Academic self-concept as a mediator of the relationship between gender and self-reported leadership ability

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ABSTRACT

One of the most frequently reported student learning outcomes on college campuses is leadership ability. Thus, identifying the factors associated with leadership development is an important area for research. Previous studies have found mixed results in the relationship between gender and leadership perceptions. The current study proposes that academic self-concept intervenes in the relationship between gender and leadership, and helps to explain these earlier mixed findings. In a study of 597 undergraduate students from a private west coast university, we found that academic self-concept fully mediated the relationship between gender and self-reported leadership ability. Implications for research and practice are discussed.

Keywords: leadership, gender, academic self-concept

INTRODUCTION

For several decades, student leadership development has been an important topic on college and university campuses (Eich, 2008; Roberts, 2003). Almost all university and college mission statements focus on developing student leadership abilities (Lebrón, Stanley, Kim, & Thomas, 2017). Indeed, the most frequently noted student learning outcome has been management and leadership capacities (Sharp, Komives, & Fincher, 2011).

Additionally, issues about gender have been examined for many years in the student leadership literature (Logue, Hutchens, & Hector, 2005). Women make up more than half of the college and university student population in the United States (Martínez Alemán & Renn, 2002). However, the number of female students in leadership positions has not kept pace (Bonebright, Cottledge, & Lonnquist, 2012). As such, the importance of leadership experiences for fostering a sense of competence and self-confidence in women is vitally important (Adams & Keim, 2000; Astin & Kent, 1983; Astin & Leland, 1991; Romano, 1996; Whit, 1994).

A growing body of research has examined whether there are gender differences in perceived leadership ability (Paustian-Underdahl, Walker, & Woehr, 2014). The findings of these studies have been mixed. We propose that a key reason why the existing research on the relationship between gender and perceptions of leadership ability have been mixed is that another variable is intervening in this relationship. The purpose of the study is to present and empirically test a model that identifies academic self-concept as a mediator of the relationship between gender and self-perceptions of leadership ability.

Gender and perceived leadership ability

Leadership is a complex cognitive and behavioral task that takes place in a dynamic social context. Successful leadership involves using social influence processes to organize, direct and motivate the actions of others (McCormick, 2001). Leadership has been defined as the process of interactive influence that occurs when, in a given context, some people accept someone as their leader to achieve common goals (Silva, 2016).

For decades, gender differences in leadership styles have been one of the most intensely studied topics in the field of leadership (e.g., Eagly & Steffen, 1984; Moran, 1992). The majority of what is known about gender and leadership concerns corporate or organizational settings of adult employees (Kagay & Simonsen, 2015). For example, in a workplace setting, Nadim and Singh (2005) examined subordinates' perceptions of their bosses' leadership styles and did not find gender differences.

However, the literature on people's perceptions of their own leadership, perceived leadership ability, has identified gender differences (Burke & Collins, 2001; Eagly & Karau, 1991). For example, when individuals were asked to rate their own leadership ability, McCormick, Tanguma, and Sohn (2003) found that women were more likely to report lower perceptions of confidence in their leadership capabilities. However, previous research by Van Velsor, Taylor, and Leslie (1993) found that women did not evaluate their own leadership ability as lower than men did. In addition, an earlier meta-analysis of gender-leadership research suggested that women perceived that they were more competent as leaders than men perceived themselves as leaders (Eagly & Johnson, 1990).

Research has also shown that male college students are more confident about their leadership abilities than female undergraduates (Adams & Keim, 2000; Kezar & Moriarty,

2000). A more recent meta-analysis of gender-leadership research reported that men perceived themselves as more effective leaders than women rated themselves (Paustian-Underdahl, Walker, & Woehr, 2014).

A variety of reasons might explain why we would expect men to report higher perceptions of their leadership ability than women report of their own leadership ability. For example, it has been suggested that women are more likely to attribute their achievements to external causes; thus, they underevaluate their leadership ability accordingly (Parsons, Meece, Adler, & Kaczala, 1982). Another explanation for why men report higher leadership ability perceptions is that they have been found to have higher levels of self-esteem than women (Kling, Hyde, Showers, & Buswell, 1999). Although the research on gender and perceived leadership ability has been mixed, given the findings related to external attributions and self-esteem, we propose the following:

Hypothesis 1: Male students will report higher perceptions of leadership ability than female students.

