

LEADERSHIP ASPIRATIONS AMONG FEMALE COLLEGE STUDENTS

by

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## **DEDICATION**

*This thesis is dedicated to my dearest (late) grandfather, Peter Purna Bahadur Banks Budaprihi. You believed in me, inspired me, encouraged me, and loved me. Thank you!*

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## LIST OF ABBREVIATIONS

<b>Abbreviation</b>	<b>Description</b>
PIFRM	Perceived Influence of Female Role Models
LA	Leadership Aspirations
LSE	Leadership Self-efficacy
PSFRM	Perceived Similarity to Female Role Models
NFRM	Number of Female Role Models
HL	High Level
ML	Middle Level

## I. INTRODUCTION

### **Leaders**

Successful individuals are recognized and rewarded for what they do. They do not necessarily need a formal position in a hierarchy or job title to be considered successful. They can achieve success within or outside an organizational structure, meaning they can be with or without managerial duties. Generally, leaders are successful individuals in their fields (Keohane, 2012).

According to the *USA Today* interview, Ruth Bader Ginsburg said, "Women belong in all the places where decisions are being made...." This statement raises the question of whether women exist in all such places. There are more female students than ever who are graduating from colleges, and there is a massive increase of women in all professions. However, as per Cavaletto et al. (2019), women are underrepresented at all leadership levels in terms of achievement and success. When higher status positions are dominantly occupied by men, it is called vertical occupational segregation (Cavaletto et al., 2019). Catalyst 2021 reports that men held about 70% of the Standard & Poor's (S&P) 500 board director seats in 2020. The gender disproportion can be attributed to factors such as prejudice towards female leaders (Eagly & Karau, 2002).

### **Gender Stereotypes**

An advertisement for a job opening in 2015 read, "requires filling in the responsibilities of a receptionist, so female candidates are preferred" (Crockett, 2015). The dominance of stereotypes and biases has been historically widespread in the field of success and leadership, such that leaders have traditionally been viewed as masculine

(Davies, 2005), while women have been viewed as nurturers and given caregiving responsibilities (Heilman, 2012).

Elsesser and Lever (2011) describe two kinds of biases related to gender and successful positions or leadership. These biases come from the differences that society perceives between leadership and femininity. Descriptive preference is when women who are leaders are viewed as having less potential in leadership abilities because they are women. Prescriptive bias occurs when women who are leaders are valued less because leadership is stereotypically seen as a masculine characteristic, only held by men. Women who are leaders are viewed as rebelling against the traditional gender roles (Elsesser & Lever, 2011). There is considered to be a vast difference between female gender stereotypes and conventional leadership characteristics (Eagly & Karau, 2002).

The stereotypical norm for men is agentic behaviors such as aggressiveness and dominance while the stereotypical norm for women is communal behaviors such as kindness and cooperativeness (Adams & Yoder, 1985; Eagly, 1987; Heilman, 2002). Both women and men strongly hold on to the stereotypes about female leaders being more concerned about people than the business itself (Crites et al., 2015). Leadership stereotypes are generally consistent with stereotypical male characteristics and stereotypical male characteristics correlate with leadership expectancies.

Stereotypes begin to form at an early age, so even when women come across counter-stereotypical female leaders, they still hold negative stereotypes about female leaders (Crites et al., 2015). Stereotypes form as a cognitive shortcut and become second nature (Northouse, 2019). Individuals form stereotypes unconsciously to spend less energy on conscious thinking, simplifying the understanding of aspects. Individuals rely

on stereotypes as it is a way for the brain to make an immediate judgment without conscious thought.

### **Gender Role Expectations**

Members of society hold certain expectations from each gender as to how they behave in given situations (Eagly et al., 2000). For instance, men are seen as the providers and women are seen as the nurturers. In the United States of America, being agentic and domineering are considered masculine characteristics and expected mostly of males (Connell, 2005). Likewise, being emotional and attentive are considered feminine characteristics and expected mostly of women (Bem, 1974). While these studies are decades old, even the latest research (e.g., Cowden et al., 2021) has shown that such ideologies are still in practice among many arrays. In work environments, in order to gain success, men are expected to be assertive, and women are expected to have humility. In other words, society rewards women when they display stereotypical female norms such as agreeableness and humility and men when they display stereotypical male norms such as assertiveness and emotional stability (Cowden et al., 2021).

Societal expectancies about gender roles create stereotype threat which is a situation in which women are at risk of conforming to stereotypes about themselves and other women. Davies et al. (2005) analyzed the possible effects of vulnerabilities to stereotype threat on undergraduate women to test if it affected the need to avoid leadership roles and instead seek non-threatening follower or non-leader roles. Their first experiment confirmed that gender-stereotypical scenarios such as commercials in the media sabotaged women's aspirations for leadership tasks. While women exposed to neutral commercials preferred neither the leader nor the follower role, women exposed to

gender stereotypical commercials had a strong preference for the follower role. Stereotype threat negatively affects women's leadership aspiration as participants who watched the gender-stereotypical commercials were more likely to model the female actor's behavior. Their study confirmed that women are vulnerable to gender stereotype threat, and such vulnerabilities could motivate women to avoid leadership/ higher achieving roles (Davies et al., 2005).

