

Exploring the effect of media images on women's leadership self-perceptions and aspirations

Group Processes & Intergroup Relations

16(2) 232–245

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DOI: 10.1177/1368430212451176

gpir.sagepub.com



Stefanie Simon¹ and Crystal L. Hoyt²

Abstract

Across two experimental studies, the present research explores how media images depicting counterstereotypical roles for women, compared to those that depict stereotypical roles for women, affect women's gender role beliefs (Study 1) and responses to a leadership situation (Study 2). Study 1 predicted and found that women exposed to images depicting counterstereotypical roles subsequently reported stronger nontraditional gender role beliefs than women exposed to images depicting stereotypical roles. Study 2 then directly assessed the effect of media images of women on female participants' self-reported responses following a leadership task. Women exposed to media images of women in counterstereotypical roles reported less negative self-perceptions and greater leadership aspirations than women exposed to images of women in stereotypical roles. Moreover, negative self-perceptions mediated the relationship between media images and leadership aspirations. Implications for increasing women's representation in the leadership domain are discussed.

Keywords

leadership, women, media images, gender roles, gender stereotypes

Paper received 24 October 2011; revised version accepted 14 May 2012.

Despite the fact that women now make up nearly half of the U.S. workforce and earn more than half of higher-level degrees (U.S. Bureau of Labor Statistics, 2009; U.S. National Center for Education Statistics, 2009), a gender gap still prevails in top-level leadership positions. Women occupy less than 3% of Fortune 500 CEO seats, only 15.7% of the Fortune 500 board seats (Catalyst, 2011), and women currently hold only 90 of the 535 seats (16.8%) in the U.S. Congress (Center for American Women and Politics, 2012). Numerically, women make up half of our population but are grossly underrepresented in

powerful leadership positions—positions that make important decisions for the entire population.

While research aimed towards increasing women's representation in science, technology, engineering, and mathematics (STEM) fields has

¹Tulane University, USA

²University of Richmond, USA

Corresponding author:

Stefanie Simon, Department of Psychology, Tulane University, 2007 Percival Stern Hall, New Orleans, LA 70118, USA

Email: ssimon3@tulane.edu

gained a great deal of attention (STEMconnector, 2012), much research is still needed to understand the underrepresentation of women in other domains, such as leadership. Increasing women's representation in top-level leadership positions is important for giving women a voice across all domains, from politics, to industry, to academia. Moreover, empirical research suggests that gender differences in leadership style and effectiveness may offer women a slight advantage to men (Eagly, Johannesen-Schmidt, & van Engen, 2003; Hoyt, 2010a; 2010b). Thus, increasing women's representation in leadership positions is also important for improving the leadership of our society.

Gender leader stereotype

While many factors may help to explain women's difficulty in attaining powerful leadership positions (e.g., household and family responsibilities), the present research examines how gender stereotypes prevalent in the media may negatively impact women's responses in leadership situations. Negative stereotypes about women in leadership positions represent one factor that contributes to the large disparity that remains between men and women in top-level leadership positions (Eagly & Carli, 2007). These negative stereotypes result in prejudice against women such that they are perceived as less competent leaders and less deserving of leadership roles (Heilman, 2001; Phelan & Rudman, 2010; Ridgeway, 2001; Schein 2001).

Negative stereotypes about women in leadership positions are closely tied to the gender role stereotypes about men and women. Whereas, women generally are thought to be communal, possessing attributes such as affectionate, helpful, kind, and sensitive, men are thought to be more agentic, possessing attributes such as ambitious, aggressive, and dominant (Eagly, 1987). According to Eagly and Karau's (2002) role congruity theory, prejudice against female leaders results from the incongruity between the *take charge*, or agentic, stereotype linked with leadership and the *take care*, or communal, stereotype associated with women. That is, the stereotypical

image of a leader is someone who has agentic, masculine traits. Thus, prejudice against female leaders stems from the perceived lack of fit between the agentic traits that are stereotypical of leaders and the communal traits that are stereotypical of women. In their recent meta-analysis, Koenig, Eagly, Mitchell, and Ristikari (2011) found a strong and robust tendency for leadership to be viewed as culturally masculine across three different research paradigms that address the masculinity of leader stereotypes.

