealed that gender microaggressions are experienced more frequently when they reflect sexual objectification and an assumption of traditional gender roles. It is these persistent beliefs in traditional gender roles that contribute to and inform women’s self-perceptions, self-esteem, and self-worth (Capodilupo et al., 2010).

Gender microaggressions often manifest in a variety of ways. Basford et al. (2014) quoted Swim et al., “Modern sexism can manifest through resentment toward women receiving ‘special favors,’ such as policies designed to support the advancement of women in academics and work” (p. 341). The outward expression of sexism has taken on a much subtler tone in recent years. Because of this, it is often overlooked. It has become a part of the cultural norm, where men feel that it is harmless, and women feel uncomfortable but are unsure of how to address it (Stucky, 2020). This can be seen in instances where male leadership within an organization will go out after work without

inviting women to join. Men often state that it is a social outing, but work is discussed. This inadvertent exclusion of women is one of the more subtle ways we see gender microaggression. Women's experiences with gender microaggressions have led to a variety of psychological issues, many associated with imposter syndrome. These include feelings of decreased comfort and self-esteem as well as those of anger and depression (Capodilupo et al., 2010). Gender microaggressions can cause uncertainty around the perception of prejudice (Basford et al., 2014). This can create the feeling of ambiguity for women, leading to depression and anxiety, and further confounding the feelings of imposter syndrome.

It is important to note that imposter syndrome and gender microaggressions are not confined to one industry or field. Women experience these instances in a variety of roles. Stucky (2020) examined the impact of gender microaggressions on female doctors, an area in which one might assume that it would be less common, given the background of the individuals. Stucky (2020) found that a "suck-it-up" mentality persists even today within medicine. When faced with long hospital shifts or the stresses of a medical residency, women are expected to move forward without complaint, as this is how men have been expected to approach it in the past. Women especially feel the pressure to work harder and longer to prove they are worthy of the title "doctor" (Stucky, 2020). Files et al. (2017) found that "male physicians introducing male physician speakers at Internal Medicine Grand Rounds used the professional title of 'Dr.' 72.4% of the time while female physicians introduced by men were afforded the use of their professional title only 49.2% of the time" (p. 556). This rather large discrepancy is one of many examples of gender microaggressions. Stucky (2020) also found that "female residents are often told

to have the nurses call them by their first names so they will not seem arrogant or unapproachable, but the same rule does not apply to male residents” (p. 556). This belief that outspoken women and girls are “bossy and arrogant” is a belief that has never been applied to men. A woman who is direct and commanding is often viewed as someone who is difficult to work with. A man who displays these same characteristics is often viewed as a leader (Seeger, 2014). The persistence of traditional gender roles contributes to these microaggressions, which further confound women’s beliefs that they are not qualified and do not possess the skills and abilities needed to be successful within both the academic and professional worlds. The research into gender microaggressions suggests that it invalidates women, dismissing their contributions and accomplishments, and exacerbates the symptoms of imposter syndrome (Capodilupo et al., 2010). Basford et al. (2014) found that “overall, women were significantly more likely to perceive workplace gender microaggressions than men” (p. 341).

It can be easy to believe that sexism is not present in our world today and that we have advanced as a society further toward gender equality than we actually have. However, the U.S. Equal Employment Opportunity Commission recorded over 20,000 sex-based charges of discrimination in 2012 alone (Basford et al., 2014). Research suggests that at least 60% of women in the United States experience some form of sexual harassment in the workplace; however, many of these incidents go unreported because of women’s fears that they do not meet legal criteria for harassment or as a result of personal or psychological distress (Capodilupo et al., 2010). With the recently publicized #MeToo movement, we are finding more and more women have opted not to speak out for fear of reprisal, or that they will not be believed, leading to no action on behalf of law

enforcement, as well as the organizations that employ the accused. The persistence of these subtle forms of sexism within our society contribute to the persistence of feelings of imposter syndrome among women.

### *Stereotype Threat*

The second major contributing factor to imposter syndrome is stereotype threat., tying into the theme of gender microaggressions, many women experience instances of stereotype threat. Stereotype threat is defined as the negative stereotypes associated with one's social group and the need to actively seek to contradict those negative stereotypes (Edwards, 2019). With the persistence of the beliefs surrounding traditional gender roles, many women are consistently fighting through stereotypes to obtain success in their field or career. This battle against negative stereotypes can contribute to the feelings of imposter syndrome. The more that women perceive a fix-ability environment (an environment where the skills needed are finite and defined) and the presence of high gender stereotyping (i.e., women hold specific roles within the environment), the more susceptible they will be to cite a lower sense of belonging (Good et al., 2012).

Good et al. (2012) examined the role and presence of women in math. While there is growing representation, traditionally women have been a minority among the STEM disciplines. Good et al. (2012) found that the participants within their study who perceived greater levels of stereotyping, often felt a lower sense of belonging to a group or organization. Within their study, this often led to a lowered desire to pursue math in the future (Good et al., 2012). Examining this with its relation to imposter syndrome, stereotype threat can be seen as how it might influence a women's desire to pursue roles with more responsibility and visibility or take on leadership positions. When they feel

that they will be “othered” and risk having their self-perceptions of their abilities (or lack thereof) confirmed, the likelihood that they will opt out increases (Good et al., 2012).

Much like gender microaggressions, the overt beliefs surrounding traditional gender roles have molded into more subtle approaches to the roles an individual should take on. In essence, the existence of these gender roles creates a stereotype, and anything one does that conforms to this stereotype makes it more plausible to others, and even to oneself (Steele & Aronson, 1995). Even the subtle belief that traditional gender roles still exist can perpetuate the feelings of imposter syndrome among women. As women see their female peers holding administrative roles or pursuing fields of education that have been traditionally female dominated, such as education, they begin to internalize the belief that these are the roles they are able to and should fill. When they seek to step outside of these roles, the thought processes of imposter syndrome can plague their self-belief in their abilities and “right” to be there (Edwards, 2019). There is the belief that they don’t belong in an academic setting because their role should be to stay home and care for the family (Eisenmann, 2005). An education is not needed as it will not be utilized. While it is rare to have a single income home in today’s society, the belief that men should be the primary bread winner and women should be the primary caregiver persists as a belief, if not in practice (Ickes, 1993; Eisenmann, 2005). Women often feel frustrated within the stereotype, as it appears an allegation of their inability, and thus becomes relevant to their performance (Steele & Aronson, 1995). Women who face the stereotypes associated with traditional gender roles are more likely to experience symptoms of imposter syndrome because the stereotype reinforces their belief that they are not qualified to fill the role they are in (Steele & Aronson, 1995). They fear the

perception of others in their skills and abilities and this perception can prompt feelings of inadequacy and not belonging. As women encounter these stereotypes and gender microaggressions, these feelings are confirmed, confounding their experience with imposter syndrome.

### *Imposter Syndrome and Gender Marginalization*

Imposter syndrome and its contributing factors, gender microaggression and stereotype threat, can have an impact on the success (or lack thereof) of the individual. The beliefs and thoughts surrounding imposter syndrome often discourage women from pursuing leadership roles or seeking out promotions or higher compensation (Young, 2011). Gender microaggression and stereotype threat often widen the gender gap. The symptoms of imposter syndrome can leave women feeling that they are not qualified or do not have the skills necessary to take on leadership roles (Young, 2011). This can discourage women from seeking out promotions, especially if the leadership within the organization is predominately male and/or if competitors for the positions are men (Clance & Imes, 1978). While great strides have been made to lessen the gender gap, women still experience gender marginalization in the academic and professional realms (Kimba, 2009). The negative thoughts surrounding imposter syndrome and the subtle (or not so subtle) expressions of gender microaggression and stereotype threat continue to discourage women from breaking out of the traditional gender roles. When the internal thought process surrounding imposter syndrome is reinforced through external experiences (observation of the success of others, a lack of visibility of women in leadership roles, or experiences of gender microaggressions or stereotype threat). Feelings of self-doubt can become even greater (Bothello & Roulet, 2019).



### *Imposter Syndrome and Visibility*

Imposter syndrome can affect women in two ways in regards to visibility, the lack of visibility of women in leadership roles can be discouraging and their visibility in leadership roles can further compound their self-doubt (Good et al., 2012; Parkman, 2016). When women see more women in leadership roles, it can boost their belief that they too can obtain their goals (Dasgupta & Asgari, 2004). However, this visibility can also confound the feelings of imposter syndrome among women. When women can see others similar to themselves succeeding, they may begin to compare themselves and their accomplishments. They begin to attribute other's success to their skills and abilities while continuing to believe that they themselves have simply been lucky (Bothello & Roulet, 2019; Clance & Imes, 1978; Parkman, 2016; Robinson-Walker, 2011). These beliefs can be further compounded when the women obtain leadership roles. They maintain the belief that they have been lucky to get where they are and eventually others will find out. They often believe that their success is attributable to networking, timing, or a lowering of standards (Parkman, 2016). In an effort to avoid discovery, women will focus on impression management and self-monitoring (Parkman, 2016). The external locus of control and success can inhibit women from internalizing past successes and decrease confidence in their future abilities. On the outside, and to other women, they appear to be in control and confident. However, internally they are struggling to move past their fears and own their success. This visibility, while seeming beneficial, can be detrimental to other women as well as the individual as they struggle to internalize their successes rather than their failures and acknowledge that it was their skills that got them where they are rather than luck or timing (Parkman, 2016).

### *Imposter Syndrome and Intersectionality*

It is important to also note the impact and instances of imposter syndrome within marginalized groups. The beliefs surrounding imposter syndrome can be difficult for women in a variety of academic and professional settings. The individual's racial and ethnic backgrounds can further influence the beliefs and impact of imposter syndrome (Edwards, 2019). While this will not be fully addressed in this study, it is important to note the impact that racial and ethnic backgrounds can have on the outcome. The drive for equality has made great strides in recent decades, with more women graduating with a bachelor's degree as well as entering the workforce (Baum et al., 2013). However, women are still marginalized through instances of imposter syndrome, gender microaggression, and stereotype threat (Robinson-Walker, 2011). Women of color from underrepresented populations are likely to experience an added layer of marginalization. Women of color are more likely to experience feelings of imposter syndrome not just for their gender, but also because of the marginalization of these groups in American society (Edwards, 2019). Stereotype threat becomes even more prevalent among these marginalized populations as they seek success in their fields. Women of color are having to overcome the stereotypes associated with their race as well as the feelings of imposter syndrome experienced by women (Edwards, 2019). These women are working to overcome the belief that they do not belong both because of their race and because of their gender. This added pressure can compound the negative effects of imposter syndrome and make it even more difficult for women of color to internalize their successes and push forward with the confidence to succeed in leadership roles (Edwards, 2019).

## **Implications of Prior Research on the Intervention**

During my earlier investigation, the focus of this action research study was on student mental health and academic success. The results of that data collection period showed that while anxiety was prevalent among the Ambassadors, there was a distinct split along gender lines in regards to the cited causes of anxiety. The male Ambassadors cited feelings of anxiety usually related to competing deadlines such as when they had multiple assignments due alongside work and family commitments. Female Ambassadors, however, more often cited feelings of anxiety around their belief of not being as smart as their classmates and a lack of belonging within the program. Clance and Imes (1978, as cited in Edwards, 2019) define imposter syndrome as “feeling like an academic or professional fraud” (p. 19). Many of the comments made by the female Ambassadors align with this statement. These feelings and thoughts of imposter syndrome can often lead women to predict other’s perception of them (Edwards, 2019). Women’s experience with gender microaggression and stereotype threat can compound this, making it difficult to recognize the illegitimacy of these negative thoughts and beliefs.