### **Role Congruity Theory**

For the past two decades, research on the marginalization of women in leadership roles has used the Role Congruity Theory framework (Eagly & Karau, 2002). Role congruity theory sheds light on the stereotypes about how men and women are and how they should be. Prejudice towards and discrimination against female leaders comes about when stereotypes of how women are and should be contradict the stereotypes associated with leadership. Role incongruity theory suggests that society does not reward behaviors that are inconsistent with expectations for an individual's gender (Eagly & Karau, 2002). This theory has been applied in settings such as leadership (e.g., Eagly & Karau, 1991; Paustian-Underdahl et al., 2014). Eagly and Karau's (1991) meta-analysis found that men focused on task-oriented work and general leadership, whereas women focused on interpersonal and social leadership, which is consistent with the Role Congruity Theory.

### **Gender Differences**

Studies have shown that gender leader stereotypical beliefs are inaccurate (Kellogg Insight, 2013; Hyde, 2014). While there are gender-related differences in leadership style (Gipson et al., 2017), Paustian-Underdahl et al.'s (2014) meta-analysis of 95 studies found that there is not much difference in perceived leadership effectiveness

between men and women. There are no differences in leadership effectiveness (see also meta-analysis by Eagly et al., 1995; review by Hyde, 2014). Despite the absence of difference in leadership effectiveness, there is a gender-related leadership gap in all fields, including trade unions (Bryant -Anderson & Roby, 2012), religious institutions (Christ, 2014), law firms (Rikleen, 2015), and educational institutions (Hammond, 2015). Reducing and eliminating gender bias in leadership positions would result in positive performance outcomes (Menguc & Auh, 2006), social responsibility (Boulouta, 2013), smaller pay gaps between men and women (Tate & Yang, 2015), and LGBT-friendly policies (Cook & Glass, 2016).

Schuh et al. (2014) analyzed the relationship between gender and leadership role occupancy, which is whether the participant held a position of leadership at work. They also tested a mediation model for the relationship where the mediator was power motivation, which, as defined by the author, is the desire to influence others. In other words, power motivation is the motivation to attain positions of impact and authority, such as leadership position. Schuh et al. (2014) noted that nearly all of the previous studies on gender and power motivation relied on flimsy psychometric properties of projective tests to assess power motivation. In their Studies 1 and 4, Schuh et al. (2014) measured power motivation using the Business-Focused Inventory of Personality scale (Hossiep et al., 2003). They measured power motivation with a 9-item measure of power motivation (Chan & Drasgow, 2001). Lastly for study 3, they used a 15-item power motivation subscale from the Test of Motivational Orientation (Borgogni et al., 2004). Studying the relationship among students and employees, one common finding among all four experiments conducted was that female students and employees reported lower

power motivation and held lesser leadership roles than their male counterparts. All four studies showed that gender and power motivation were related. Mainly, gender predicted leadership role occupancy as well as *power motivation*. Studies 2, 3, and 4 showed that power motivation predicted leadership role occupancy and mediated the relationship between gender and leadership role occupancy such that the relationship was weakened when power motivation was added to the equation. Power motivation accounted for most of the relationship between gender and leadership role occupancy. Thus, gender predicted power motivation, power motivation predicted leadership role occupancy, and mediated the relationship between gender and leadership role occupancy (Schuh et al., 2014).

### **Leadership Self-efficacy**

Self-efficacy is belief in one's ability to succeed in accomplishing a goal or objective (Bandura & Adams, 1977; Bandura, 1986, 1997). Self-efficacy is a crucial motivational concept as it is linked with individual factors such as choices, goals, and persistence (Gist & Mitchell, 1992). Motivation refers to an inner commitment to achieve a goal by following through with any tasks necessary to achieve the goal (Locke, 1996).

Betz and Hackett (1981) studied the applicability of Bandura's self-efficacy theory, to understand if self-efficacy matters when women make career decisions, in search of an explanation of the underrepresentation of women in professional and managerial fields. Self-efficacy, gender, ACT scores, and occupation were assessed from 103 women and 101 men. A regression analysis showed that as career-related self-efficacy increased, the range of career choices also increased. There were differences in self-efficacy among women regarding traditional and non-traditional occupations.

Traditional and nontraditional occupations were based on the percentage of women employed in the occupation. Traditional occupations for women were dental hygienists and secretaries as such occupation had more female workers. On the other hand, non-traditional occupations for women referred to occupations such as lawyers and engineers as these occupations had fewer women. While men had equal self-efficacy for both kinds of occupations, women had higher self-efficacy regarding traditionally female occupations and lower self-efficacy levels for non-female-traditional occupations (Bets & Hackett, 1981). Such relationships might have led for men to have higher-paying successful occupations and positions, and for women to have lower-paying ones.

In the context of self-rating, a meta-analysis by Paustian-Underdahl et al. (2014) found that men rated themselves significantly more effective than women in terms of organization type, leadership level (e.g., lower-level positions), and study settings (e.g., organizational and laboratory setting). However, when ratings were assigned by others, overall, women were generally rated as significantly more effective leaders than men especially in studies after 1982 (e.g., Rosser et al., 2003). More specifically, women were rated higher in business and educational organizations and in mid-level and upper-level positions. For lower-level positions, there were no significant gender differences in effectiveness. In addition, observers rated women as more effective senior and middle-level management leaders.

Paustian-Underdahl et al.'s (2014) meta-analysis results contradicted Eagly's et al. (1995) results in terms of others' perceptions of women leaders in higher management positions. Paustian-Underdahl et al. (2014) reframed Role Congruity Theory (RCT, Eagly & Karau, 2002). While RCT focuses on how the perception of others influences the

gender differences in leadership effectiveness, Paustian-Underdahl et al. (2014) emphasized that understanding self-evaluations is also crucial. Self-evaluations can be affected by the perceptions of appropriateness of leadership and gender role. Men see themselves as congruent for a leadership role (Paustian-Underdahl et al., 2014).