Gender and academic self-concept

Another important higher education variable we expect to be related to gender is academic self-concept, defined as students' beliefs about the degree to which they view themselves as more or less talented than other students in terms of a certain academic activity (e.g., Arseven, 1979). Academic self-concept is an evaluative self-perception that is formed through the student's experience and interpretation of the school environment (Marsh & Craven, 1997; Shavelson, Hubner, & Stanton, 1976). Academic self-concept has broadly been seen as how a student views his or her academic ability when compared with other students (Cokley, 2000). This variable is considered one of the most valued college student outcomes, due to its perceived influence on academic success (Kim & Sax, 2014). Thus, identifying the factors associated with it is an important area of higher education research.

Research is beginning to accumulate on the various demographic factors associated with academic self-concept (Cokley, 2000; Prince & Nurius, 2014). For instance, previous studies have examined the relationship between gender and academic self-concept. Numerous studies have found that male students reported higher levels of academic self-concept than female students (Baran & Maskan, 2011; Cooper, Krieg, & Brownell, 2018; Karasakaloğlu & Saracaloğlu, 2009; Kling et al., 1999; Litzler, Samuelson, & Lorah, 2014). However, it should be noted that Pehlivan (2010) found that female students reported higher levels of academic self-concept than male students. Moreover, Çakır, Şahin and Şahin's (2000) study did not detect gender differences in academic self-concept. Given that the majority of studies on academic self-concept and gender have reported that women are more likely to underevaluate their academic self-concept, we expect the following:

Hypothesis 2: Male students will report higher perceptions of academic self-concept than female students.

Academic self-concept and self-reported leadership

In order to demonstrate that academic self-concept acts as a mediator in the relationship between gender and self-reported leadership ability, we must first offer evidence of an association between academic self-concept and self-reported leadership ability. To help explain

this relationship, we draw from the literature describing a positive link between self-esteem and leadership. This relationship may be clarified by considering the role of motivation. Individuals with a high level of self-esteem are motivated to preserve and boost their self-esteem (Li, Arvey, & Song, 2011). Because their evaluation of themselves is based, in part, on their sense of achievement, they tend to be more likely to rate their leadership highly, due to their motivation to try leadership roles that they see as achievement opportunities (Chan & Drasgow, 2001). Thus, given that academic self-concept may be viewed as a sub-component of one's self-esteem, we expect that it will be positively related to students' perceptions of their leadership as well.

> Hypothesis 3: Academic self-concept will be positively associated with self-reported leadership ability.

The mediating role of academic self-concept

As noted earlier, we propose that a key reason why the existing research on the relationship between gender and perceptions of leadership ability have been mixed is that academic self-concept is intervening in this relationship. Academic self-concept has been shown to have both direct and indirect effects on a range of educational outcomes (Liu, Cheng, Chen, & Wu, 2009; Marsh & O'Mara, 2008; Valentine, DuBois, & Cooper, 2004; Wouters, Germeijs, Hilde, & Verschueren, 2011).

There is little research that has explored the underlying thought processes of students that would explain why men exhibit higher leadership perceptions than women. It may be that, consistent with the research on self-esteem (Kling et al., 1999), men have a greater perception of their academic self-concept that leads them to believe their leadership ability is high. During college, students may be trained to believe that their future ability to be effective leaders depends on how they view themselves academically (Dugan, 2011), and if males' self-concepts are higher, it follows that their self-reported leadership ability would also be higher. Additionally, it has been shown that the influence of personal traits on behavioral outcomes might be mediated by academic self-concept (Varadwaj, 2017). As such, it may be that academic self-concept might mediate the influence of student gender on beliefs about their own leadership abilities. In keeping with these findings, the following was hypothesized.

> Hypothesis 4: Academic self-concept will fully mediate the relationship between gender differences and self-reported leadership ability.

METHOD

Subjects were 597 senior college students (56.5% women and 44.7% white) from a private west coast university in the United States who completed surveys during the last week of the fall semester in 2013. Seven items (α = .80) were created to measure academic self-concept. A sample item includes the following: "Rate yourself on each of the following traits as compared with the average person your age: Academic ability." Seven items (α = .85) were created to assess leadership ability. A sample item includes the following: "Think about your current abilities and tell us how strong or weak you believe you are in each of the following areas: Leadership abilities."

RESULTS

Hypothesis one, which predicted that male students would report higher perceptions of leadership ability than female students, was supported. Regression analyses showed that gender significantly predicted self-reported leadership ability (β = 3.048, p < .001; please see Figure 1). Significant differences were found in self-reported leadership ability between men and women, $F(1, 579)$ = 5.56, p < .05. Men were found to have higher leadership ability perceptions ($\underline{M}$ = 2.94) than were women ($\underline{M}$ = 2.83).