This action research study will leverage understanding gained from research about the constructs of imposter syndrome, gender microaggressions, and stereotype threat to help the Ambassadors identify the impact of these within their own life. The study will them combine Bandura’s Theory of Self-Efficacy and Dweck’s Theory of Growth Mindset to provide a support system to build the skills necessary to overcome the feelings of imposter syndrome and contributing factors of gender microaggression and stereotype threat. In order to best support the Ambassadors within my context, a Leadership

Development Program will be built and implements based on the theories of Self-Efficacy and Growth Mindset. Covering topics such as overcoming failure, handling difficult conversations, and building confidence, the LDP workshops are aimed at helping the participants overcome faulty self-appraisal and building a more accurate framework of their self-efficacy (Bandura, 2012). The workshops will encourage participants to set clear, attainable goals that will provide an accurate form of appraisal and adequacy (Bandura & Schunk, 1981). In combination with Dweck's Growth Mindset, these workshops are built upon the foundation that we as humans are able to grow and develop our leadership skills over time. With this growth comes the opportunity to strengthen our belief in our own abilities and the place we hold with an academic or professional organization.

### **Theoretical Framework**

Two theoretical frameworks were found that align well with the goals of this study: Bandura's Theory of Self-Efficacy and Dweck's Theory of Growth Mindset. Understanding the basis of these theories in relation to my project is beneficial in not only understanding the problem on a deeper level but also in the development of the intervention.

#### **Theory of Self-Efficacy**

Albert Bandura was a mid-20<sup>th</sup> century psychologist whose work has greatly influenced a variety of fields. His work with self-efficacy, within his Theory of Social Learning, is valuable in understanding the potential impact I can have on my participants. Self-efficacy theory is defined as "an important, cognitively based source of self-motivation [that] relies on the intervening processes of goal setting and self-evaluative

reactions to one's own behavior" (Bandura & Schunk, 1981, p. 586). My intervention is designed to help the participants identify feelings of self-doubt and inadequacy associated with imposter syndrome. It will then provide support to help participants reflect on these beliefs and how they might alter their thoughts to act as motivators rather than hurdles. Within this, goal setting is important to help individuals develop a plan as a way of internal support, building confidence in their abilities and the skills necessary to be self-sufficient. Bandura and Schunk (1981) highlighted that the specificity and level of goals (attainable, stretch, etc) help to provide clear standards. Goals that are short-term and attainable as well as those that are long-term and more difficult to achieve influence the individual's process toward change. In essence, creating goals provides the strength women need to combat feelings of inadequacy. It is also important to set goals with the appropriate proximity (Bandura & Schunk, 1981). Goals that are too vague or too far away are not able to provide the appropriate motivation the individual needs. Goals that are explicit and closer in time to completion can provide the internal motivation women can rely on to help alter their negative thought patterns.

Bandura's theory of self-efficacy also provides the foundation for a deeper understanding of imposter syndrome. When individuals are in situations that do not emphasize ability or it is viewed as something inconsequential, they are unlikely to take their self-appraisals seriously (Bandura, 2012). When the individual perceives that their capability is not going to be in question, they are able to let their guard down. They worry less about their success or failure and are able to focus on their actions. The ability to focus less on the perception of their abilities is one of the primary goals for this

intervention. When the individual is able to separate the *perception* of their abilities from their *actual* abilities, they are more likely to eliminate the change for faulty self-appraisal.

In addition, understanding the role social groups play within the context of stereotypes can also influence an individual's ability to find their internal motivation, meaning the more open and supportive a social group is, the more likely the individual is to find internal motivation as opposed to external motivation. When the group has a greater sense of collective efficacy, the members of that group begin to shift their focus of efficacy inward, to find their internal motivation for actions and beliefs (Bandura, 2012). When the members of the group feel that stereotypes are not influencing actions and behaviors, they are more able to find comfort in the roles they are playing. Bandura indicates self-efficacy can be developed through the following three ways: mastery of experiences, developing self-efficacy through social modeling, and social persuasion (Bandura, 2012).

If women experience only easy success, they are more likely to expect quick results and can become discouraged when they experience setbacks and failures (Bandura, 2012). Overcoming these obstacles through perseverance helps the individual to not only develop self-efficacy, but to develop resilient self-efficacy. As they experience obstacles, setbacks, and failure in the future, they will be less likely to become discouraged. Building this understanding that failure is not conformation of the individual's abilities but rather is a learning experience is crucial to stopping negative thought processes of imposter syndrome.

Groups often also encourage social persuasion, persuading individuals to believe in themselves and their abilities to face difficulties with perseverance and resilience.

“Individuals are encouraged to measure success by self-improvement rather than by triumphs over others” (Bandura, 2012, p. 13). Tying into the concept of grit and resiliency discussed in the following section, the concept of social persuasion encourages individuals to build internal measure of success (and failure) rather than external.

As women find individuals and groups similar to themselves, they begin to model their actions and beliefs off of the norms formed by these individuals (Robinson-Walker, 2011). As women witness them succeed, especially through efforts of perseverance and resiliency, women begin to adopt the role model’s aspirations and beliefs in their own capabilities. Having social groups and role models that support the behaviors that contradict those of imposter syndrome can help to eliminate negative effects of imposter syndrome. Modeling the actions and beliefs of their social groups and role models highlights the importance of finding resilience when faced with failure and strengthens their internal motivation to accomplish their goals. Their *perceptions* of their abilities become less important as their internal views of abilities begins to take precedence in how they approach future experiences.

Bandura’s theory of self-efficacy informs my intervention in this study by providing the foundation for understanding symptoms of imposter syndrome and how we as educators can help to alter them. It helps provide the foundation for turning the focus from the external perception and beliefs of abilities to internal perceptions and beliefs. The development of internal motivation and measurement of success and failure is crucial for women to overcome feelings of self-doubt and inadequacy.

### **Growth Mindset**

Carol Dweck (2015) found students' perceptions of their abilities influenced their motivation and achievement. Specifically, Dweck (2015) found that children who believed their intelligence could be developed outperformed those who believed their intelligence was fixed. The belief that intelligence can be developed is referred to as a *growth mindset*. In my study, the belief that behaviors can change, and gender biases and symptoms of imposter syndrome can be altered would indicate that participants are experiencing a growth mindset. As I worked to develop the intervention, understanding the mindset of the population helped to influence the topics and direction of the intervention. This is true for both men and women. In men, a growth mindset could indicate that they are more open to altering their behavior and recognizing their contributions to gender microaggressions. In women, a growth mindset can help them alter their thoughts surrounding imposter syndrome. For both groups, a growth mindset can help the participants to understand the impact of persisting stereotypes can have on stereotype threat and gender microaggressions and consequently on imposter syndrome.

Understanding growth mindset can also help inform the impact of my intervention. Yeager and Dweck (2012) found that an individual's mindset can contribute to two important issues in education: (a) academic underachievement and (b) the impact of peer exclusion and victimization. It is this second point that influences the theoretical framework of this study. As women experience gender microaggressions and stereotype threat within the academic environment, they begin to develop negative self-talk, that they do not belong in their environment (whether that be their college, their major, or their chosen professional field). This negative self-talk, which directly aligns with the tenets of imposter syndrome, likely contributes to academic underachievement. If they



don't complete their degree, the women will never receive confirmation that they are not capable. As Bandura stressed the importance of resilience in developing self-efficacy, Yeager and Dweck (2012) also stress the impact of resilience in altering outcomes and the usage of a growth mindset. Individuals who are more resilient are likely to have a growth mindset approach that allows them to alter their perceptions and actions. In my study, students who are more resilient are likely to respond more positively to the intervention. This can consequently result in a decrease in imposter syndrome symptoms.

When an individual believes that their skills and abilities can be developed through dedication and hard work, this is a growth mindset. In regards to this action research study, growth mindset supports Ambassadors when they talk about their leadership skills and how they view the perceptions of themselves in others. When the Ambassadors believe that their leadership skills can be developed and improved, the mindset they hold makes them open to validating their skills and abilities. It also helps them work to improve areas in which they intrinsically feel the need to improve. Being open to continually improving yourself and your skills is key. In this case, individuals are seeking the opportunity to improve their leadership skills. When faced with difficult or stressful situations, growth mindset supports the opportunity to alter the way the student reacts to the situation. The importance of resiliency and overcoming obstacles and failures is a key component in both Bandura's and Dweck's theories. Understanding how this impacts the individual's ability to recognize and overcome the symptoms of imposter syndrome is the path to success with my intervention.

Hochanadel and Finamore (2015) examined growth mindset and grit in relation to college students' ability to overcome adversity. Their results showed students who had a

growth mindset and who reported greater levels of grit were more likely to stay in their degree program and graduate. These students showed that they were able to overcome obstacles that may have derailed individuals who were lacking in these areas. Hochanadel and Finamore (2015) contend it is possible to teach growth mindset and grit within the educational system. By working with students to help them understand the options they have to improve their skills, educators are effectively attempting to foster a growth mindset in the individual. Educators are helping them to build a new skill but also altering the way the student interacts with the world. For example, a teacher working through a concept in math step-by-step is both helping to develop grit in getting the student to pursue the content, even with failure, while also helping the student to develop their skills in that particular area. When faced with a similar problem in the future, the individual will be more likely to approach the problem seeking a solution rather than avoiding it for fear of failure.

In relation to my study, growth mindset helps the individuals develop more effective coping techniques. When they are faced with stressful situations, they are likely to approach it from a place of solution rather than one of anxiety or depression. This helps to build grit, encouraging individual to continue to push through difficult experiences. In addition, the student is also developing their growth mindset. With each new coping technique, they are building on their interpersonal skills and adjusting the way they will react in the future, should they encounter a problem similar to one they have already faced. When the Ambassador faces feelings of imposter syndrome that seem insurmountable, growth mindset can help them see that they can overcome the feelings. The Ambassador will be more likely to seek the root of the feelings and identify what is

reality and what is perception, and how they can then move forward. Utilizing growth mindset as a foundation for this study helps me to remember the importance of building and improving on skills the Ambassador already possesses, rather than ones that need to be newly developed. It also supports individual towards having an alternative positive reaction should they encounter similar situations in the future.

### **Predicted Outcomes**

The problem identified in this study is the issue of imposter syndrome among women enrolled in college. Initial examination of the problem has identified a gender gap in the trigger for feelings of anxiety among the Ambassadors. Imposter syndrome and its contributors of gender microaggressions and stereotype threat are all areas which women within the program have cited as triggers of anxiety. The goal of my study is to build on the research cited here to better understand the instances of imposter syndrome, gender microaggressions, and stereotype threats, and to better support students in achieving academic success, and, eventually, gender equality. Utilizing Dweck's Growth Mindset and Bandura's Theory of Self-Efficacy, this study will identify areas in which imposter syndrome can be addressed and overcome in women. It will also seek to identify behaviors of microaggression and stereotype threats among men. In the pre-test portion of this study, I expect to find that many of the women within the Ambassador program experience symptoms of imposter syndrome. I hope to find that the student population has a growth mindset approach in regards to their leadership skills and abilities. Should this be the case, the intervention has a greater chance of success in altering the beliefs and behaviors of the Ambassadors. Should some or all of the Ambassadors have a more fixed mindset approach, the intervention delivery will be altered to focus on recognizing the

leadership skills they are strong in and building the resiliency to understand that perceived external perceptions do not indicate facts in relation to those leadership skills. Finally, I hope to see that the intervention decreases participants' feelings of self-doubt and inadequacy and improves their beliefs regarding their capacity to persist to graduation.