### **Role Model Influence**

The term “role model” was initially coined by an American sociologist named Robert K. Merton. A role model is simply a person whose behavior, example, and/ or success is followed or echoed by others. Yeoward et al. (2020) examined whether interpersonal influences, in the form of support and influence from others, were related to plans to become leaders among college women. They found that perceived support or guidance for career-related decision-making as well as perceived inspiration from career role models were positively correlated with leadership aspirations (Yeoward et al., 2020). Asgari et al. (2012) studied when and if exposure to similar professional women leaders can enhance younger women’s self-concept about leadership attributions. Young women perceived higher leadership potential when they saw successful women who were remarkably similar to them. The authors defined similarity as someone from the same university and who might have taken the same classes.

### **Similarity**

Research has demonstrated that women are likely to develop leadership motivation through exposure to women leaders who seem similar to themselves (Asgari et al., 2012). Exposure to same-sex successful individuals helps women become resilient to gender stereotypes through reduced implicit self-stereotyping. Women are more

influenced if they encounter counter-stereotypic successful ingroup members who they perceive to be extremely similar to themselves (Asgari et al., 2012).

Asgari et al. (2012) conducted three experiments. In the first experiment, exposure was conducted with pictures and biographies of successful women. Implicit self-beliefs were measured using the Implicit Association Test (IAT; Greenwald et al., 1998). High similarity was manipulated with description of successful women as ordinary who simply attained success through their hard work, perseverance, and effort. Low similarity was manipulated with description of successful women who obtained their success solely based on their talent. They found that exposure to counter stereotypical successful ingroup members (women) who seem similar to the participants increased participants' implicit leadership beliefs (Asgari et al., 2012).

In experiment two, participants were categorized into a high-similarity condition, a low-similarity condition based on the similarity feedback they received on how similar they are to the women leaders, and a control condition where participants did not receive any feedback. The leadership similarity feedback was false in order to manipulate perceived similarity before their implicit and explicit beliefs were measured. Results showed that women's leadership self-perceptions increased, compared to low similarity conditions and control conditions, when they were told that the successful women leaders were similar to them (Asgari et al., 2012).

Lastly, experiment three demonstrated that women were more likely to find themselves similar to women leaders who attended the same university as they did. The participants' implicit leadership self-concept increased when they were exposed to successful leader alumni. However, an alternate situation is possible where women might

be vulnerable to stereotypes if they come across successful ingroup members who they perceive to be different from themselves (Asgari et al., 2012). Just as young women's leadership perceptions about themselves decrease when exposed to stereotypical models, the alternative happens when being exposed to counter-stereotypical role models.

Crites et al. (2015) found that female employees showed higher job satisfaction when their immediate supervisors were women, instead of men. The woman sample in their study was young and the authors suspect that such finding was because the younger women might be looking for a mentorship relationship with their immediate supervisor and would be more open to women than males.

Young women might perceive it to be necessary to network with influential women leaders to progress (Eagly & Carli, 2007; Hewlett et al., 2010). The primary aspect of being exposed to women leaders might be that such roles are counter stereotypical. Such exposure likely reduces traditional stereotypes and may increase leadership aspirations. Young women who have counter stereotypical role models have reduced effects of stereotypical thinking (Leicht et al., 2014), which is associated with positive self-perceptions and increased leadership aspirations (Hoyt & Simon, 2011).

Frequency of exposure to women leaders lessens gender stereotypes among young women in the long-term (Dasgupta & Asgari, 2004). Young women exposed to female leaders in social contexts tended to have a less automatic gender-stereotypical belief about women, whereas young women who spend time in gender-biased or predominantly male fields have an increase in automatic stereotypic beliefs (Dasgupta & Angsari, 2004). Frequent exposure to counter-stereotypical role models related to less likelihood of experiencing negative social comparison contrasts effects (Dasgupta & Angsari, 2004).

Likewise, Fritz et al. (2017) showed that interpersonal relationships are a stimulating factor for women to obtain or pursue leadership aspirations. However, this interpersonal element is dependent on how alike the female leader is to the subject. Hoyt and Simon's (2011) study aimed to test if upward comparisons to a successful woman would influence younger women's self-perceptions and leadership aspirations. They found that young women related more to mid-level women leaders than to high-level women leaders. A lower level of leadership was rated as more similar by younger women.

Hoyt and Simon (2011) conducted two experiments with female participants. The first study tested the effects of High Level (HL) female and male role models/ leaders on leadership self-perceptions (perceived performance, perceived task difficulty and feelings of inferiority). Women who were exposed to HL female leaders reported negative self-perceptions, whereas women who were exposed to HL male leaders had positive self-perceptions.

The second experiment was conducted to analyze the relationship between exposure to HL or Middle Level (ML) female or male leaders and the undergraduate participants' future leadership aspirations, and to test if feelings of inferiority mediated the relationship between role models and leadership aspirations. Women identified more with ML female leaders than with HL female leaders. Women who were exposed to HL female leaders perceived greater levels of feelings of inferiority than those who were exposed to HL male leaders. HL female leader exposure led to significantly lower levels of leadership aspirations. The inverse relationship between exposure to HL female

leaders and leadership aspirations were mediated by feeling of inferiority (lowered leadership self-perceptions) (Hoyt and Simon, 2011).