Responses to stereotypes

This gender leader stereotype can have harmful effects on women's self-perceptions, well-being, and behavior in leadership situations (Hoyt & Blascovich, 2007; Hoyt, Johnson, Murphy, & Skinnell, 2010; Hoyt & Simon, 2011). For example, after explicitly priming women with the gender leader stereotype, Hoyt and Blascovich (2010) found women with low levels of leadership self-efficacy assimilated to the negative stereotype by performing poorly and showing deflated self-report responses. Hoyt and Simon (2011) found that exposure to role models that activated gender stereotypes resulted in lower perceived performance and leadership aspirations, and greater perceived task difficulty and feelings of inferiority for women performing a leadership task, compared to women who were primed with stereotype-disconfirming leaders.

The research discussed above suggests that exposure to negative stereotypes about women and leadership results in an effect similar to stereotype threat that often occurs when individuals perceive themselves to be at risk of confirming a negative stereotype about their group (Spencer, Steele, & Quinn, 1999; Steele & Aronson, 1995). However, while stereotype threat research has traditionally focused on and demonstrated deficits in performance in a specific domain (e.g., women's poorer math performance), stereotypes also impact the psychological well-being and self-esteem of those targeted by the stereotype (Swim, Hyers, Cohen, & Ferguson, 2001). In fact, recent research has demonstrated that the performance

deficits that stereotype threat induces are due, in part, to these negative self-appraisals during the task (Schmader, Forbes, Zhang, & Mendes, 2009; see Schmader & Croft, 2011; and Schmader, Johns, & Forbes, 2008, for reviews of stereotype threat mechanisms). For example, Cadinu, Maass, Rosabianca, and Kiesner (2005) found that for women completing a math task, stereotype threat resulted in negative task-related thoughts, which resulted in a decrease in performance (see also, Beilock, Rydell, & McConnell, 2007).

These negative self-perceptions also result in diminished participation of targeted individuals in the domain in which they are negatively stereotyped, including lower identification (Hoyt & Blascovich, 2007), lower intention for future participation (Davies, Spencer, & Steele, 2005), and eventual disengagement from the given domain altogether (Steele, 1997). Exploring this idea that stereotype threat can lower women's intentions or motivation to become leaders because of negative self-perceptions, Hoyt and Simon (2011, Study 2) found that women who were exposed to highly successful female leaders who served to activate negative stereotypes subsequently reported reduced leadership aspirations, an effect that was driven by negative self-perceptions. Thus, exposure to negative stereotypes has important implications for both performance outcomes and self-perceptions. Moreover, these deflated self-perceptions seem to be directly related to performance outcomes and future aspirations in the given domain.

Gender and media images

Habitual exposure to images of women and men engaging in traditional gender role activities in the media serves to perpetuate and strengthen gender stereotypes. Media images portray men and women almost exclusively in traditional gender roles (Coltrane & Adams, 1997; Davis, 2003; Ganahl, Prinsen, & Netzley, 2003; Goffman, 1976; Reichert, 2008; Reichert & Carpenter, 2004; Rounder, Slater, & Domenech-Rodríguez, 2003), which differentially ascribe men to breadwinner

and high-status roles and women to homemaker and low-status roles.

These media images deliver both gender role and leadership role beliefs and expectations, and not surprisingly, these expectations and beliefs can have profound effects on how women perceive themselves. Geis, Brown, Walstedt, and Porter (1984) found that women who viewed traditional commercials mentioned more home-making than achievement themes compared to men in the same condition. On the other hand, women who viewed commercials with female and male actors in reverse roles had more achievement aspirations than women in the traditional condition. Consistent with research exploring the malleability of gender role beliefs and behavior (Clément-Guillotin & Fontayne, 2011; Deaux & Major, 1987; Miller, Lewy, & Peckham, 1997; Smith, Noll, & Bryant, 1999; Uchronski, 2008), this research demonstrates that seemingly rigid gender role beliefs can be altered by exposure to different media images.

In a more recent replication of the research by Geis et al. (1984) previously described, Yoder, Christopher, and Holmes (2008) found no difference in women's achievement aspirations across the traditional and nontraditional commercials; however, the traditional commercials still served to activate gender stereotypes. The fact that women no longer differ in their aspirations to have a career, an education, money, and possessions accurately reflects the now equal gender breakdown in the workforce (U.S. Bureau of Labor Statistics, 2009). What remains unclear is how these gender-stereotypic portrayals of women in the media continue to dampen women's *level* of achievement aspirations (i.e., leadership aspirations). Do media portrayals of women contribute to the gender disparity in top-level leadership positions by dampening women's achievement aspirations?