### **Chapter 3: Methods**

My study is focused on student success and some of the factors that can influence this. Initial research in this area found that anxiety was a hurdle to academic success and the triggers for this anxiety split along gender lines. Digging deeper into this, I have found that female Ambassadors cite greater levels of anxiety associated with academics. Comments such as “Sometimes I think ‘how did I even get in here?’ or ‘I’m not smart enough to be in this program’” provided unique insight into a major factor possibly triggering differences between men and women. The men interviewed in the early stages of this study did not have these thoughts. Instead, men were more likely to assert that they belonged, and their anxiety stemmed not from concern over their abilities, but from competing deadlines and managing the academic workload. The women interviewed all stated feelings of inadequacy. As such, the focus of this project is to examine feelings of imposter syndrome among Ambassadors and assess how these may be ameliorated through participation in a structured leadership program.

#### **Setting and Participants**

The setting of this study was at Regional University (pseudonym), a medium sized university in the Southwest United States. Regional University is the largest university in the state. Specifically, the population sampled were undergraduate students who were participants in the Ambassador program within the university. The Ambassador program is a leadership opportunity for Regional University students to assist in the recruitment of prospective high school students. Students accepted into the Ambassador program are full-time students (i.e., enrolled in at least 12 credits a semester) and are receiving a scholarship for their participation. Participants are in their early 20s,

with a few of the participants in their late teens. The Ambassador program has as total of 50 Ambassadors. Ambassadors commit to the program a semester at a time. The average length of time spent in the program is two and a half years. The acceptance rate for the 2020-2021 academic year was 8%. The 2021-2022 program was composed of 67% women and 33%.

Ambassadors take on one of three roles. The first is Recruitment Ambassador. These individuals work with an Admissions Counselor to assist in the recruitment of high school students to the university. Typically, the Ambassador will visit the high school they are assigned to and provide presentations and information about the university. In addition, the Ambassador will assist with large scale recruitment events such as statewide high school recruitment tours, on campus events such as Open Houses, and population specific events such as the Diversity Conference. Due to the COVID-19 pandemic, all of their contact and interaction with prospective students, including those at their assigned high school, is completed virtually.

The second role is that of Project Lead. There are a total of eight Project Lead Ambassadors in the program. These individuals assist in planning events both for the recruitment of prospective students to the university as well as recruitment for participants in the Ambassador program itself. Traditionally, the Project Lead Ambassadors assist in the planning of large scale, on campus events such as the Open Houses, Diversity Conference, and Leadership Day. Due to the COVID-19 pandemic, these events have moved to a virtual format. While the Project Leads are still involved in the planning of the virtual events, their time commitment has decreased.

The third role is that of Ambassador Manager. There are eight total Ambassador Managers. This position is a leadership position within the program. Individuals in the manager role are classified as student employees, providing them with a bi-weekly paycheck rather than a scholarship. Each Ambassador Manager leads a team of six to seven Ambassadors, one of which is a Project Lead. The Ambassador Managers assist me in managing all aspects of the Ambassador Program, including event planning, budget allocation, program recruitment, and program structure. Ambassador Managers typically have at least a year of experience as an Ambassador and are required to apply through the university HR system. This leadership position provides the individuals the opportunity to further grow their leadership skills while also building their people management skills, both vital contributions to their resumes.

This population has a unique cultural influence in that 72% of Regional University students cite belonging to the Church of Jesus Christ of Latter-Day Saints (Graduation Rates, 2020). As such, many participants began college immediately after high school, complete a year or so, and then leave to serve a religious mission for 18 to 24 months. These values include traditional gender roles within families (women are caregivers, men are the financial supporters). Church values also encourage marriage at a younger age, with individuals within the faith typically marrying between 24 to 25 years old (The First Presidency and Council of the Twelve Apostles of The Church of Jesus Christ of Latter-Day Saints, 2018). These values could influence the female Ambassador's approach to their education and leadership goals.

### **Role of the Researcher**

During this study, I worked in administration within the university. I, as the researcher, ran the Ambassador program. Within this study, I had constant contact with the Ambassadors. This role allowed me to understand why students have chosen our university, what their experiences were within their education, and how they can impact both future classmates and current classmates. Working in this role, it could sometimes be difficult to elicit honest and candid feedback from students. They were often worried that their feedback will be used against them or disclosed to the senior leadership team (those individuals who make decision in regards to scholarship opportunities and enrollment goals). When seeking to understand the role of imposter syndrome and gender inequity, it is important to have enough rapport with the students, so they felt comfortable confiding in me. Ensuring that the research setting is a safe space is important in gaining honest feedback and truthful insights into the student experience and how best to support them. As the researcher in this study, it is important to maintain their confidence. I separated myself from my professional role and worked to maintain the confidentiality of the students while also presenting the results of my research to the leadership team in hopes of building an effective support system.

As the researcher in this study, I took an active role in supporting our student population. The Ambassador program provided a leadership development component. This curriculum was designed to help support them as Ambassadors at the university as they assisted with the recruitment of prospective students. The leadership curriculum that my predecessor implemented focused on the recruitment of prospective students through Ambassadors “owning” a high school. They were responsible for high school visits and events in conjunction with an Admissions Counselor. Traditionally these high school



visits and events were done in person, both on campus and at the high school. With the COVID-19 pandemic, I had to reimagine how we can best connect with our prospective student population. The curriculum focused on effective teamwork, good communication, and presentation skills. Within the program, Ambassadors worked in small teams of about eight to meet goals and objectives. These included recruitment targets, event attendance, campus tours, and yield targets. Within the revised curriculum I have developed, the leadership component was more focused on professional leadership skills and career development, providing skills and support for their role as an Ambassador, as well as academic and professional support. The workshops within my LDP focused on topics such as building confidence, handling difficult conversations, overcoming failure, and career ownership.

### **Intervention**

The primary focus of this research is on the impact of participation in the LDP. The goal of the LDP is to provide female students, specifically within the Ambassador program, with the tools necessary to overcome the negative thought processes associated with imposter syndrome. The workshops addressed the contributing factors of gender microaggressions and stereotype threat. The LDP workshops were designed based on Bandura's Theory of Self-Efficacy and Dweck's Growth Mindset Theory. The belief that an individual has control over their actions and their ability to grow and develop their skills is important in overcoming the symptoms of imposter syndrome. One of the key tenants of Bandura's theory is the process of goal setting (Bandura & Schunk, 1981). Through goal setting, the individual is able to realistically evaluate their abilities and formulate a plan to improve their skills. In conjunction with this, Dweck's theory

provides insight into the individual's motivation. When the individual feels they can improve their skills and abilities, they have more motivation to continue to move forward, even when obstacles are encountered (Dweck, 2015). Bandura and Dweck both placed value on the development of grit and resilience (Bandura, 2012; Dweck, 2015). These skills taught within the curriculum of the LDP help participants understand their actual abilities and overcome inaccurate perceptions of the abilities.

Participants participated in six workshops. The workshops focused on building the skills necessary to be an effective leader as well as helping the participants build tools needed to overcome imposter syndrome. These topics include leadership skills, difficult conversations, utilizing feedback, building confidence, overcoming failure, and owning the career search. These topics were selected to address the literature discussed in Chapter Two. Specifically, the workshops focused on developing confidence in the female Ambassador's abilities to lead. They also addressed difficult situations they are likely to face such as failure and feedback and provided the opportunity for the participants to develop more effective coping techniques when faced with these situations in the future. The topics also provided an open space to discuss gender microaggression and stereotype threat through the feedback and failure workshops. Workshop topics were designed to facilitate discussion among participants. Table 1 provides descriptions of the workshops as well as the targeted areas the content seeks to address (ex- imposter syndrome, gender microaggressions, and stereotype threat). The workshop environment was designed to provide a safe space for the participants to express their feelings and beliefs without fear of repercussions. While the participants were not made aware of which topics specifically addressed the feelings of imposter syndrome, the goal was to

provide thought provoking topics that encourage the participants to identify their experiences of imposter syndrome and to build more effective coping techniques. There was no incentive for participants to attend these workshops.

**Table 1**

*Leadership Development Workshop Descriptions*

<b>Workshop</b>	<b>Description</b>
Building Your Leadership Foundation	Covers success (imposter syndrome and self-efficacy connections), effective communication, accountability and ownership, motivation (growth mindset), and leading through change (imposter syndrome and stereotype threat)
Difficult Conversations	Covers defining a difficult conversation, timing, effective communication (imposter syndrome), and building from feedback (self-efficacy)
Confidence in Contagious	The workshop is designed as an open dialogue allowing participants to discuss situations in which they have and have not felt confident and recognizing their abilities as fact rather than perception (imposter syndrome and self-efficacy)
Building from Feedback	Covers giving feedback (self-efficacy and imposter syndrome), receiving feedback (self-efficacy), and promoting those around you (gender microaggression and stereotype threat)
Failure Breeds Success	Covers failure is not fatal (imposter syndrome and stereotype threat), learning through failure (self-efficacy), finding the positive (imposter syndrome), and achieving success (imposter syndrome)
Owning your Career Search	Covers resume, cover letter, interview protocol (imposter syndrome) and negotiations (imposter syndrome, self-

## **Timeline and Data Collection**

### **Overview**

This research study occurred over six weeks of the fall semester. The study began in the fall semester of 2021 with the recruitment of seven participants, both men and women, from the Ambassador program into a Leadership Development Program (LDP). Participants began the LDP by completing two surveys. This study used a mixed methods approach (quantitative and qualitative). The intervention was implemented and assessed in four steps. The first step was the administration of the Imposter Syndrome Survey and the Leadership Growth Mindset Survey. These were administered to all participants in the LDP. The second step was the implementation of the LDP workshops. The third step was the administration of the post-assessment Imposter Syndrome Survey and the Leadership Growth Mindset Survey. The fourth step was to conduct a focus group. Due to current COVID-19 restrictions, and to protect the health and safety of the participants, the workshops and the focus group were completed virtually over Zoom.

### **Imposter Syndrome Survey**

The first survey was the Clance and Imes (1978) Imposter Syndrome Survey (Appendix B). Participants were asked to provide a unique identifier with this survey (the last 4 digits of their phone number) to allow me as the research to compare pre and post results while maintaining participants' anonymity. The Imposter Syndrome Survey is comprised of 20 five-point Likert scale questions. The questions on the survey ask respondents to rate their feelings from *not at all true* to *very true* in relation to completing

tasks, perceptions of their abilities, and success and failure. The maximum total score is 100 and scores above 80 indicate intense imposter syndrome experiences. Scores between 61 and 80 indicate frequent imposter syndrome experiences. Scores between 41 and 60 indicate moderate imposter syndrome experiences. Scores below 40 indicate few imposter syndrome experiences. The pre and post results analysis will indicate if the workshops have been effective in decreasing the experiences of imposter syndrome.