Hoyt and Simon (2011) suggested that a limitation of the study could be that the result of exposure to HL female leaders may have been observed in their study primarily because participants were exposed to leaders only for a brief period. Another limitation that the authors mention is the need to articulate individual characteristics in the model. Given these limitations, we presume that a study focusing on these limitations would be beneficial to the literature. Our study aims to explore the effects of role models in real-world settings by examining the effects/ influence of role models that participants have had for a short or long duration and/or have had frequent exposures to. Likewise, attributes such as leadership self-efficacy of the participants might affect the effect of leadership aspirations from HL leaders or role models; for instance, women with higher leadership self-efficacy may consider HL leaders' success more achievable. Hence, we will assess the leadership self-efficacy of the participants in our study.

## II. CURENT STUDY

The main goal of our study was to improve our understanding of the effect of female role models on young women's leadership aspirations. Three distinct factors were examined: the perceived influence of female role models, the number of female role models, and their perceived similarity to female role models. We tested the mediating role of leadership self-efficacy in the relationship between the strongest predictor and leadership aspiration. The current study had four hypotheses.

### Hypotheses

1. Perceived influence of female role models will be positively related with leadership aspirations.
2. Perceived similarity to the female role models will be positively related with leadership aspirations.
3. Number of female role models will be positively related with leadership aspirations.
4. Leadership self-efficacy will mediate the relationship between strongest predictor in the hierarchical regression and leadership aspirations.

### **III. METHODS**

#### **Participants**

Undergraduates and graduates at Texas State University were recruited through the undergraduate SONA pool and through email recruitment. Participants in SONA were compensated with credit for their psychology course. Participants outside of SONA could choose to enter into a raffle drawing for \$25 VISA gift cards. 4 participants were awarded gift cards. There were 368 participants in the study, out of which 262 were female. Our study only focused on the female participants. Participants needed to be above the age of 18 to be a part of this study.

**Table 1.** Demographics

	n	%
<b>Race</b>		
African American/ Black	33	12.6
Asian or Asian Indian	6	2.3
Caribbean	1	0.4
Hawaiian/ Pacific Islander	1	0.4
Hispanic/ Latinas	69	26.3
Middle Eastern or North African	2	0.8
Native American/ American Indian	2	0.8
White/ European American	123	46.9
Bi-racial/ Multi-racial	21	8
Others	4	1.5
<b>Classification</b>		
First-year	166	63.4
Sophomore	55	21
Junior	27	10.3
Senior	8	3.1
Graduate	5	1.9
Other	1	0.4

*Note.* N=262.

## **Materials**

### ***Perceived Influence of Female Role Model/s***

Nauta and Kokaly's (2001) 15-item Influence of Others on Academic and Career Decision Making Scale (IOACDS) measure the type and degree of influence of others on the participants' academic and career decisions. The scale has two subscales: support/

guidance (8 items) and inspiration/ modeling (7 items). For the purposes of this study, we only used the Inspiration/ Modeling subscale. Responses were reported on a 5-point-Likert scale ranging from 1(*strongly disagree*) to 5 (*strongly agree*). Cronbach's alpha for IOACDS yielded  $a = .852$ .

We modified the items to incorporate the sex of the role model. For instance, we changed the item "I know of someone who has a career I would like to pursue" to "I know of a woman who has a career I would like to pursue." We substituted "someone" with "woman" for every item. In our dataset, we reverse coded items 2, 4, and 7, and computed the mean of the resulting scores for this variable.

### ***Number of Female Role Models***

The number of female role models was assessed using the question "Approximately how many female leadership/ achievement role models do you have?" A prompt was included at the top of the screen which read "Role models are people who, either by doing something or by being admirable to you in one or more ways, have had an impact on the career decisions you have made or will make in your life. Role models may be people you know personally, or they may be people you simply know of. They may have had a positive influence on you."

### ***Perceived Similarity to the Female Role Model/s***

We adopted similarity questions from Allen and Collisson's (2020) study to measure perceived similarity to the role model. We posed two questions in our survey: "How similar are you to this role model?" and "How much do you have in common with this role model?" In Allen and Collisson's (2020) study, the Cronbach alpha for this measure ranged between  $a = .80$  to  $.87$ . In our study, the Cronbach alpha was  $a = .843$ .

These similarity questions' responses are on a Likert scale from 1 (*extremely dissimilar*) to 7 (*extremely similar*). Participants were asked to list their top 5 female role models and answer the similarity question for each role model. Those female participants who did not have their top 5 female role models could skip the question/s. The responses to these similarity questions were averaged to produce an overall measure of perceived similarity toward role models. Both similarity items were averaged for all five role models to obtain an overall perceived similarity to role model scores.

### ***Leadership Aspirations***

Leadership aspirations were measured using the Career Aspiration Scale-Revised (CAS-R; Gregor & O'Brien, 2015). The items are rated on a 5-point-Likert scale ranging from 0 (*Not at all true of me*) to 4 (*Very true of me*). Out of the three CAS-R subscales, we decided to use only two for the purpose of this study: leadership aspiration and achievement aspiration. We did not use the educational aspiration subscale because it is not directly relevant to the purpose of the study. Each subscale consists of 8 items. "I hope to become a leader in my career field" is an example item from the leadership aspiration subscale. "I want to be among the very best in my field" is an example item from the achievement aspiration subscale. Five items are reverse-coded, after which All the subscale scores are summed to compute the total score. Higher scores reflect higher aspirations. Cronbach's alpha for CAS-R was .881.

### ***Perceived Leadership Self-Efficacy***

We used the Leadership Self-Efficacy (LSE) scale, which was designed by the Multi-Institution Study of Leadership research team (Dungan et al., 2008). The scale included four items that collectively measure leadership self-efficacy based on

respondents' confidence in being able to lead others, organize a group's task to accomplish a goal, work with the team on a project, and take the initiative to improve something (Dugan et al., 2008). The scale items were measured using a Likert-scale ranging from *Not at All Confident* (1) to *Very Confident* (4), and respondents' scores were calculated based on the mean score of the four items. The Cronbach's alpha reliability of the scale was 0.74.