Davies et al. (2005) addressed this question by examining whether women experienced stereotype threat in the leadership domain after viewing gender-stereotypic commercials or neutral commercials which did not depict people

or feature any gender-stereotypic products or companies. They found that women exposed to gender-stereotypic commercials strongly preferred a follower role compared to a leadership role in an upcoming leadership task, while women exposed to neutral commercials expressed no clear preference for either role. These findings suggest that the vulnerability women feel about confirming negative stereotypes in a masculine domain (i.e., leadership) can deter women from leadership roles in favor of stereotypically appropriate roles. Although these gender stereotypes conveyed by the media may no longer prevent women from pursuing a career in general, they do seem to dampen women's motivation to attain more traditionally masculine roles, such as leadership positions.

Counterstereotypical women as role models

To date, no research that we are aware of has directly examined the effect of media images depicting women in counterstereotypical, non-traditional gender roles on women's responses in leadership situations. However, the fact that exposure to neutral advertisements (i.e., advertisements displaying only products and not people) did *not* result in stereotype threat effects in Davies et al.'s (2005) research suggests that advertisements depicting counterstereotypical roles may also have a buffering effect for women in leadership situations. Given that many advertisements are not neutral, and instead they often depict gendered products or women and men engaging in activities, exploring the effects of counterstereotypical images is a worthy endeavor. If exposure to advertisements with women undertaking counterstereotypical roles does have a positive effect on women's leadership aspirations, increasing the number of advertisements that picture women in a variety of roles can provide a practical approach to remedying an intractable problem.

Yet the possibility remains that women will not respond positively to advertisements portraying women in counterstereotypical roles. Research by

Rudman and Phelan (2010) found that exposure to counterstereotypical roles (e.g., a female surgeon or a female business executive) decreased women's leadership self-concept and lowered their interest in traditionally masculine occupations. Similarly, research has also shown that exposure to highly successful female leaders can have a self-deflating effect on women's leadership self-perceptions compared to exposure to less elite, up-and-coming female leaders (Hoyt & Simon, 2011).

The research by Rudman and Phelan (2010) and Hoyt and Simon (2011) described before both suggest that the negative effect of exposure to women in counterstereotypical roles is due to self-deflating upward social comparisons. Because women in advertisements are generally not highly successful superstars, but rather depict "average" people, we predict for the current research that media images of counterstereotypical roles will be a viable way to improve women's self-perceptions and performance in the leadership domain. For example, Hoyt and Simon (2011, Study 2) found that exposure to female leaders whose success seemed attainable had a positive effect on women's leadership aspirations, in part because these women activated greater gender-counterstereotypic thoughts. In this study, women did not seem to experience upward social comparison threat because their level of success was perceived as attainable (see also Asgari, Dasgupta, & Stout, 2011).

Research by Dasgupta and Asgari (2004) provides further evidence that exposure to counterstereotypic women can have positive effects on women. They found that women who attended an all-women's college expressed less automatic gender stereotypes than those who attended a coeducational college (Dasgupta & Asgari, 2004). Moreover, this effect was mediated by the frequency of exposure to female leaders. These findings suggest that exposure to gender-counterstereotypic women in everyday life (so long as they do not induce upward social comparison threat) can decrease the perceived incongruity between leadership roles and the female gender role by altering women's gender stereotypes and gender role beliefs. Consequently, exposure to

images of women in counterstereotypical gender roles may buffer women from stereotype threat effects in the leadership domain.

While the negative impact of gender-stereotypic media images has been well documented, there is a lack of experimental research investigating the impact of counterstereotypical media images, with the exception of the research by Yoder et al. (2008) previously described, which did not assess women's leadership aspirations or self-perceptions. No research to date has examined if or how counterstereotypical portrayals of women in the media might influence women's achievement aspirations in the leadership domain. By merging the literature on stereotyping, media images, and counterstereotypic role models, the present research takes a first look at whether media images portraying women in counterstereotypical roles can have beneficial effects for women's responses in a leadership situation.