### **Leadership Growth Mindset Survey**

The second survey was the Leadership Growth Mindset Survey (Appendix A) based on a survey developed by Carol Dweck (1996). Participants were again asked to provide a unique identifier on this survey. This survey was utilized to understand the participant's views on leadership development and their beliefs that they will complete their degree and graduate from the university. The Leadership Growth Mindset Survey consists of 11 four-point Likert scale questions. The questions focus on the individual's belief that they can develop their leadership skills. The final question on the survey asks respondent's their belief that they will graduate. The questions align with Bandura's Theory of Self-Efficacy and if the individual believes this can be developed. Total scores between zero and ten indicate a fixed mindset. Total scores between 11 and 16 indicate a fixed mindset with some growth ideas. Total scores between 17 and 21 indicate a growth mindset with some fixed ideas. Total scores between 22 and 30 indicate a strong growth mindset. The comparison of the pre and post results will support understanding if beliefs surrounding leadership development have been altered by the workshops. Prior to its use within this project, the adapted Growth Mindset survey was provided to my colleagues both within my current context and from other universities throughout the Southwest

United States. This examination was utilized to determine the survey's readability, understandability, and to elicit feedback for final refinement.

### **Focus Group**

Female workshop participants were invited to participate in a focus group. Only women were invited to participate in the focus group in an effort to promote an open and honest dialogue. The focus group was an open dialogue among the participants. I provided prompts (Appendix C) to begin the discussion. These prompts included questions around their concerns taking on leadership roles, how they feel they have developed their leadership skills over the past six weeks, and if they feel more equipped to take on leadership roles both within the academic environment as well as their future professional careers. The focus group also provided the opportunity for participants to reflect on their experience of imposter syndrome, gender microaggressions, and stereotype threat. Discussion prompts encouraged participants to voice their feelings of imposter syndrome, experiences that they may have had in relation to gender microaggression or stereotype threat, and how they feel their approach to these experiences is different now as compared to before the LDP workshops. These prompts included questions such as “What are your concerns taking on leadership positions?” and “How do you feel you have developed and changed over the past four months?” and “How might you react differently now to experiences you’ve had that brought out feelings of inadequacy?”

The focus group met once at the conclusion of the workshops, one week following the final workshop, for an hour. Two of the workshop participants participated in the focus group. Participants were asked to reflect on their experiences prior to the

LDP, their experiences during the LDP, and their current experiences. It was also an opportunity for me to obtain qualitative data that aids interpretation of the quantitative survey data analysis. The workshop was conducted over Zoom and was audio and video recorded. The recording was then uploaded into Otter.ai for transcription. The recordings were deleted after transcription. I completed the coding using an emergent coding scheme. Once coding was completed, participants in the focus group were asked to verify my interpretations as needed. Table 2 provides the timeline for the implementation of pre and post intervention surveys, the implementation of the LDP workshops, the focus group, and the final data analysis.

**Table 2**

<i>Research Timeline</i>	
<b>Timeline</b>	<b>Action</b>
Mid-August 2021	Participants complete Imposter Syndrome Survey and Leadership Growth Mindset Survey
Late August- Early October 2021	Participants complete LDP Workshops
Early October 2021	Participants complete Imposter Syndrome Survey and Leadership Growth Mindset Survey
Mid-October 2021 Early November 2021	Participants participate in focus group Begin and complete data analysis

## **Data Analysis**

### **Imposter Syndrome Survey**

I was looking to determine the pre- to post-effects of the LDP workshops. As both men and women were a part of this study, I was also looking to compare gender differences on the pre- and post-Imposter Syndrome Surveys. I have analyzed the pre-

and post-intervention survey data to understand if the LDP workshops altered the beliefs that women can overcome their experiences of imposter syndrome as well as understand if they feel they have developed their leadership skills. Due to the limited number of participants, I have focused on descriptive statistics to understand the impact of the workshops on the pre- and post-intervention survey data. The results of these tests have helped in answering RQ #2: *To what extent do workshops addressing areas of imposter syndrome and gender inequity help to alleviate the symptoms of imposter syndrome in women?* It has also helped in answering RQ #4: *To what extent do workshops addressing areas of imposter syndrome and gender inequity increase the likelihood that women will graduate?*

### **Leadership Growth Mindset Survey**

I have utilized the Leadership Growth Mindset pre- and post-intervention survey to understand if participants' perception of their likelihood to graduate has changed over the course of the workshops. Utilizing descriptive statistics, I have been able to identify if respondents' answers were different prior to the workshops as compared to after completing the workshops. As the workshops were open to both male and female participants, this survey and analysis will allow me to answer RQ #5: *How do workshops addressing areas of imposter syndrome and gender inequity alter the perception of likelihood to graduate?* Understanding the ability of the workshops to impact behaviors that contribute to imposter syndrome, gender microaggressions, and stereotype threat has helped to understand the opportunity to achieve gender equity. Utilizing the workshops and the focus group has also helped to gain deeper insight into the instances of imposter syndrome and if greater support can help to alter these thoughts. This has also helped in



answering RQ #1: *How do workshops addressing areas of imposter syndrome and gender inequity help to alter the symptoms of imposter syndrome in women?*

### **Focus Group Data**

I have used emergent qualitative coding to understand the themes present within the focus group. Allowing myself to begin coding without a defined coding scheme helped themes emerge on their own. A focus group was conducted in the middle of the semester, after participants completed all workshops. The focus group was both video and audio recorded, allowing me as the research to review the discussions for insights and stories provided by the participants. The focus group took approximately 30 minutes and consisted of two LDP participants. Workshop participants were invited to participate following the final workshop. Participants of the focus group were selected on a first come, first served basis. The use of the Zoom software allows me to record the virtual focus group, which was then uploaded in Otter.ai to obtain a transcript. Focus group data analysis helped to further answer RQ #1 as well as RQ #3: *How do workshops addressing areas of imposter syndrome and gender inequity increase the likelihood that women will graduate?*

## **Chapter 4: Results of Study**

This study was designed using mixed methods to better understand the impact of imposter syndrome symptoms on the female students within a subset of the population of Regional University (pseudonym). The quantitative components of this study were two surveys, administered in a pre-/post-intervention format. This quantitative design allowed me as the researcher to understand the baseline of imposters syndrome symptoms within my population as well as understand if the intervention had any impact on that baseline. The qualitative component of the study was in the form of a focus group that was held at the end of the intervention. This focus group provided insight into specific feelings and symptoms of imposter syndrome among the population. Looking at each method of data collection, insight into the effectiveness of the intervention can be seen.

### **Connection to the Research Questions**

In order to best understand the prevalence of imposter syndrome and its contributing factors, gender microaggression and stereotype threat, as well as the impact of the Leadership Development workshops, several research questions were proposed. Each method of data collection used within this study provided insight into these research questions.

### **Imposter Syndrome Survey**

Results from the Imposter Syndrome Survey (ISS) are first considered. This survey was administered as a pre-/post-intervention survey. The pre-intervention survey provided a sort of baseline of imposter syndrome symptoms among the participants. Clance and Imes (1978) developed and validated the ISS, creating the following scoring matrix that was utilized within this study. The maximum total score is 100 and scores

above 80 indicate intense imposter syndrome experiences. Scores between 61 and 80 indicate frequent imposter syndrome experiences. Scores between 41 and 60 indicate moderate imposter syndrome experiences. Scores below 40 indicate few imposter syndrome experiences. In total, there were 10 participants in the workshops comprised of eight women and two men. There were four participants who completed both the pre- and post-intervention ISS. The participants who completed both the pre- and post-intervention ISS were utilized to understand what, if any, impact the LDP workshops had.

#### *Pre-Intervention Survey Results*

Participants were asked to complete the ISS prior to attending the first workshop. They were given seven days to complete this survey. This helped to ensure that pre-intervention results were received without the participants having heard any of the content from the workshops. Of the four individuals who completed both the pre- and post-intervention ISS survey, one participant indicated intense imposter syndrome experiences while the other three participants indicated frequent imposter syndrome experiences. The one participant who indicated intense experiences scored a total of 95 on the pre-intervention survey. The other three participant scores ranged from 66 to 76 with an average score across all participants of 77.5. This average indicates that the subset of the population participating in the study frequently experience feelings of imposter syndrome.

#### *Post-Intervention Survey Results*

Participants were asked to complete the ISS again following the completion of the final workshop and before the focus group was held. They were provided seven days to complete the survey. This time frame was set to provide me as the researcher, the

opportunity to have a cursory examination of the data to see if there were any areas that should be addressed during the focus group. Of the four survey responses, one participant indicated frequent experiences of imposters syndrome, while the remaining three indicated moderate experiences of imposter syndrome, according to the scoring schema created by Clance and Imes (1978). The total scores ranged from 57 to 79 with an average score of 63.3. Scores on the post-intervention survey decreased from pre-intervention scores, on average, 14.3 points with the lowest decrease being 6 points and the highest decrease being 19 points.

#### *Pre- and Post-Intervention Comparison*

Overall, a decrease can be seen in the experiences of imposter syndrome among the study participants. Each participant dropped a category (from *frequent* to *moderate* or from *intense* to *frequent*) between the pre- and post-intervention surveys. The average decrease in total scores was 14.3 points. One participant's selections to the questions resulted in a 19 point decrease in their total score, moving from the high end of the frequent category to the low end of the moderate category between the pre- and the post-intervention survey. While this is a comparative outlier, and data are limited to four students, examination of these descriptive statistics indicate that the LDP workshops appear to have had an impact on the experiences of imposter syndrome among the sample population.

When completing the survey, participants were asked to consider each statement and select the response that best describes their experience with that statement from the following options: *Not at all true*, *Rarely*, *Sometimes*, *Often*, or *Very true*. There are three ISS questions that elicited high responses on both the pre- and post-intervention survey

(respondents selected *Sometimes*, *Often* or *Very true*). The first is question 2: *I can give the impression that I'm more competent than I really am*. The second is question 13: *Sometimes I'm afraid others will discover how much knowledge or ability I really lack*. The third is question 19: *If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact*. Their selections indicate that they often experience feelings of imposter syndrome around their leadership capabilities and their skills to effectively act within a role. These data indicate the areas in which the LDP workshops should address the symptoms of imposter syndrome and ways in which participants can build skills to be more effective.

Responses to questions 2, 13, and 19, which elicited *Often* and *Very true* responses on the pre-intervention survey, showed that participants selected *Sometimes* on the post-intervention survey. Table 3 below shows the responses for these questions on the pre-and post-intervention survey for the four study participants. While these scores indicate that the participants are still experiencing symptoms of imposter syndrome, it is a positive indication that the overall severity of imposter syndrome is decreasing from pre- to post-intervention survey.

**Table 3**

*ISS item comparison, pre-to-post*

Item	Participant 1		Participant 2		Participant 3		Participant 4	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
2. I can give the impression that I'm more competent than I really am.	5	4	5	5	5	5	2	2
13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.	5	4	3	3	5	4	5	3
19. If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact.	5	4	5	4	5	5	4	4
ISS Overall Score	95	79	66	60	76	57	73	57

*1= not at all true, 2= rarely, 3= sometimes, 4= often, 5= very true*

The ISS was utilized to help answer research questions two and four: *To what extent do workshops addressing areas of imposter syndrome and gender inequity help to alter symptoms of imposter syndrome in women?* and *To what extent do workshops addressing areas of imposter syndrome and gender inequity increase the likelihood that women will graduate?*, respectively. When examining RQ #2, though the data are limited to four respondents, ISS results provide some indication that the workshops positively impacted the symptoms of imposter syndrome in women. Participants indicated on the ISS from pre to post fewer instances of imposter syndrome and appeared to be more confident in their skills and abilities. While this is a small sample population, each participant saw a decrease in their total scores when comparing pre- and post-intervention survey data. In addition, these decreases were enough to move them from one category to another, indicating that the participants benefited from the workshops. Many of the questions identified as impactful related to the individual's confidence in their skills and abilities and the belief that they were qualified for the roles they held. The decrease in

experiences of imposter syndrome indicate that participants have greater confidence in their skills and abilities.