### ***Covariates***

Age and race were examined as covariates in our study model. We measured age by asking the participants how old they were, and we measured race by listing several races and asking participants to choose their race. If their race was not listed, they had the option to choose "other" and write down their race.

### **Procedure**

Participants completed the study online via Qualtrics. They were provided with a consent form that describes the nature of the study. Participants were asked to click on a button on the same platform as the survey to indicate their consent to participate in the study. When participants opened the survey, they would see the consent page. They were instructed that clicking on the button on the consent page indicates that they agree to participate in the study and have reviewed the consent form. Right above the box, there was a statement saying, "By checking this box, I indicate that I agree to participate in this study." Participants were instructed that they could discontinue the study at any time if they did not wish to participate. Contact information of the researchers for any questions or concerns was provided on the consent form page as well as at the end of the survey. Participants were informed of any risks for participating in the study. The total time to

complete this study was approximately 20-35 minutes. Data from the study were downloaded by the researcher via Qualtrics for analysis.

### **Design and Analyses**

The study was a correlational design. Correlation coefficients were computed for associations among the variables. In addition, we ran a hierarchical regression with the perceived influence of female role models, the number of female role models, and similarity to female role models as predictors, and leadership aspiration as the dependent variable. We chose hierarchical regression over stepwise to deter alpha inflation. With the hierarchical regression, we wanted to determine the degree of variance each predictor accounted for in the outcome variable. The hierarchical regression was based on a one-tailed test with an alpha level of .05. We ran a follow-up mediation analysis with the perceived influence of role models as the predictor, leadership self-efficacy as the mediator, and leadership aspirations as the outcome. All the analyses were conducted using SPSS version 27. Mediation was conducted on PROCESS macro (Hayes, 2022).

#### IV. RESULTS

The data were screened for missing values or outliers. Means and SDs along with correlations among the variables are reported in Table 1. Leadership aspirations significantly and positively correlated with perceived influence of female role models and number of female role models.

**Table 2.** Means, Standard Deviations (SD), and Pearson’s Correlations

	Variables	Mean	SD	1	2	3	4
1	PIFRM	3.42	.99				
2	NFRM	3.04	2.63	.298**			
3	PSFRM	5.03	1.10	.166*	-.068		
4	LA	63.67	10.79	.128*	.125*	.103	
5	LSE	3.14	.67	.032	.023	.168**	.541**

*Note.* Sample was only women.  $N= 262$ .

PIFRM= Perceived Influence of Female Role Models. NFRM= Number of Female Role Models. PSFRM= Perceived Similarity to Female Role Models. LA= Leadership Aspirations. LSE= Leadership Self-efficacy.

\* $p < .05$ ; \*\* $p < .01$ .

A sequential (hierarchical) regression was performed to assess the effects of perceived influence of female role models, perceived similarity to female role models, and number of female role models on leadership aspirations. Since we were not evaluating interactions, we did not center the variables. Table 3 shows the results from the hierarchical regression. The Variance Inflation Factor values ranged from 1.000 to 1.113 indicating no multicollinearity between the predictors. The placement of the

variables in each block was based on literature review. In previous studies, influence from female role models was more prominent than the number of role models and similarity. In Block 1, we entered perceived influence of female role models as the predictor. We found that the perceived influence of female role models significantly predicted leadership aspirations,  $B= 1.518$ ,  $p= .033$  resulting in an  $R^2$  of  $.020$ ,  $p= .033$ . In Block 2 of the hierarchical regression, we added perceived similarity to female role models, and in Block 3, we added the number of female role models. Models 2 and 3 did not significantly predict leadership aspirations. In other words, perceived similarity to the role model and number of role models did not affect leadership aspirations.

**Table 3.** Hierarchical Regression Analysis Predicting Leadership Aspirations

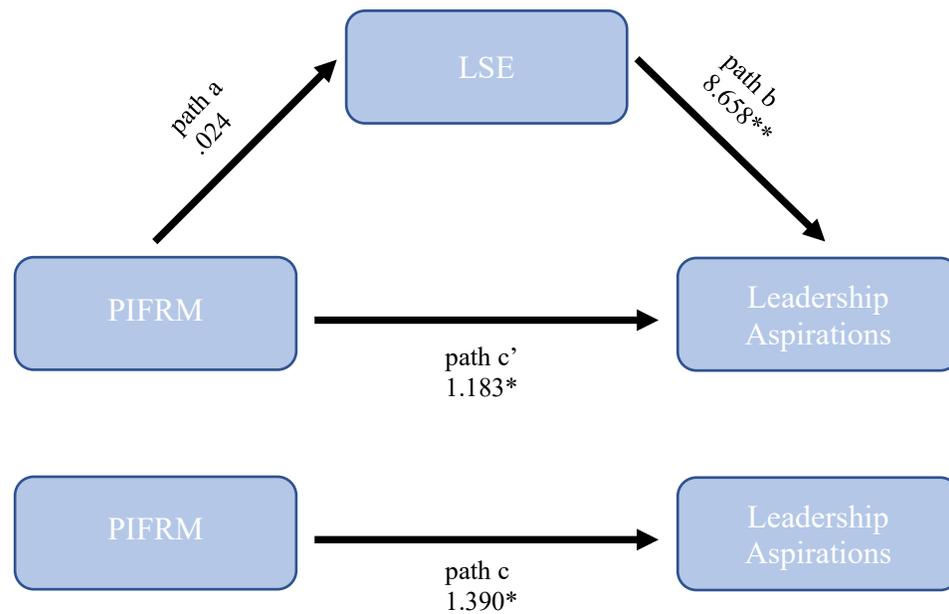
	$\Delta R^2$	$\Delta F$	t	$\beta$	B	95% C.I.
Block 1:	.020	4.627*				
PIFRM			2.151	.140	1.518*	[.128, 2.909]
Block 2:	.006	1.526				
PIFRM			1.911	.126	1.367	[-.042, 2.777]
PSFRM			1.235	.081	.774	[-.461, 2.009]
Block 3:	.006	1.528				
PIFRM			1.503	.103	1.117	[-.347, 2.581]
PSFRM			1.372	.091	.865	[-.377, 2.107]
NFRM			1.236	.084	.337	[-.200, .875]