Present research

In the current research, we explored the effect of counterstereotypical portrayals of women in the media (i.e., magazine advertisements) on women's gender role attitudes, self-perceptions, and leadership aspirations. First, we pilot tested the advertisements we selected to represent stereotypical and counterstereotypical female gender roles before use in Study 1 and Study 2 to ensure that the two sets of media images were being perceived as differentially stereotypic of the female gender role and the leadership role. Next, in Study 1, we explored the effect of advertisements of women in counterstereotypical roles, compared to advertisements of women in stereotypical roles, on female participants' gender role beliefs. Finally, in Study 2, we examined the effect of media images (counterstereotypical vs. stereotypical roles) on female participants' self-perceptions and leadership aspirations after a leadership task.

We hypothesized that, compared to advertisements with stereotypical roles, advertisements with counterstereotypical roles would be (a) seen as less stereotypic of the female gender role and more congruent with leadership (pilot study),

(b) would strengthen women's nontraditional attitudes toward women's roles in society (Study 1), and (c) would result in more positive self-reported responses from women after a leadership task (Study 2). Furthermore, based on the harmful effects of negative, intrusive thoughts shown in stereotype threat research (Cadinu et al., 2005; Hoyt & Simon, 2011; Schmader et al., 2009), we predicted that greater leadership aspirations would be driven by less negative self-perceptions following a leadership task.

Pilot study

We pretested a set of advertisements displaying women in counterstereotypical and stereotypical roles to use in Study 1 and Study 2 with a separate sample of 40 women recruited from Zoomerang (an online survey site) who viewed one of two sets of advertisements. The purpose of the pilot study was to ensure that advertisements depicting women in nontraditional, counterstereotypical gender roles were perceived as less stereotypic of the female gender role and more congruent with the leadership role than a set of advertisements depicting women in stereotypical (or traditional) gender roles.

The advertisements were selected from popular women's magazines in the U.S. In the counterstereotypical condition, magazine advertisements pictured women in nontraditional female gender roles, such as professional athletes, entrepreneurs, and doctors. Importantly, we selected advertisements where women were portraying agentic traits associated with the leadership role or the male gender role—not explicitly displaying women in leadership roles. The stereotypical condition consisted of magazine advertisements picturing women in stereotypical female gender roles, such as homemakers, mothers, and sex symbols. For this set of advertisements, women were portraying communal traits associated with the female gender role. The same nine gender-neutral advertisements were used in both sets to avoid demand characteristics; these advertisements displayed only the product (e.g., a toothbrush) and did not display men or women (see Appendix for sample advertisements).

Table 1. Means, standard deviations, and correlations for pilot study

Variable	M_{count}	SD_{count}	M_{st}	SD_{st}	1	2	3	4
1. Leader attributes	4.57	.61	3.60	1.16	–	-.53***	.67***	.34*
2. Gender stereotypical	2.40	.88	3.80	.88		–	-.45**	-.24
3. Agentic traits	4.95	.52	4.48	.81			–	.48**
4. Communal traits	4.62	.56	4.45	.90				–

Note: Means and standard deviations for both the counterstereotypical (count) and stereotypical (st) conditions are reported.
* $p < .05$, ** $p < .01$, *** $p < .001$.

The results from a one-way MANOVA revealed a multivariate main effect for images (Wilks' $\lambda = .57$, $F(4, 35) = 6.66$, $p < .001$, $\eta^2 = .43$; see Table 1 for descriptive statistics for dependent variables. Univariate ANOVA tests revealed that, compared to the stereotypical images, the counterstereotypical images were rated as lower on gender stereotypicality ($F[1, 38] = 25.25$, $p < .001$, $\eta^2 = .40$), higher on leader attributions ($F[1, 38] = 10.89$, $p = .002$, $\eta^2 = .22$), higher on agentic traits ($F[1, 38] = 4.76$, $p = .035$, $\eta^2 = .11$), and there was no impact on communal trait ratings, $F(1, 38) = .50$, *ns*.¹

Study 1

While past research has demonstrated that exposure to advertisements with stereotypical roles impacts women's gender role beliefs by limiting their leadership and career aspirations to goals that are congruent with the female gender role (Davies et al., 2005; Geis et al., 1984), the present study explores whether media images with gender-counterstereotypical roles could also impact gender role beliefs, but in the opposite direction. Thus, we predicted that, compared to exposure to advertisements in the stereotypical condition, women exposed to advertisements in the counterstereotypical condition would subsequently report more nontraditional gender role beliefs.