When examining RQ #4, the data show that the participants had fewer instances of imposter syndrome surrounding their accomplishments. To this point, Question 15 asked: *When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.* Lower scores on the post-intervention survey on this question as compared to the pre-intervention survey would indicate a shift in the participants thinking of their abilities. A response of *Sometimes, Often, or Very True*, indicates that the participant's views their successes and accomplishments as luck or a fluke. The respondent is likely to believe the success is not something that can be repeated, and they do not actually have the skills the success would indicate. However, responses of *Rarely* and *Not at all true* indicate an increase in confidence and that the successes represent their true ability and that it is something they can both repeat and develop. Table 4 depicts the four participants' pre- and post-intervention survey answers to question 15, which indicates that the participants had greater confidence in their abilities after the completion of the workshops. When examined through the lens of academics, as the participants receive good grades and positive feedback, they are more likely to feel qualified to continue to pursue their degree until graduation. This is also reflected within the Leadership Growth Mindset Survey, which is discussed next.

**Table 4**

*ISS item comparison, pre-to-post*

Item	Participant 1		Participant 2		Participant 3		Participant 4	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.	5	4	2	2	2	1	4	3

1= not at all true, 2= rarely, 3= sometimes, 4= often, 5= very true

### **Leadership Growth Mindset Survey**

The Leadership Growth Mindset Survey (LGMS) was developed from Dweck's Growth Mindset Survey. This survey was also administered as a pre- and post-intervention survey, at the same time the ISS was administered. Total scores between zero and ten indicate a fixed mindset. Total scores between 11 and 16 indicate a fixed mindset with some growth ideas. Total scores between 17 and 21 indicate a growth mindset with some fixed ideas. Total scores between 22 and 30 indicate a strong growth mindset. There were four participants who completed both the pre- and post-intervention LGMS. These were the same four participants who completed the pre- and post-intervention ISS.

#### *Pre-Intervention Survey Results*

Participants were asked to complete the LGMS prior to attending the first Leadership Development Program (LDP) workshop. They were given seven days to complete this survey. Two facets of the LGMS were examined in both the pre- and post-intervention data. The first is the participant's mindset (growth versus fixed) and the second is the participant's belief that they have the skills and abilities needed to earn their bachelor's degree. When examining the pre-intervention survey data in relation to the participant's mindset, responses indicate that three of the participants held a growth



mindset with some fixed ideas while one participant held a fixed mindset with some growth ideas. On average, the participants had a total score of 18.3, with a range of 14 to 21, out of a possible total of 30. The information gleaned from this data was important in the development and implementation of the LDP workshops, which were designed based on Bandura's Theory of Self-Efficacy. As three of the participants held a growth mindset with some fixed ideas and one participant held a fixed mindset with some growth ideas, they were more inclined to alter their beliefs and behaviors surrounding imposter syndrome.

#### *Post-Intervention Survey Results*

The participants were again asked to complete the LGMS following the completion of the final workshop and prior to the focus group. They were given seven days to complete the survey. The results of the post-intervention survey showed an overall increase in scores of the participants. Total scores indicated that three of the participants had a growth mindset with some fixed ideas while one participant had a strong growth mindset. On average, the total score for the participants was 20.3 with a range of 18 to 25. Two of the participants saw an increase in their score, which indicates that throughout the workshops they shifted into a stronger growth mindset. One participant remained the same over time. The final participant saw a slight decrease in their score, from 19 to 18. This decrease is not enough to indicate that their mindset shifted in either direction.

#### *Pre- and Post-Intervention Comparison*

Overall, the participants entered the LDP workshops with some form of growth mindset. This was important in the administration of the workshops as they were built on

the foundation of Bandura's Theory of Self-Efficacy, which focuses on the individual's ability to develop resilience and grit when faced with challenging situations. The pre-intervention mindset survey results supported the belief that the participants were open to recognizing their deficiencies (i.e., held a growth mindset to some extent), or experiences where imposter syndrome tended to override their thought processes, and were open to the opportunity to alter these beliefs and improve their abilities. The post-intervention data show that the participants moved further into a growth mindset, identifying areas in which they could alter their skills, abilities, and beliefs.

The second area that the LGMS addressed was the participant's belief in their ability to graduate. The final prompt on the survey was *I have the skills and ability to complete and graduate with my Bachelor's degree*. Of the responses, two participants agreed with the statement, one participant disagreed with the statement, and one participant strongly disagreed with the statement. While it is a small sample population, these data indicate that the participants are not confident in their ability to complete their bachelor's education. This data point provides a sort of baseline in understanding the impact of the LDP workshops not only on the symptoms of imposter syndrome, but also on the likelihood that the participants will graduate.

When examining the final question on the post-intervention survey in regards to likelihood to graduate, three of the participant's responses remained the same, with two selecting *Agree* and one selecting *Disagree*. The fourth participant saw a shift in their answer, selecting *Agree*. Table 5 depicts the participants' answers to the final question on the pre- and post-intervention LGMS. At the completion of the LDP workshops, a

majority of the respondents believed they had the skills and abilities needed to graduate with their bachelor's degree.

**Table 5**

*LGMS item comparison, pre-to-post*

Item	Participant 1		Participant 2		Participant 3		Participant 4	
	Pre	Post	Pre	Post	Pre	Post	Pre	Post
11. I have the skills and ability to complete and graduate with my Bachelor's degree.	Strongly Disagree	Agree	Disagree	Disagree	Agree	Agree	Agree	Agree
LGMS Overall Score	19	19	21	25	19	18	14	19

Taken in conjunction with the results from the ISS, these results indicate that over the course of the workshops, the participants were able to develop a level of grit and resilience needed to overcome the negative thought processes of imposter syndrome and respondents felt more confident in their abilities. This is also true in regards to the responses to the final question on the LGMS. While only one participant indicated a difference in their belief of their ability to graduate, that response went from *Strongly Disagree* to *Agree* between pre- and post-intervention survey, respectively. While only a single data point, this could imply the effectiveness of the LDP workshops.

The LGMS was utilized to provide insight into research questions 5 and 1: *How do workshops addressing areas of imposter syndrome and gender inequity alter the perception of the likelihood to graduate?* and *How do workshops addressing areas of imposter syndrome and gender inequity help to alter the symptoms of imposter syndrome in women?*, respectively. When considering RQ #5, the data are limited to only four respondents, thus limiting the ability to fully answer this question. Only a single respondent, Participant 1, showed movement when comparing pre- and post-intervention

data. The remaining three respondents did not show movement in their responses to the final question on the LGMS. While the movement for participant 1 is promising, the results from the LGMS would indicate that the workshops have little to no effect on likelihood to graduate as measured by RQ #5.

When examining RQ #3, two inferences can be made. The first is in regards to the increase in belief in growth mindset. Overall, participants saw a two-point increase in total scores, moving all participants into a growth mindset. This perhaps indicates that throughout the workshops, the participants developed or increased the belief that they have the ability to alter their skills or belief in their skills. This is especially true when viewed through the lens of imposter syndrome. The second inference is that the workshops were solidly based upon Bandura's Theory of Self-Efficacy, providing the skills and tools needed for participants to develop their grit and resiliency. Both of these are important in the continued growth and development in the individual's leadership abilities.

### **Focus Group**

The focus group was the qualitative component of this mixed methods study. Female participants were invited to join the focus group following the completion of the final LDP workshop. A cursory review of the quantitative data was utilized to identify topics to cover within the focus group. The focus group was conducted over Zoom and the audio transcript was transcribed using Otter.ai. The participants were first asked to reflect on their experiences and feelings prior to the completion of the workshops. While not given a strict time frame to reflect, some questions prompted them to reflect over the prior academic year. Participants were then prompted to reflect on their feelings and

experiences during the workshops. Finally, participants were prompted to discuss how they felt the workshops had affected them and how they might carry that into their future academic and professional endeavors. The focus group transcript was then coded using an emergent coding scheme. Through this coding scheme, three main themes arose: *abilities, perceptions, and confidence.*

### *Abilities*

Of the 10 total participants in the workshops, two individuals participated in the focus group. As the ISS and LGMS pre- and post-intervention surveys were anonymized, I was not able to connect the focus group participants to the survey respondents. The participants of the focus group were prompted to reflect on their beliefs surrounding their abilities in both an academic role and a leadership role. Reflecting on their dispositions prior to the workshops, the participants often felt that they did not have the abilities to be successful. Both participants stated that they were only accomplishing enough to get by, and were not doing the best that they could be doing. In reflecting on general pressures to succeed, Participant 1 stated, “I want to do the best that I can... But sometimes I feel like it’s gonna just be adequate enough to get the good grades.” The participants cite significant internal pressure to perform to the best of their ability. However, they often felt they take on roles and responsibilities in which they are not able to do their best work. When reflecting on their performance in past roles, Participant 1 stated, “... That I’m not maybe doing the best work that I could...” Participants often felt that their abilities were not where they should be. During the focus group reflections, neither participant mentioned external pressures to perform at a high level, but rather focused on their own internal pressures to perform at a certain level. This aligns with the research

conducted by Bothello and Roulet (2019) as well as that conducted by Cowie et al. (2018). The belief that the individual needs to achieve perfection often stems from an internal thought process rather than external influence (Bothello & Roulet, 2019; Cowie et al., 2018).

When the participants were asked then to speak about their current beliefs, following the completions of the workshops, they held more positive views about their abilities. For example, Participant 2 stated, “If you improve one aspect, then it kind of will have a domino effect. When you focus more on learning about leadership, you’re going to be more confident in it naturally.” Both participants found that by simply identifying areas in which they might be weaker and focusing on the development of those areas, their ability to function in that role increased. Their internal perception of their abilities shifted to recognize that their strengths *are* strengths and that they can be further developed. Both participants stated they were cognizant that their beliefs in their abilities had been strengthened as a result of the LDP workshops. This sentiment was exemplified when Participant 2 said, “It’s okay to make mistakes in leadership and that’s what allows for your team building, to make mistakes and grown from them.” The participants cited a shift in their thinking from one of fear to one of ownership. Often, leaders can feel the internal pressure to be perfect. This is especially true for women experiencing imposter syndrome. A visible mistake confirms that they are not qualified for the role they hold and now everyone can see that (Bothello & Roulet, 2019; Clance and Imes, 1978; Edwards, 2019; Good et al., 2012). The focus group participants in this study stated they saw the shift away from this thought process, recognizing that everyone makes mistakes and it’s something to be valued rather than condemned.

## *Perceptions*

The focus group participants were also asked to reflect on their leadership roles and any anxiety that stemmed from leadership roles they have held. When reflecting on their leadership experiences, Participant 1 stated, “I feel like every interaction kind of shows that pressure that you are being an example to someone. It’s that anxiety, for me, like everything I do should be for the benefit of my team.” The participants in this study often cited feeling pressured to behave in a certain way or to present themselves in a certain way. Specifically, they often felt that they need to act “perfect” in order to be perceived as a competent leader. When Participant 1 reflected on their outward persona and appearance, they stated, “I need to really watch what I’m doing and make sure that I’m doing things that will benefit them.” They often cited the importance of the perceptions others took of them. In their leadership roles, they felt they needed to appear to be an expert so that others who looked to them as a role model, would adopt the same actions and behaviors. However, it often led to feelings and thoughts of imposter syndrome. Participant 2 embodied this belief stating, “But it’s the question of am I doing enough? Am I being a good enough leader and doing everything that I need to.” The pressure to achieve perfection often led to these negative thought processes of imposter syndrome, with participants citing feelings of not being enough or not being a good leader. There was constant concern about their ability to be effective and worry about being outed as a fraud if they did something wrong. In addition, prior to the workshops, the participants also cited feelings of comparison. Reflecting on academic experiences prior to the LDP workshops, Participant 1 said, “And there’s kind of the question like, does everyone else know what they’re doing?” These negative thought processes can be

debilitating, prompting more women to opt out rather than push past them (Good et al., 2012).