*Note.*  $N= 234$ .

PIFRM= Perceived Influence of Female Role Models. PSFRM= Perceived Similarity to Female Role Models. NFRM= Number of Female Role Models. C.I.= Confidence Interval.

\*  $p < .05$ .

Since perceived influence of female role model was the only significant predictor of leadership aspirations, we used this variable to test the mediation analysis. As depicted in the conceptual figure (see Figure 1), we tested if leadership self-efficacy mediated the relationship between perceived influence of female role models and leadership aspirations. We controlled for age and race in this model.



**Figure 1.** Conceptual Figure for the Mediation Analysis

*Note.* PIFRM= Perceived Influence of Female Role Models. LSE= Leadership Self-Efficacy.

Path a x path b = indirect effect; path c = total effect; path c' = direct effect.

\* $p < .05$ .

Indirect Effects Regression analysis was used to investigate the hypothesis that leadership-self efficacy mediates the effect of perceived influence of female role models on leadership aspirations. The indirect effect was tested using a percentile bootstrap estimation approach with 5000 samples implemented with the PROCESS macro Version 4.0 (Hayes, 2022). The result indicated that indirect effect was not significant,  $B = .208$ ,  $B = .019$ ,  $SE = .380$ , 95% CI  $[-.525, .970]$ . The a path where the perceived influence of female role models predicted leadership self-efficacy was not significant,  $R = .070$ ,  $p = .749$ . The c' path where the perceived influence of female role models predicted leadership aspirations was significant, and so was the b path where leadership self-efficacy predicted leadership aspirations. Overall, the model was significant, with a  $p$ -value of  $<.0001$ . The perceived influence of female role models and leadership self-efficacy, together, accounted for 31.9% of the variance in the model ( $R = .565$ ). The c path or the total effect where PIFRM predicted leadership aspirations was not significant,  $R = .158$ ,  $p = .099$ .

**Table 4.** Indirect Effect Analysis

	B	$\beta$	SE	LLCI	ULCI
<b>Total Effect Model</b>					
PIFRM $\rightarrow$ LA (c)	1.390	.128	.680	.052	2.729
<b>Indirect Effect Model</b>					
PIFRM $\rightarrow$ LSE $\rightarrow$ LA (axb)	.2077	.019	.380	-.525	.9701
<b>Direct Effect Model</b>					
PIFRM $\rightarrow$ LA (c')	1.183	.109	.569	.061	2.304

*Note.*  $N= 253$ .

PIFRM= Perceived Influence of Female Role Models. LSE= Leadership Self-efficacy. LA= Leadership Aspirations. LLCI= Lower Limit Confidence Interval. ULCI= Upper Limit Confidence Interval. B= Unstandardized Beta.  $\beta$  = Standardized Beta.

## V. DISCUSSION

This study examined whether different aspects of exposure to female leadership role models would influence leadership aspirations in young women. Our first hypothesis that the perceived influence of female role models would predict leadership aspirations was supported. The influence of female role models specifically matters to young females in terms of developing their leadership aspirations. The lack of female leaders plays a vital role in the gender stereotypical construct of leadership (Sealy & Singh, 2006). Hence, our study shows that the influence that female leaders make on young women actually helps them increase their leadership aspirations. Leadership aspiration is affected by exposure to female leader role models, likely because having a demonstration from someone in their life whose actions and achievements provide an example or template for their academic and career pursuits. The individual might look at the role model and imagine their future selves.

The research topic we were studying involved factors that influence female leadership aspirations in order to become leaders in their career field. Our study shows that the influence of role models is important for younger women to aspire to leadership positions. The symbolic importance of same-sex role models holds great significance for women. The influence of such role models probably taps into the woman's skills, styles, goals, and experiences of the woman. The more influential the role models in leadership positions, the greater the chances of having more younger females who want to become leaders. Role models are an important part of young women's view of career possibilities, and what success looks like (Sealy & Singh, 2006).

Our research shows the importance of the influence of female role models on women. It also shows the importance for woman to have role models for their leadership success. For the male populations, the process of leadership development is natural and unconscious due to the stereotypes and status quo (Koenig et al. 2011).

Surveys conducted in Europe and the US (Catalyst/Conference Board 2003; Catalyst 2007; DDI & CIPD, 2005; Catalyst and Opportunity Now, 2000) suggest that a lack of available female role models in corporate life has been related to the lack of advancement for women in leadership. Young women had difficulty in identifying with the women leaders in their organizations as they perceived them to be scary, powerful, and different from themselves in terms of family situations (Singh et al., 2006). However, our study showed that the similarity to the leader or role model did not influence the degree of leadership aspirations. In addition to that, while the lack of female leaders is a problem, our findings indicated that the number of role models a woman has in her life did not predict the degree of leadership aspiration she holds.