Hypothesis two, which predicted that male students would report higher perceptions of academic self-concept than female students, was supported. The results of the regression analyses indicated that gender significantly predicted self-reported academic self-concept (β = 2.079, p < .001). Significant differences were found in academic self-concept between men and women, $F(1, 579)$ = 4.811, p < .05. Men were found to have higher academic self-concept perceptions ($\underline{M}$ = 3.76) than were women (M = 3.62).

Hypothesis three, which predicted that self-reported academic self-concept perceptions would be positively associated with self-reported leadership ability, was supported. The results of the regression analyses indicated that academic self-concept significantly predicted leadership ability (β = 1.344, p < .001).

Hypothesis four, which predicted that academic self-concept would completely mediate the influence of student gender on leadership ability, was supported. Following the approach recommended by Baron and Kenny (1986), regression analyses showed that academic self-concept completely mediated the relationship between gender and perceived leadership ability (β = -0.074, ns; please see Figure 1).

DISCUSSION

Leadership skills are among the most valued in the workplace. As a result, identifying the factors associated with college students' perceived leadership abilities is an important area of research. The topic of gender in student leadership development has received attention in recent years, due, in part to the lower proportion of female students in leadership positions (Bonebright, Cottledge, & Lonnquist, 2012). The results of the current study contribute to this literature by reporting that academic self-concept fully mediated the relationship between gender and perceived leadership ability. This finding points to the intervening variable of academic self-concept as a viable explanation for previous research's mixed findings in the study of the gender and leadership ability relationship.

Even though women comprise 50.8 percent of the U.S. population (Bureau of the Census, 2017), there is still a significant gap in the number of women in leadership positions compared to men. Women account for 57% of the total U.S. labor force (U.S. Department of Labor, 2018). Although women hold almost 52 percent of all professional-level jobs (Bureau of Labor Statistics, 2017) and are 44 percent of the overall S&P 500 labor force, only 36 percent of women are first or middle-level officials and managers in those companies. Additionally, only 25 percent are executive- and senior-level officials and managers, only 20 percent hold board seats, and only 5 percent of women are CEOs (Bureau of Labor Statistics, 2017; Catalyst, 2017). Only 27% of college presidents in the US are women (Johnson, 2016). Helping women improve their academic self-concept may help decrease this leadership gap.

The current study has implications for the gender in leadership literature. Even though women now occupy more leadership positions in the workplace than ever before, this study's findings suggest that gender differences in perceptions still exist. A study by Sturm et al. (2014) found that, after controlling for ability, women are significantly more likely than men to underestimate their boss's ratings of their own performance. The present study builds on this research by showing that these perceptual differences in leadership ability appear even before women enter the workplace, during the college years. Further, the finding that academic self-concept mediates the relationship between gender and perceived leadership ability suggests that the reason for women's lower leadership ratings of themselves is that they believe that their academic skill set is lower than that of men. This finding is interesting because women in the current study self-reported a higher grade point average ($\underline{M}$ = 3.25) than did the men ($\underline{M}$ = 3.13) in the sample, F(1, 569) = 7.637, p < .001.

A key practical implication of the findings of the present study is that efforts to enhance students' academic self-concept may result in higher perceptions of leadership abilities. This would benefit all students, but especially female students who may underrate their academic abilities when asked to compare themselves to others. Given that women may experience negative outcomes in the workplace as a result of lower leadership ability perceptions, the current study's results point to enhancing academic self-ability as an area where colleges can help. University leadership development programs could incorporate feedback to students on both their academic and leadership skill sets. For instance, college programs could administer academic and leadership self-assessments, and offer students opportunities to work with coaches to work on those areas that students perceive as weaknesses. In addition, these efforts could include informing students of their own biases, and offering data showing that men and women do not exhibit significant differences in academic abilities. These efforts to boost students' academic self-concept should enhance not only their perceptions of their leadership abilities but also their psychological well-being and future workplace performance (Marsh & Seaton, 2013).

The current study is not without limitations. Specifically, the data included self-report survey responses from the same source at a single point in time. However, it should be noted that the findings fit well with those of previous research that used a different data reporting source. Both the present study using self-referent measures, and Sturm et al.'s study, where female employees were asked about women in general, detected similar patterns of women underestimating their abilities. Thus, more confidence may be placed in the current findings when considered together with those of previous research using a different referent in the design. Future research should incorporate multiple data sources in a longitudinal design, such as at the beginning and the ending of a student's degree program (Pan & Gauvain, 2012; Wei, Russell, & Zakalik, 2005). Additionally, further research should incorporate multiple sources of leadership ability, such as from other students and from faculty members.