Method

Participants and design. Twenty female undergraduate students at a liberal arts college participated in this brief study. As in the pilot study, Study 1 also employed a two-group

between-subjects design (media images: counterstereotypical, stereotypical).

Procedure and measures. Participants were run individually and were randomly assigned to view one of the two sets of advertisements. The experimenter instructed participants to pay close attention to each advertisement, as they would be asked to recall information later.

Media images manipulation. Participants in the counterstereotypical condition viewed a set of 10 advertisements with gender-counterstereotypical roles, and participants in the stereotypical condition viewed a set of magazine advertisements consisting of 10 advertisements with gender-stereotypical roles. The same advertisements were used as in the pilot study.

Attitudes toward women. After viewing the advertisements, participants responded to a shortened, 10-item version of Spence, Helmreich and Stapp's (1973) Attitudes Towards Women Scale (ATW; $\alpha = .67$) which measures attitudes regarding appropriate responsibilities, rights, and roles for women versus men in society (Eagly & Mladinic, 1989; Spence & Hahn, 1997). All 10 items indicate egalitarian attitudes toward women such as "Women should take increasing responsibility for leadership in solving the intellectual and social problems of the day" and "Under modern economic conditions with women being active outside the home, men should share in household tasks such as washing dishes and doing the laundry." Participants indicated their agreement to items on a 7-point Likert-type scale ranging from -3 (strongly disagree) to 3 (strongly agree).

Higher scores on the ATW represent greater endorsement of profeminist, egalitarian attitudes toward women's roles.

Results and discussion

To test the prediction that women in the counterstereotypical condition would report more counterstereotypical gender role beliefs, participants' attitudes toward women's roles were analyzed with a one-way analysis of variance with the media images manipulation as the independent variable. Results confirmed that participants in the counterstereotypical condition endorsed a more egalitarian attitude toward women's roles ($M = 1.79, SD = .47$) than those in the stereotypical condition ($M = 1.22, SD = .73$), $F(1, 18) = 4.51, p = .048, \eta^2 = .20$.

These results suggest that advertisements that disconfirm gender stereotypes can alter these seemingly rigid gender role beliefs—resulting in more counterstereotypical beliefs about the female gender role. These findings add to the body of research demonstrating that situational cues can alter seemingly rigid gender role beliefs (e.g., Uchronski, 2008). Moreover, if media images displaying counterstereotypical roles can put into effect less stereotypical gender role beliefs (i.e., beliefs that make the female gender role more congruent with the leadership role), they should also be able to buffer women from negative stereotypes about women in leadership situations. Therefore, the purpose of Study 2 is to explore whether media images with women in counterstereotypical roles can also influence women's responses in actual leadership situations. Because these advertisements are seemingly able to make the female gender role more congruent with the leadership role, Study 2 examines whether they can also serve to buffer women against negative stereotype threat effects in a leadership situation.

Study 2

In Study 2, we test whether media images with counterstereotypical roles have a more positive

effect than stereotypical images do on women's self-perceptions and leadership aspirations after a leadership task. Because women perceived these advertisements as less stereotypic and more congruent with the leadership role (pilot study) and had more counterstereotypical attitudes toward women (Study 1), we predicted that advertisements with women in counterstereotypical roles would buffer women from stereotype threat effects in the leadership domain. Specifically, we predicted that women in the counterstereotypical condition would report less negative self-perceptions and greater leadership aspirations than women in the stereotypical condition. Moreover, based on previous work that highlights negative thoughts and self-perceptions as the mechanism that causes impaired performance (Hoyt & Simon, 2011; Schmader et al., 2009), we tested the prediction that negative self-perceptions would be the driving force behind another important outcome of stereotype threat: aspirations to participate in the stereotype-relevant domain.

Method

Participants and design. Sixty undergraduate women at a private liberal arts college were given \$10.00 for participation. The experiment employed a two-group between-subjects design (media images: counterstereotypical, stereotypical).