Additionally, the mediation analysis did not show a significant indirect effect between leadership aspiration and perceived influence of female role models through leadership self-efficacy. Leadership-self efficacy did not mediate the relationship between perceived influence of female role models and leadership aspirations. This finding may have occurred because leadership-self efficacy is built after becoming a leader (Bandura, 1997) and the becoming of a leader only happens once you have leadership-aspirations. Achievement experiences predicts leader self-efficacy (Bandura, 1997). Hoyt's (2013) study among women found a relation between leadership self-efficacy and influence of role models; however, our study did not show such a

relationship. There was such a contrast in results probably due to the differences in measurement of variables. Hoyt (2013) used Murphy's (1992) Self-Efficacy for Leadership Scale and Dasgupta and Asgari's (2004) Role Model Inspiration scale. Additionally, Hoyt (2013) also found a relation between leadership self-efficacy and leadership aspiration which our study supports (b path).

While Hoyt and Simon's (2011) research showed that the influence of female role models can have a negative impact on the leadership aspirations of woman, Hoyt's follow-up research (2013) showed that this relationship is only true when women have lower leadership self-efficacy. Our results, on the other hand, showed that the perceived influence of role models has a positive impact on leadership aspirations among young women and that leadership self-efficacy does not mediate that relationship. In other words, the effect of the perceived influence of female role models on leadership aspirations does not go through leadership self-efficacy. Our mediation analysis showed a significant total effect, meaning that the effect of the perceived influence of female role models on leadership aspirations was prominent without the involvement of leadership self-efficacy. The direct effect was also significant, showing that the perceived influence of female role models affects leadership aspirations in the presence of leadership self-efficacy. Basically, the existence or non-existence of leadership self-efficacy in the model will not alter the relationship between the predictor and the outcome.

## VI. CONCLUSION

The research has a unique contribution to literature. This study found that young women who reported a greater degree of perceived influence of female leaders as role models also reported a higher level of leadership aspiration. In contrast to previous studies (e.g., Asgari et al., 2012; Austin & Nauta, 2016; McIntyre et al., 2005) our study has shown that the number of female role models and the similarity to the role model did not matter in predicting leadership aspirations. A limitation of our study was that it was cross-sectional, and hence, we cannot determine a cause-and-effect relation between the variables. Our sample was predominantly White (46.9%), so it is not appropriate to generalize the results to other races. Lastly, our sample was limited to a university setting. The generalizability of this finding might be limited primarily to Caucasian female university students.

Future research should look at the difference between men and women in terms of how their leadership aspiration differs according to what sex role model influence they have. Scholars should also examine the explored relations among different races of women and non-students. Both correlation as well as the b path in the mediation analysis showed that leadership self-efficacy and leadership aspirations has a relation. Future studies can explore this relationship. Self-efficacy seems to be a vital aspect in developing leadership aspirations. Schools and universities can give their female students more opportunities to take part in leadership activities in order to develop female students' leadership self-efficacy.

An important aspect of this research was to provide a more nuanced understanding of how same sex role models affects younger women's leadership

development. The study focused on younger women in order to better understand factors that have contributed to the underrepresentation of women in male-dominated leadership positions, in order to work toward addressing this gender imbalance (Lockwood, 2006). The social relevance of woman in leadership position is extremely prominent especially now in order to promote gender equity. Female role models may influence younger woman's leadership pursuits and attainment of leadership goals. Our study can be used for interventions aimed at influencing greater level of achievement in academic and career pursuits among female college and university students.

## APPENDIX SECTION

### Scales/ Assessment Survey

#### Consent

Neha Shrestha, a graduate student at Texas State University, is conducting a research study to examine the influence of role models on leadership aspiration. You are being asked to complete this survey because you are a female or a male over the age of 18.

Participation is voluntary. The survey will take approximately 25-35 minutes or less to complete.

This study involves no foreseeable serious risks. However, some participants may find some questions to be sensitive. Please feel free to contact the TXST Counselling Center at 512-245-2208 for help, if needed.

We ask that you try to answer all questions; however, if there are any items that make you uncomfortable or that you would prefer to skip, please leave the answer blank. Your responses are anonymous and will not be linked to your identity in any way. You can withdraw from the study at any time. Your participation will provide valuable insight into the ways that role models may influence aspirations.

No personal information will be recorded as part of this study. The members of the research team and the Texas State University Office of Research Compliance (ORC) may access the data. The ORC monitors research studies to protect the rights and welfare of research participants.

Your name will **not** be used in any written reports or publications which result from this research. Data will be kept for three years (per federal regulations) after the study is completed and then destroyed.

You will receive credit through SONA for completing this survey. If you do not wish to get course credit, you may choose to enter into a random drawing to win one of the eight \$25 Visa gift cards. Four female and four male lucky winners will each be awarded one gift card. If you want to partake in the drawing, please be sure to click on the link at the end of the survey to be directed to a different survey to enter your information which will remain confidential.

If you have any questions or concerns feel free to contact Neha Shrestha or her faculty advisor, Dr. Etherton:

Neha Shrestha, Graduate Student	Dr. Joseph Etherton, Professor
Department of Psychology	
512-245-3153	
nehashrestha@txstate.edu	je27@txstate.edu

This project Institutional Review Board (IRB) Reference #7727 was approved by the Texas State IRB on 12/1/2021. Pertinent questions or concerns about the research, research participants' rights, and/or research-related injuries to participants should be directed to the IRB chair, Dr. Denise Gobert 512-716-2652 – (dgobert@txstate.edu) or to Monica Gonzales, IRB Regulatory Manager 512-245-2334 - (meg201@txstate.edu).