When asked to reflect on their beliefs after completing the workshops, the participants recognized these negative thought processes and acknowledged their inaccuracy. When considering how their views on leadership have changed, Participant 2 said “And I like the idea of being able to be open with that mistakes and being open with the fact that we don’t all just have it all together, like half the time.” The focus group participants were able to recognize the negative thought processes of imposter syndrome and understand that these thoughts can be altered. Participant 1 exemplified this belief, stating, “We’re all just trying to figure out what’s going on and that’s okay. That’s just part of being human...” The participants cited instances within the LDP workshops in which they were empowered to create a dialog around these feelings. Imposter syndrome often focuses on the individuals *perceived* impression they are making on others. The LDP workshops provided an opportunity for those perceptions to be given voice. When both participants voiced the same self-perceptions with the recognition that they weren’t actual perceptions, the participants began to openly discuss the importance of dialog around imposter syndrome.

### *Confidence*

Confidence is a foundational aspect of building grit and resilience. Prior to the workshops, the participants cited several instances of a lack of confidence in their leadership abilities. Describing their views on leadership, Participant 2 stated, “So you have to be really conscious and proactive about leadership, I think, to be a good leader. And that, in and of itself, takes a lot more effort and so requires more stress.” Lack of



confidence regarding taking on leadership roles can increase feelings of imposter syndrome. The participants often cited their lack of confidence in their own abilities. They felt that they didn't "measure up" to those around them and eventually someone would find out. When asked to reflect specifically on confidence within their leadership roles, participants stated that they often did not feel they had the abilities in past roles and, prior to the workshops, did not believe they could advance in their leadership roles. Describing one of the activities conducted in the workshops, Participant 1 said, "Because before that situation, I was like, if I ever had to have a (difficult) conversation with someone, I would never be able to do that... I'd get so scared." Participant 1 was speaking specifically about an exercise within the LDP that had participants practicing how to have difficult conversations, acting as both an employee and a supervisor. This participant spoke about how ineffective and scared they felt when it came to taking on the difficult parts of leadership. However, after completing that workshop, they felt far more confident in their abilities. Speaking about their abilities following the workshops, Participant 1 stated, "Having that conversation helped me to see that every conversation you have as a leader doesn't have to be difficult. It can be done in a way where you're still being a mentor."

The participants were last asked to reflect on their leadership abilities having now completed the LDP workshops. The participants cited increased confidence in their abilities to take on leadership roles and face the uncertainty that can often come with leadership. Speaking about their views on leadership, Participant 1 said, "Leadership is essentially pushing you outside of your comfort zone. The times in my leadership that have been most profound are the things that put me extremely out of my comfort zone."

The participants saw a shift in their perceptions not only around their leadership abilities, but also around their thought processes associated with imposter syndrome. Their reflections and comparisons to experiences before the workshops and those after, highlighted the change in their thinking. Speaking to this change, Participant 2 stated, “And that you don’t have to be perfect to be a good leader... what makes a confident leader and a good leader.” The importance of creating a safe space and an open dialog was recognized as a key factor in altering the experiences of imposter syndrome. Participant 1 highlighted the importance of creating this space by stating, “I’m learning from you guys, and your backgrounds and your experiences. And we’re creating an environment where we can all progress as like, people.” The importance of creating a safe space where transparent dialog can occur was a topic that was interwoven into the themes that arose.

#### *Connections to the Research Questions*

The focus group was designed to provide insight into research questions one and three: *How do workshops addressing areas of imposter syndrome and gender inequity help to alter the symptoms of imposter syndrome in women?* and *How do workshops addressing areas of imposter syndrome and gender inequity increase the likelihood that women will graduate?*, respectively. Considering RQ #1, the emergent coding results show that women are citing fewer experiences of imposter syndrome after completing the workshops, in comparison reflections on their experiences prior to the workshops. In many instances, the participants cited feelings of imposter syndrome in both their academics and leadership roles prior to the workshops. These citations were prompted with questions such as “Thinking back on your leadership experiences before completing

the LDP workshops, how capable do you feel you were to hold that leadership role?” and “Thinking back on your academic experiences, perhaps last academic year, how capable do you think you were to be successful in your classes?” They felt they were not skilled enough and often compared themselves to those around them. There was anxiety surrounding their abilities to both lead effectively as well as to be successful academically. Following the LDP workshops, participants felt more confident in their abilities. The participants were prompted with questions such as “How do you feel you have developed and changed over the course of the workshops?” and “Do you feel more equipped to be successful in your degree?” and “Do you feel more equipped to own your career search?” These prompts encouraged the participants to evaluate their capabilities and the impact they believe the LDP workshops had on those feelings. They cited the increase in confidence that comes with owning the fact that they, like others, are bound to make mistakes. Participant 2 stated, “I feel like the workshops have been really helpful and kind of eye opening in a lot of ways.” Participant 1 followed with, “I think a few of the things that impacted me most... The idea that it’s okay to make mistakes in leadership, and that’s what allows for your team building, to make mistakes and grow from them.” These mistakes do not confirm that they are not qualified but rather provide the opportunity to learn. They also stressed the importance of creating a safe space and open dialog in preventing the continued negative thoughts associated with imposter syndrome. This dialog not only benefits them but acknowledges that others are also having these thoughts. It allows the individual to identify the faulty logic while working to replace it with logic that has validity.

Regarding RQ #3, the qualitative data does not provide much of a definitive answer. Participants did cite more feelings of confidence in their abilities to be academically successful as compared to their reflections on their feelings and experiences before the workshops. After completing the workshops, the participants stated that they recognized their abilities as something that they could improve and that one-time success wasn't simply luck. Participant 1 stated, "I've liked the [workshops] and they've helped me like I said, helped me build my confidence a little bit and especially with those like hard conversations. That's been like a game changer for me." They cited instances in which they felt they could overcome the negative thoughts associated with imposter syndrome and continue to push forward. Participant 1 continued with "And I also think like, before this semester, my big focus I feel was grades. And I don't really know if, like, what changed, but this semester, that hasn't been my huge focus." The participants often felt great anxiety around their ability to perform well academically. They stated that they were consistently comparing themselves to those around them. When speaking on their feelings after the workshops, Participant 1 said, "So like learning different things that I could do as a leader, like probably helped me in my studies to focus more on like, what actually matters." While not a clear indication of the success of the workshops in increasing the likelihood participants will graduate, the qualitative data indicates that the participants had more confidence in their abilities, as compared to their reflections prior to the workshops, which increases their grit and resilience.

### **Conclusions from the Data**

This study was designed to examine the impact of Leadership Development workshops on the instances of imposter syndrome among a student population. The goal

of the workshops was to not only decrease the experiences of imposter syndrome, but to also provide the tools necessary to move past them and graduate with their bachelor's degree. The study consisted of four participants who completed the pre- and post-intervention surveys as well as two individuals who participated in the focus group. Due to the anonymous nature of the pre- and post-intervention surveys, it is unknown if the focus group participants also completed the surveys. While this is a relatively small sample population, it is possible to make some conjectures. Examining the qualitative data as a whole, a shift was observed in the experiences of imposter syndrome over the course of the LDP workshops. The LGMS showed that the participants moved more fully into a growth mindset throughout the course of the workshops. This indicates that the workshops, which were based on Bandura's Theory of Self-Efficacy, encouraged participants to develop more grit and resilience in regards to the topics of imposter syndrome and the contributing factors of gender microaggression and stereotype threat. In conjunction, each participants saw a decrease in the experiences of imposter syndrome according to the ISS. The participants felt more confident in their abilities, both in a leadership role as well as their academic role. The qualitative data supports this as both participants stated they felt more confident moving forward with their academics and in future leadership roles.

While there was little data available to understand the impact these shifts have on an individual's belief and actuality of graduating, it would be beneficial to conduct a longitudinal study in this regard. The participants felt more confident and comfortable immediately following the workshops, but one component that was mentioned frequently within the focus group was the increased awareness of the importance of transparent

dialog. Participants recognized that the negative thoughts associated with imposter syndrome are often experienced by other women they encounter. Encouraging the open dialog helps each individual to recognize that they are not alone in these thoughts, and there is a support system available to everyone. The small sample size does not allow for much generalization. However, the results show promise that these workshops could be effective in helping women overcome the symptoms of imposter syndrome and find success both academically and professionally.

## Chapter Five: Implications on Future Research

Over the past several decades, there has been a shift toward gender parity in regards to enrollment in universities and colleges across the United States (U.S. Department of Education, 2020). While more women are enrolling in institutions of higher education, the graduation rate has stagnated (U.S. Department of Education, 2020). This study sought to understand the influence, if any, imposter syndrome and its contributing factors, gender microaggression and stereotype threat, has on the rate of women graduating with their bachelor's degree. The study was conducted using a mixed methods approach, utilizing quantitative pre- and post-intervention surveys and a qualitative focus group to determine the effectiveness of series of Leadership Development Workshops, which were designed to address specific areas of imposter syndrome and its contributing factors of gender microaggression and stereotype threat. These tools sought to provide support in answering the following research questions:

RQ #1: How do workshops addressing areas of imposter syndrome and gender inequity help to alter the symptoms of imposter syndrome in women?

RQ #2: To what extent do workshops addressing areas of imposter syndrome and gender inequity help to alter symptoms of imposter syndrome in women?

RQ #3: How do workshops addressing areas of imposter syndrome and gender inequity increase the likelihood that women will graduate?

RQ #4: To what extent do workshops addressing areas of imposter syndrome and gender inequity increase the likelihood that women will graduate?

RQ #5: How do workshops addressing areas of imposter syndrome and gender inequity alter the perception of the likelihood to graduate?

## **Discussion of Results**

Undergraduate students who were a part of the Ambassador Program at Regional University were invited to participate in a series of Leadership Development Workshops. These workshops were designed to address feelings of imposter syndrome as well as its contributing factors of gender microaggressions and stereotype threat. Prior to the first workshop, participants in the study completed the Imposter Syndrome Survey (ISS) and the Leadership Growth Mindset Survey (LGMS). The workshops were completed over six weeks, and at the conclusion participants were again asked to complete the ISS and LGMS. Female participants of the workshops were invited to participate in a focus group. While this study consisted of four quantitative participants and two qualitative participants, some valuable conjectures and reasonable connections can be made based on the analysis of the results.

### **Leadership Growth Mindset**

The LGMS was utilized to better understand the mindset of the population as well as measure the potential effectiveness of the LDP workshops. Bandura's Theory of Self-Efficacy and Dweck's Growth Mindset Theory provided the theoretical foundation for this study. The individual's belief that the individual can alter their abilities and skills is crucial to their ability to overcome the negative thought processes associated with imposter syndrome. This view of the ability alter skills and beliefs surrounding imposter syndrome is also a key foundation to build a support system of allies that work to overcome instances of gender microaggressions and stereotype threat. Over the course of the workshops, the data indicate participants experienced a slight shift into a more complete growth mindset from a growth mindset with some fixed beliefs. Throughout the



focus group, the participants stated that they felt more confident in approaching situations that would have made them uncomfortable in the past. The workshops provided the safe space for the participants to voice their concerns regarding their leadership abilities. The workshops also provided a safe space for the participants to acknowledge the flaws and inaccuracies in their internal thought processes while building the support network that the participants need to stop these negative thoughts in the future. In essence, the LDP workshops provided the opportunity for participants to truly reflect on their skills and abilities without fear of judgement or confirmation that the flawed thoughts are reality. The participants were then able to recognize the symptoms of imposter syndrome for what they are—inaccurate. The LDP workshops were designed to promote the belief that individuals have the ability to alter their reaction to various situations. While limited to a small sample population, this intervention design supported the participants in altering the way they dealt with the symptoms of imposter syndrome they experienced.