Procedure. Participants were informed that they signed up to participate in two ostensibly separate studies. The experimenter informed the participants that the first study was examining the relationship between personality characteristics and people's ratings of certain magazine advertisements. For this first study, participants filled out a set of filler questionnaires purportedly assessing their personality. Next, participants viewed one of the two sets of advertisements and were asked to rank order their top six favorite advertisements in order to bolster the cover study. Participants then completed what they believed to be a second, separate study with two other participants, who were in reality two research confederates.

The “second study” served as the leadership task in which the participant was always assigned to the leadership role for a 10-minute group discussion task. After the leadership task, participants completed the dependent measures. Participants were paid, debriefed, and thanked for their participation.²

Media images manipulation. After signing the consent form, participants completed the first task, described to them as the first study, which served to expose them to the media images of women. The same two sets of magazine advertisements were used in Study 1, which again included the neutral advertisements to avoid demand characteristics.

Group leadership task. After completing the advertisement task, participants began what they believed to be a separate three-person group study. For the group task, two female research confederates acted as two other participants, and the real participant was always “randomly” selected to be the leader. The goal of the task was for participants to successfully lead the group to a unanimous consensus about whether the university should keep or eliminate its coordinate system, a system that consists of separate all-male and all-female colleges, with distinct traditions, student governments, and deaneries within the same university. Confederates were trained to speak according to a set of scripted statements and responses so that their behavior remained as consistent as possible for all experimental sessions. In order to make the task difficult for the participant, confederates were instructed to disagree with the participant’s own opinion about keeping or eliminating the coordinate system.³

Measures. Participants responded to the following measures using a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Negative self-perceptions. Because this study is exploring how women feel about themselves after completing a task in which they were interacting with other people, we created an 11-item

scale assessing social aspects of their self-esteem, affect, and concern about their performance. The scale consisted of items adapted from the social subscale of Heatherton and Polivy’s (1991) state self-esteem measure (e.g., “I feel inferior to others at this moment”), from Lubin, Zuckerman, and Woodward’s (1985) Multiple Affect Adjective Checklist (MAACL; e.g., “I feel like a failure”), and from Hoyt and Simon’s (2011) performance difficulty scale (“I felt a lot of pressure during this task”). A factor analysis shows that all items load highly onto one factor (all loadings > .60) and the scale is highly reliable ($\alpha = .89$).

Leadership aspirations. Participants indicated their agreement to the following two items assessing their future leadership aspirations: “I will actively pursue leadership positions in the future” and “I would work hard to be selected as leader” ($r(58) = .67, p < .001$).

Results

The self-report dependent variables (negative self-perceptions and leadership aspirations) were analyzed with a one-way (media images manipulation) multivariate analysis of variance. The two dependent variables were significantly correlated ($r = -.43, p < .001$).

The overall MANOVA revealed a multivariate main effect for images, Wilks’ $\lambda = .89, F(1, 58) = 3.47, p = .038, \eta^2 = .11$. The univariate ANOVA with negative self-perceptions as the outcome revealed a main effect for images such that participants in the counterstereotypical condition reported lower levels of negative self-perceptions after the leadership task ($M = 2.82, SD = .92$) than those in the stereotypical condition ($M = 3.41, SD = 1.00; F[1, 58] = 5.65, p = .021, \eta^2 = .09$). The univariate ANOVA with leadership aspirations as the outcome revealed a main effect of images such that participants in the counterstereotypical condition reported higher levels of leadership aspirations after the leadership task ($M = 5.18, SD = 1.14$) than those in the

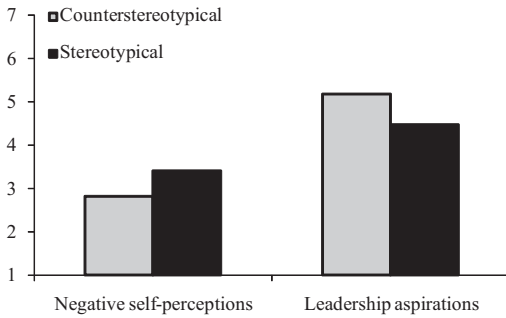


Figure 1. Mean scores on self-report measures for Study 2.

stereotypical condition ($M = 4.47$, $SD = 1.58$; $F[1, 58] = 4.04$, $p = .049$, $\eta^2 = .07$; see Figure 1).