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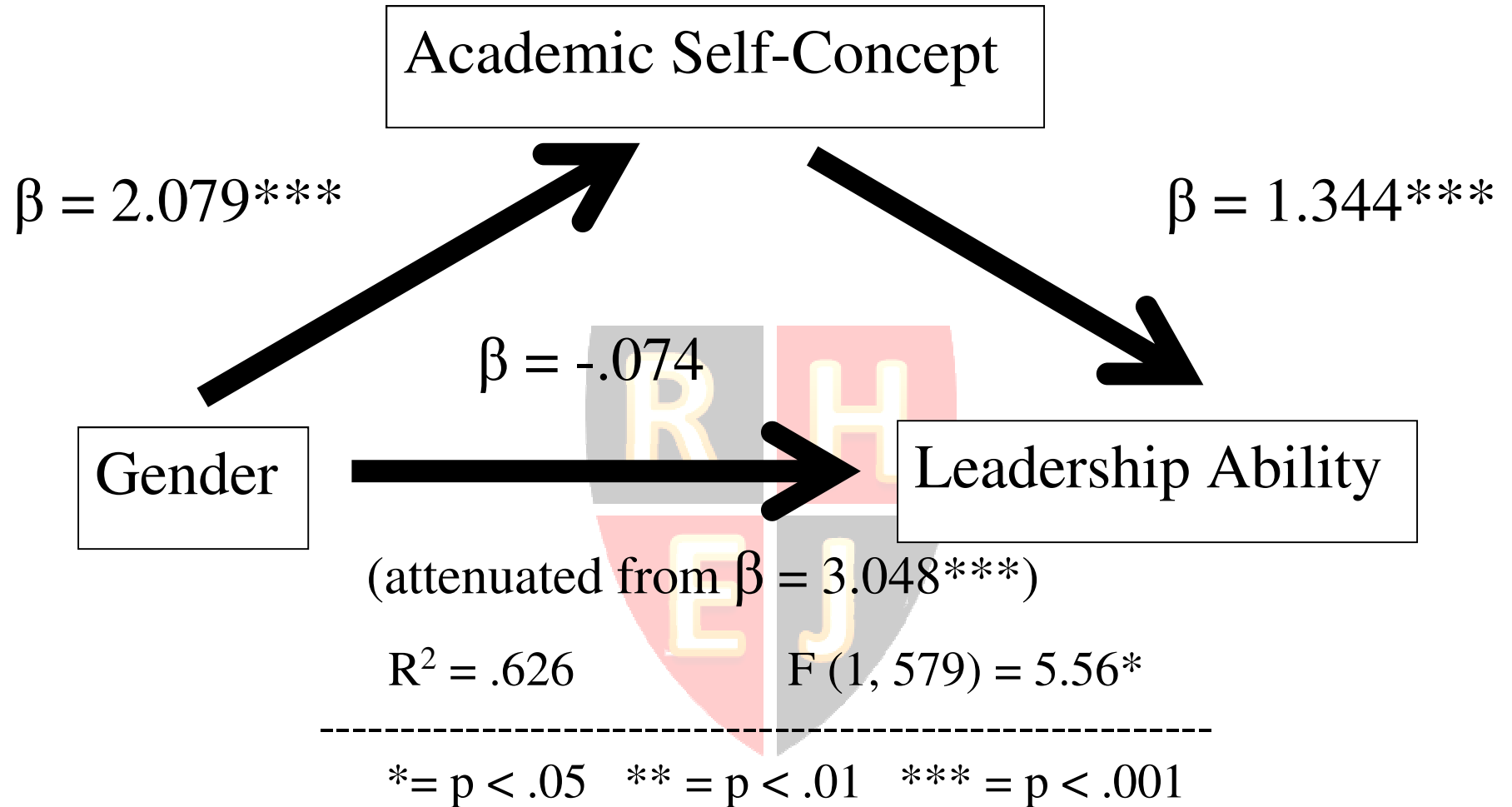
$\beta = 2.079{*}{*}{*}$

Academic Self-Concept

$\beta = 1.344{*}{*}{*}$

$\beta = -.074$

Gender

Leadership Ability

(attenuated from $\beta = 3.048{*}{*}{*}$)

$R^2 = .626$ $F(1, 579) = 5.56{*}$

${*} = p < .05$ ${*}{*} = p < .01$ ${*}{*}{*} = p < .001$

Figure 1. Mediational Analyses for
Academic Self-Concept and Leadership Ability