While large generalizations cannot be drawn given the small sample size, this shift into a more complete growth mindset indicates that the participants within this study recognized their ability to improve their reactions to feelings of imposter syndrome by halting the thought processes and taking a more confident approach. For example, during the *Difficult Conversations* workshop, the participants were asked to roleplay various scenarios surrounding having a difficult conversation. One participant acted as the supervisor while the other acted as the team member. One participant reflected that they never could have had the type of conversation they had participated in during the roleplay exercise, prior to the workshops. They stated that to that point, their view on difficult conversations had been that they could only be difficult, and it was not likely any good

could come from them. However, after the exercise, the participant indicated that difficult conversations provided the opportunity for growth and support. It was a shift in the way they viewed leadership and their abilities to be a strong leader. Moving forward, they felt more confident in their abilities as a leader, recognizing that while there was still more to learn, they had the ability to learn and grow in their leadership skills.

Throughout the LDP workshops, the participants were asked to consider both their academic and leadership experiences in regards to the workshops topics. The workshops provided a safe space for them to reflect on their feelings and beliefs in previous situations and examine how they can alter their approach to future, similar situations. Research conducted by Yeager and Dweck (2012) showed that students can change their mindset, and in doing so, increase their resilience. This resilience can be seen as greater confidence in future abilities within the confines of this study. The participants in the focus group spoke to this. When reflecting upon their beliefs prior to the workshops, both focus group participants stated they were not at that time as qualified or confident in their ability to lead teams or be academically successful. However, after completing the workshops they expressed understanding of the importance of creating a safe space where failure can be discussed as this is how they will learn to be better leaders in the future. They spoke about their resilience when faced with difficult situations and the belief that they could and would do better in the future.

### **Imposter Syndrome**

When comparing the data from the pre-intervention survey with the post-intervention survey, it was observed that the participants indicated fewer instances of imposter syndrome over time. An initial evaluation of pre-intervention ISS data was

conducted in an effort to customize the Leadership Development Program (LDP) workshops. This customization resulted in adapting the focus of the workshops, with topics addressing the sample population's primary issues relating to imposter syndrome. The *Building from Feedback* workshop was adapted to provide more opportunity to discuss and analyze feedback the participants had received. The *Confidence is Contagious* workshop was altered to provide more time for participants to "brag" about accomplishments they had and reflect on how they can utilize those feelings as a motivator in future situations. Finally, the *Failure Breeds Success* workshop was adjusted to be more discussion based, providing a safe space for participants to analyze an instance of perceived failure and how they can learn and grow from that instance. A slight shift was seen when comparing pre- and post-intervention data, indicating the LDP workshops quite likely positively affected the targeted symptoms of imposter syndrome and provided the participants with effective methods of overcoming the feelings of imposter syndrome. While robust generalizations cannot be drawn from such a small sample size, the results of this study are promising and provide a foundation for future research to better understand the effectiveness of the LDP workshops.

The post-intervention data suggests that the participants have built confidence in their abilities over the course of the workshops. Several of the LDP workshops focused on identifying the negative thought processes associated with imposter syndrome and developing more effective responses to situations that could trigger symptoms of imposter syndrome. During each of the workshops, the participants were encouraged to reflect on and speak about their experiences and feelings of inadequacy or inability. During these open discussions, participants were able to hear their feelings reflected back

at them from others in the workshops. The focus group participants often stated, “I agree with what Participant 1 said.” or “I felt the same as Participant 2.” Many participants voiced their shock that someone they viewed as a stronger leader or someone who had more abilities experienced the same negative thought processes. The opportunity to voice negative internal thought processes shed light on their inaccuracy and the discussion that followed provided the support to recognize and overcome these negative thought processes in the future.

This structure of open conversation builds on what Robinson-Walker (2012) states, “Be aware of your own self-talk. Notice self-limiting thoughts and behaviors, and unproductive conversations in your own head.” (pg. 2). Robinson-Walker (2012) goes on to discuss the importance of recognizing and voicing your own strengths and abilities. The LDP workshops were aligned to these tenets as the workshops allowed the participants to identify their strengths and speak them aloud. Prompting participants to own their abilities was often the first step in recognizing the negative thought process of imposter syndrome. Participants were able to acknowledge that the signs of imposter syndrome are not an accurate reflection of their abilities and, by owning their strengths, build more effective thought processes that reflect the reality of their abilities. The workshops provided the participants the safe space to recognize situations in which they lacked skills, and the support to learn those skills to be more competent leaders. As Robinson-Walker (2012) states, it is important to “be willing to be uncomfortable.” (pg. 2).

### **Focus Group**

The focus group in this study provided an opportunity for the participants of the study to share their stories, to provide context for their experiences both prior to the workshops, as well as during and after their conclusion. Prompts were provided to stimulate discussion, often asking participants to reflect on previous beliefs and thought processes and how they have changed over time. While both participants spoke about feelings of inadequacy and comparing themselves to others, they also shared that the workshops provided an opportunity to recognize the flaws in these thought processes. During one of the early workshops, a participant state that they often compared themselves to their classmates. The individual believed that their classmates grasped complex material much more quickly than the individual did. As such, the participant often felt that eventually, others would discover that they were not “smart enough” to be pursuing their major. However, in a later workshop, the participant acknowledged that by starting the conversation, the participant was able to identify this thought process as inaccurate. At the conclusion of the workshops, the participant felt more empowered to push through these thought processes and develop a more effective approach, comparing themselves less to others and building a support system for themselves and those around them. As Cowie et al., (2018) state, “Those who experience imposter syndrome hold high standards for their own performance and critically evaluate perceived failures.” (pg. 224). Focus group participants cited instances prior to the workshops when they compared themselves to those around them, explaining that they often felt they were not as skilled, both academically and within the confines of leadership, as those around them. When provided a safe space within the workshops to express these feelings, the participants were able to observe similar feelings to their own in those around them. This recognition

provided the participants the foundation to develop more realistic and effective thought processes when presented with situations that trigger feelings of imposter syndrome.

One statement that the participants voiced regularly throughout the focus group was the importance of creating a safe space where these feelings of imposter syndrome can be discussed. Robinson-Walker (2012) encourages us to “enlist the support of others” in this process. The focus group participants spoke about continuing the open discussion of these feelings of imposter syndrome. This open discussion provides not only the opportunity for individuals to discuss feelings of imposter syndrome among each other, but also provides a support system for the individuals. These discussions provide individuals a chance to voice their strengths and own their abilities, thus developing more effective thought processes. Early in the workshop series, participants were often hesitant to share their experiences and thoughts. We often spent much of the time in silence, as I prompted reflection and encouraged discussion. Once one participant spoke, others joined, often resounding what the participant had shared. By the completion of the workshop series, participants were eager to share their experiences, as well as provide support for the other participants. Discussion and conversation became a key component of the workshops. As I was able to observe the participants outside of the workshops given my role within the research setting, I began to see this eagerness to share and support spill into their professional and academic environment. More and more, the workshop participants sought out opportunities to ask advice as well as provide support and insight into hurdles and obstacles their peers may have been facing.

While assertions are based on a small sample, this study provides a foundation for future research to better understand the effectiveness of the LDP workshops and similar interventions in combating the symptoms of imposter syndrome.

### **Limitations and Implications for Future Research**

My study was designed to better understand the symptoms of imposter syndrome among an undergraduate student population and to measure the effectiveness of a series of Leadership Development (LDP) workshops on those symptoms. There were several study limitations within this study that must be acknowledged and which provide a springboard for considering implications for future research. These limitations include the level of education (undergraduate students), the lack of diversity within the population, and the length of the study.

### **Sample Population**

This study was conducted within an undergraduate student population. While early results provide support that this population experiences symptoms of imposter syndrome, several other studies show that these symptoms can become more intense at higher levels of education. For example, Bothello and Roulet (2019) examined imposter syndrome among a graduate student population while Good et al., (2012) examined the instances of imposter syndrome among a doctoral student population. Bothello and Roulet (2019) observed that imposter syndrome can intensify at the graduate level, often due to the intense focus on a single theory or practice. Good et al. (2012) utilized the “Gender-Based Rejection Sensitivity” to understand the impact that belonging and stereotype threat had on women in a doctoral math program. Good et al. (2012) found that when women’s perceived sense of belonging was low, they often cited more

instances of stereotype threat and were less likely to pursue math in the future. While it is important to see an increase in women graduating with their bachelor's degree, further study into graduate and doctoral student populations could provide additional insight into the impact of imposter syndrome on academic success. Further research into graduate and doctoral student populations can also provide additional insight into symptoms of imposter syndrome among women in a professional setting.

In addition, a larger sample population could provide deeper insight into the effectiveness of the LDP workshops. The current study culled the sample population from a subset of Regional University's overall population: the Ambassadors. While this population provided a solid representation of the overall population, including individuals from different majors, different cultural backgrounds, and different ages, it does create a potentially confounding variable—a predisposition to leadership. That is to say, the Ambassador population in this study was from a small portion of the population and the Ambassadors could be predisposed to taking on leadership roles. Future studies could benefit from a large sample population that more accurately represents the overall population.

### **Diversity**

Regional University is located in the suburbs of a major city in the southwestern United States. In addition to this, it is also situated in an area where religious values play an important role in everyday life. Based on demographics, 78.3% of the population of the university identifies as White when asked about race (Graduation Rates, 2020). In addition, 72% of the population identifies as part of The Church of Jesus Christ of Latter-Day Saints (Graduation Rates, 2020) These demographics, in part, limit the ability to



generalize the results of this study. Future studies would benefit from increasing the diversity of the sample population. Increasing the diversity of the population can also provide greater insight and context for the results of this study by answering the question: *Does race alter the effectiveness of the LDP workshops?* If the results can be replicated in future studies with more diverse populations, it could indicate that the religious values present in the current population do not have a significant influence on the presence of imposter syndrome and the ability of the women to overcome these symptoms.

An increase in racial and cultural diversity will also provide greater insight into the effectiveness of the LDP workshops. While women are still facing the “battle” of gender differences, including overcoming stereotype threat and gender microaggressions, women of color from traditionally oppressed populations face additional hurdles. Construed from the literature review of this dissertation, race and cultural background are likely to have an impact on the symptoms of imposter syndrome, especially in relation to stereotype threat. Women of color often have to overcome the stereotypes of both gender as well as those associated with their race. Implementing the LDP workshops with a more diverse population would provide support for their effectiveness (if results are replicated) and/or show areas needing improvement. This replication of results would provide a more comprehensive approach to eliminating symptoms of imposter syndrome and increasing confidence in women.