If you would prefer not to participate, please do not fill out the survey. Please click on the button to indicate that you agree to participate in this study. If you consent to participate, please complete the survey.

By clicking here, I indicate that I agree to participate in this study.

## Demographics

What is your age? Please type your response in the box below (example: 18).

What is your biological sex assigned at birth?

Male

Female

Prefer not to say

Other (Please state in the text box)

What is your race/ ethnicity? (Please select all that apply)

African American/ Black

Asian or Asian Indian

Caribbean

Hawaiian/ Pacific Islander

Hispanic/ Latinx/o/a

Middle Eastern or North African

Native American/ American Indian

White/ Caucasian/ European American

Bi-racial/ Multi-racial

Other/s (Please specify below)

## **Female Influence of Others on Academic and Career Decision Making**

How much do you agree or disagree with the following statements?

There is a woman I am trying to be like in my academic or career pursuits.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

There is no woman particularly inspirational to me in the academic or career path I am pursuing.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

In the academic or career path I am pursuing, there is a woman I admire.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

There is no woman I am trying to be like in my academic and career pursuits.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I have a female mentor in my academic or career field.

- Strongly disagree
- Somewhat disagree
- Neither agree nor disagree
- Somewhat agree
- Strongly agree

I know of a woman who has a career I would like to pursue.

Strongly disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Strongly agree

In the academic or career path I am pursuing, there is no woman who inspires me.

Strongly disagree

Somewhat disagree

Neither agree nor disagree

Somewhat agree

Strongly agree

## Number of Female Role Models and Similarity to them

"Role models are people who, either by doing something or by being admirable to you in one or more ways, have had an impact on the academic and career decisions you have made in your life. Role models may be people you know personally, or they may be people you simply know of. They may have had a positive influence on you."

Approximately how many female leadership/ achievement role model/s do you have?

Please list your top 5 FEMALE role models (names or their relationship to you if they are not widely known, or their position/s if you cannot recall their name/s). If you have less than 5 FEMALE role models, you can list as many as you have. If you have more than 5 FEMALE role models, please only list your top 5. The listing does NOT need to be in any order of ranking. Then, please answer the questions next to it.

	Name of/ Position of/ Relationship to the role model	How similar are you to this role model?			How much do you have in common with this role model?		
		Extremely dissimilar		Extremely similar	Nothing at all		A lot in common
Role Model 1	<input type="text"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>
Role Model 2	<input type="text"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>
Role Model 3	<input type="text"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>
Role Model 4	<input type="text"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>
Role Model 5	<input type="text"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/> <input type="radio"/>	<input type="radio"/>

## Career Aspiration Scale- Revised

In the bubbles below the statements, please select an option - "Not at All True of Me," "Slightly True of Me," "Moderately True of Me," "Quite a Bit True of Me," "Very True of Me."

Please be completely honest. Your answers are entirely anonymous and will be useful only if they accurately describe you.

I hope to become a leader in my career field.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I do not plan to devote energy to getting promoted to a leadership position in the organization or business in which I am working.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I want to be among the very best in my field.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

Becoming a leader in my job is not at all important to me.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

When I am established in my career, I would like to manage other employees.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I plan to reach the highest level of education in my field.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I want to have responsibility for the future direction of my organization or business.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I want my work to have a lasting impact on my field.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I aspire to have my contributions at work recognized by my employer.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I will pursue additional training in my occupational area of interest.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I will always be knowledgeable about recent advances in my field.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

Attaining leadership status in my career is not that important to me.  
Not at all true of me  
Slightly true of me  
Moderately true of me  
Quite a bit true of me  
Very true of me

Being outstanding at what I do at work is very important to me.  
Not at all true of me  
Slightly true of me  
Moderately true of me  
Quite a bit true of me  
Very true of me

I know I will work to remain current regarding knowledge in my field.  
Not at all true of me  
Slightly true of me  
Moderately true of me  
Quite a bit true of me  
Very true of me

I hope to move up to a leadership position in my organization or business.  
Not at all true of me  
Slightly true of me  
Moderately true of me  
Quite a bit true of me  
Very true of me

I will attend conferences annually to advance my knowledge.  
Not at all true of me  
Slightly true of me  
Moderately true of me  
Quite a bit true of me  
Very true of me

I know that I will be recognized for my accomplishments in my field.  
Not at all true of me  
Slightly true of me  
Moderately true of me  
Quite a bit true of me  
Very true of me

Even if not required, I would take continuing education courses to become more knowledgeable.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I would pursue an advanced education program to gain specialized knowledge in my field.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

Achieving in my career is not at all important to me.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I plan to obtain many promotions in my organization or business.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

Being one of the best in my field is not important to me.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

Every year, I will prioritize involvement in continuing education to advance my career.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

I plan to rise to the top leadership position of my organization or business.

Not at all true of me

Slightly true of me

Moderately true of me

Quite a bit true of me

Very true of me

## Leadership Self-Efficacy Scale

How confident are you that you can be successful at the following?

Leading Others

Not confident at all      Somewhat confident      Confident      Very confident

Organizing a group's tasks to accomplish a goal

Not confident at all      Somewhat confident      Confident      Very confident

Taking initiative to improve something

Not confident at all      Somewhat confident      Confident      Very confident

Working with a team on a group project

Not confident at all      Somewhat confident      Confident      Very confident

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