### **Length of Study**

This study provided solid means to understand the presence of imposter syndrome among the sample population and to understand the effectiveness of the LDP workshops. It was conducted over the course of six weeks in an effort to maintain engagement among

the participants. In addition to expanding the sample population, it would be beneficial to conduct the study over an extended period of time. Data indicate that the workshops had a positive impact on the instances of imposter syndrome. A study implementing the workshops over a longer period of time, say six months to a year, could provide deeper insight into effectiveness. In addition, a longer study would provide an opportunity to identify if the workshops provide the opportunity for long-term adoption of more effective thought processes that decrease symptoms of imposter syndrome and build confidence in women's skills and abilities to be both academically and professionally successful.

It would also be beneficial for future studies to adopt a longitudinal framework. While the quantitative and qualitative data within the current study provided initial insight into the effectiveness of the LDP workshops, these data provide only limited insight into the impact on graduation (RQ #5). A longitudinal study would allow the researchers to observe the potential change in imposter syndrome symptoms over time as well as if the participants graduate. A longitudinal study would also provide insight into how deep the change in beliefs go within the individual. For example, do the participants adopt more confident thought processes for a short time after the completion of the LDP workshops? Or are the changes more profound, seeing alterations in thought processes in a more permanent way? As an adaptation, a follow up survey of the participants could shed additional light on the long-term workshops effects. Do the participants feel more confident in their abilities six months from now? A year from now? Do the participants complete their degree? Future researchers might also consider following up with participants to see how far they took their education and how they progress in their

professional careers. The potential to understand the impact of the LDP workshops is bound only by the design of the study, providing the opportunity to create a lasting strategy for overcoming the symptoms of imposter syndrome and finding success.

### **Lessons Learned**

As an action researcher, I have learned many lessons when conducting this study, not just on the topic of imposter syndrome, but also on research and study design in general. When analyzing the final data for this study, I was encouraged to see a decrease in the instances of imposter syndrome among my population. While the sample population is small, it was encouraging to observe that my population appeared more confident. The participants were able to overcome some of the negative thought processes associated with imposter syndrome and take a more confident approach when looking towards the future. This excitement was tempered by the fact that I had only a small portion of my population participate in the workshops (and an even smaller portion actually participate in the study). As the researcher, I can see the benefit to the LDP workshops in supporting students to not only build confidence around leadership skills but hopefully push through and graduate. I was also encouraged to see many of the skills developed within the workshop being implemented in a professional setting. I had the opportunity to not only observe my participants within the research setting but also as individuals within the Ambassador program. Their enthusiasm and eagerness to create a safe space where discussions on the feelings of imposter syndrome could be openly discussed was important outside the context of the study. To me, this indicates that the participants are embracing their shift in thinking and are actively working not only to overcome imposter syndrome, but to help others overcome it. They have created a

support system, which much of the literature states is a key component to long-term success.

I am eager to implement these workshops within my new context. I hope to not only replicate the results, but to see them occur within a larger population. In the future, I hope to be able to include more racially and culturally diverse individuals. In addition, I would like to observe the participants over a longer period of time. I am eager to understand if the skills acquired during an individual's academic journey translate and are applied within a professional context. In a future iteration, I hope to also learn from some of the hurdles dealt with in the current study. One of which was the method of delivery for the workshops. Due to the COVID-19 pandemic, the workshops were delivered in a virtual format. There are several obstacles to working in a virtual environment that are not necessarily found within an in-person environment. This includes the difficulty of creating conversation and discussion. Often within the workshops participants struggled to contribute to the discussions, accidentally talking over other participants and opting to remain quiet to avoid awkward exchanges. My hope is that an in-person workshop format would alleviate this hurdle.

As a practitioner researcher, I was in a unique position in relation to the topic of this study. I have successfully completed a bachelor's degree along with two master's degrees. Coming into this doctoral program, I was confident in my abilities. Identifying the topic of imposter syndrome within my context provided me an opportunity to address an area that I am passionate about—gender equity. I, too, experienced feelings of imposter syndrome throughout this doctoral process. It is important, however, that I recognized these flawed thoughts and I, too, have worked to build more effective thought

processes. I was excited and encouraged to see how quickly my participants worked to build a support system. Their energy and enthusiasm around maintaining an open dialogue highlighted the importance of creating this at all levels. I am encouraged that the workshops had a positive impact, but to be most effective, I should also seek to build a support system for not only myself, but the women around me.

### **Conclusions**

The current study, while limited in generalizability due to the small sample population, provides some indication of the positive effectiveness of leadership development workshops on alleviating symptoms of imposter syndrome. A decrease in imposter syndrome symptoms observed from a comparison of pre- and post-intervention quantitative survey data indicates that the LDP workshops helped the participants in the development of more effective thought processes. Built on Bandura's Theory of Self-Efficacy, the LDP workshops encouraged participants to identify the negative thought processes of imposter syndrome, and alter these by owning their success and strengths. Future research can build upon this study to understand the effectiveness of the workshops with a more diverse population, as well as in a longitudinal setting. While robust generalization is not possible with the results of this study, it does provide a solid foundation for future research in this area. The LDP workshops, combined with the quantitative and qualitative data, demonstrated that women have the ability to recognize their symptoms of imposter syndrome and alter their views and beliefs to be more effective and confident in future settings. Throughout the course of the workshops and within the focus group, participants found support among their peers, recognizing that their internal thoughts are often felt by those around them. They are not alone in their

thinking. By creating a safe space for conversation and discussion, the participants are in fact creating the support system they all need to overcome their feelings of imposter syndrome and own their skills, abilities, successes, and failures. They have decreased their feelings of imposter syndrome and are eager to bring others along with them. I am eager to see where this research can lead and the long-term impact it can have on imposter syndrome in women.

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APPENDIX A

LEADERSHIP GROWTH MINDSET SURVEY

LEADERSHIP GROWTH MINDSEY SURVEY

	1 Strongly Agree	2 Agree	5 Disagree	6 Strongly Disagree
1) You can learn new things, but you can't really change your basic intelligence.				
2) You can change even your basic intelligence level considerably.				
3) You have a certain amount of talent, and you can't really do much to change it.				
4) Your talent in an area is something that you can't change very much.				
5) No matter who you are, you can significantly change your level of talent.				
6) To be honest, you can't really change how much talent you have.				
7) You can always substantially change how much talent you have.				
8) You can learn new things, but you can't really change your basic level of talent.				
9) No matter how much talent you have, you can always change it quite a bit.				
10) You can change even your basic level of talent considerably.				
11) I have the skills and ability to complete and graduate with my Bachelors degree.				

Demographic questions:

1. Gender

- Identify as female
- Identify as male
- Prefer not to answer

2. Race (check all that apply)

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other

3. Age

- 18-21
- 22-25
- 26-30
- 31-35

4. Marital Status

- Single (Never married)
- Married
- Divorced
- Widowed

5. For data analysis purposes, please provide the last four digits of your phone number.

APPENDIX B  
IMPOSTER SYNDROME SURVEY

### IMPOSTER SYNDROME SURVEY

	1 Not at all true	2 Rarely	3 Sometimes	4 Often	5 Very true
1. I have often succeeded on a test or task even though I was afraid that I would not do well before I undertook the task.					
2. I can give the impression that I'm more competent than I really am.					
3. I avoid evaluations if possible and have a dread of others evaluating me.					
4. When people praise me for something I've accomplished, I'm afraid I won't be able to live up to their expectations of me in the future.					
5. I sometimes think I obtained my present position or gained my present success because I happened to be in the right place at the right time or knew the right people.					
6. I'm afraid people important to me may find out that I'm not as capable as they think I am.					
7. I tend to remember the incidents in which I have not done my best more than those times I have done my best.					
8. I rarely do a project or task as well as I'd like to do it.					
9. Sometimes I feel or believe that my success in my life or in my job has been the result of some kind of error.					

10. It's hard for me to accept compliments or praise about my intelligence or accomplishments.					
11. At times, I feel my success has been due to some kind of luck.					
12. I'm disappointed at times in my present accomplishments and think I should have accomplished much more.					
13. Sometimes I'm afraid others will discover how much knowledge or ability I really lack.					
14. I'm often afraid that I may fail at a new assignment or undertaking even though I generally do well at what I attempt.					
15. When I've succeeded at something and received recognition for my accomplishments, I have doubts that I can keep repeating that success.					
16. if I receive a great deal of praise and recognition for something I've accomplished, I tend to discount the importance of what I've done.					
17. I often compare my ability to those around me and think they may be more intelligent than I am.					
18. I often worry about not succeeding with a project or examination, even though others around me have considerable confidence that I					



will do well.					
19. If I'm going to receive a promotion or gain recognition of some kind, I hesitate to tell others until it is an accomplished fact.					
20. I feel bad and discouraged if I'm not "the best" or at least "very special" in situations that involve achievement.					

Demographic questions:

1. Gender

- Identify as female
- Identify as male
- Prefer not to answer

2. Race (check all that apply)

- White
- Black or African American
- American Indian or Alaska Native
- Asian
- Native Hawaiian or Pacific Islander
- Other

3. Age

- 18-21
- 22-25
- 26-30
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4. Marital Status

- Single (Never married)
- Married
- Divorced
- Widowed

5. For data analysis purposes, please provide the last four digits of your phone number

APPENDIX C  
FOCUS GROUP PROMPTS

## FOCUS GROUP PROMPTS

1. Thinking back on your leadership experiences before completing the LDP workshops, how capable do you feel you were to hold that leadership role?
2. Thinking back on your academic experiences, perhaps last academic year, how capable do you think you were to be successful in your classes?
3. What do you feel is the primary contributing factor to the feelings an anxiety surrounding study and academic outcomes?
4. What are your concerns in taking on leadership positions within the education setting?
5. What are your primary concerns moving into your career post-graduation?
6. How do you feel you have developed and changed over the course of the workshops?
7. Do you feel more equipped to be successful in your degree? Do you feel more equipped to own your career search?
8. What weaknesses do you feel you still need to work on?

APPENDIX D

ARIZONA STATE UNIVERISTY IRB APPROVAL



EXEMPTION GRANTED

[Eugene Judson](#)  
[Division of Educational Leadership and Innovation - Tempe](#)  
480/727-5216  
[Eugene.Judson@asu.edu](mailto:Eugene.Judson@asu.edu)

Dear [Eugene Judson](#):

On 7/9/2021 the ASU IRB reviewed the following protocol:

Type of Review:	Initial Study
Title:	Imposter Syndrome and Academic Success: Supporting Students to Graduation and Beyond
Investigator:	<a href="#">Eugene Judson</a>
IRB ID:	STUDY00014179
Funding:	None
Grant Title:	None
Grant ID:	None
Documents Reviewed:	<ul style="list-style-type: none"><li>• Focus Group Prompts, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li><li>• Imposter Syndrome Survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li><li>• Informed Consent Form, Category: Consent Form;</li><li>• IRB Social Behavioral Protocol, Category: IRB Protocol;</li><li>• Leadership Growth Mindset Survey, Category: Measures (Survey questions/Interview questions /interview guides/focus group questions);</li><li>• Recruitment Email, Category: Recruitment Materials;</li><li>• UVU Department Approval, Category: Other;</li></ul>

The IRB determined that the protocol is considered exempt pursuant to Federal Regulations 45CFR46 (2) Tests, surveys, interviews, or observation on 7/9/2021.

In conducting this protocol you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

If any changes are made to the study, the IRB must be notified at [research.integrity@asu.edu](mailto:research.integrity@asu.edu) to determine if additional reviews/approvals are required. Changes may include but not limited to revisions to data collection, survey and/or interview questions, and vulnerable populations, etc.

Sincerely,

IRB Administrator

cc: Christina Yantorno  
Christina Yantorno