Mediational analysis. We explored whether negative self-perceptions mediate the impact of media images on leadership aspirations by conducting mediational analysis. To test for mediation with this small sample, we used the bootstrapping approach, instead of the low-power Sobel test, as advocated by Shrout and Bolger (2002). We used Preacher and Hayes' (2008) macro to implement the bootstrapping approach in SPSS. A bootstrap-based confidence interval (95%) for the indirect effect was generated by taking 5,000 samples from the original data set (using sampling with replacement) thus yielding 5,000 estimates of each path coefficient. These estimates were used to calculate estimates of conditional indirect effects of media images (dummy coded as 0 = stereotypical, 1 = counterstereotypical) on leadership aspirations through negative self-perceptions. The bias-corrected and accelerated confidence interval for negative self-perceptions was [.054, .876]. As indicated with the cutoff value in the lower tail of the bootstrap distribution of conditional indirect effects being above zero, the indirect effect is statistically significant. The indirect effect remains significant when using the more stringent 99% confidence interval [.001, 1.10]. The direction of the paths indicate that participants in the counterstereotypical condition experienced less negative self-perceptions than those in the stereotypical condition resulting in

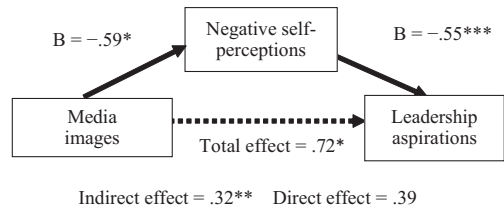


Figure 2. Negative self-perceptions as a mediator of the impact of media images on participants' leadership aspirations.

Note: Direct, indirect, and total effects are quantified with unstandardized regression weights;

* $p < .05$; ** $p < .01$; *** $p < .001$.

greater levels of leadership aspirations. In sum, negative self-perceptions mediated the relationship between media images and leadership aspirations (see Figure 2).⁴

Discussion

The results from Study 2 supported our predictions: women in the counterstereotypical condition were buffered from the negative stereotype threat effect that women in the stereotypical condition experienced. After performing a leadership task, women in the counterstereotypical condition reported lower negative self-perceptions and greater leadership aspirations than women in the stereotypical condition. Moreover, negative self-perceptions mediated the relationship between media images and leadership aspirations such that the greater leadership aspirations reported by women in the counterstereotypical condition was due in large part to their less negative self-perceptions after performing the leadership task.

General discussion

The present research sought to explore whether media images of women in counterstereotypical roles have a positive effect, compared to images of women in stereotypical roles, on women in the leadership domain. Past research has shown that images of women in stereotypical roles activate gender stereotypes (Davies, Spencer, Quinn, &

Gerhardstein, 2002; Yoder et al., 2008) and result in negative self-report effects for women in the leadership domain (Davies et al., 2002). However, research showing the positive effects of counterstereotypical role models on women's leadership aspirations and weakening of gender stereotypes (Dasgupta & Asgari, 2004) led us to hypothesize that counterstereotypical images might also be able to buffer women from negative stereotype threat effects in the leadership domain. The findings from the present research demonstrate that media images of women in counterstereotypical roles can have a positive effect on women's responses in the leadership domain.

After demonstrating that advertisements of women in counterstereotypical roles were perceived as less stereotypical of the female gender role and more congruent with the leadership role (pilot study), we then conducted two studies using the same set of advertisements to explore the effect of these images in relation to women's gender role attitudes (Study 1) and their self-perceptions and leadership aspirations following a leadership task (Study 2). The findings from Study 1 supported the prediction that women who viewed media images of women in counterstereotypical roles subsequently reported more nontraditional, egalitarian gender role beliefs about women than women who viewed media images of women in stereotypical roles.

From here, our reasoning followed that if the images could alter women's gender role beliefs, then viewing media images of women in counterstereotypical roles before performing in a nontraditional female role in which women are negatively stereotyped (i.e., leadership) would buffer against negative stereotype threat effects. The findings from Study 2 supported our prediction. Female participants who viewed images of women in counterstereotypical roles as a part of an ostensibly separate study then reported lower negative self-perceptions and greater leadership aspirations after performing a leadership task than participants who viewed images of women in stereotypical roles.

The present research has important implications for helping to increase women's presence in

top-level leadership positions. The findings from this research suggest that exposure to media images of women in counterstereotypical roles can help to break rigid gender stereotypes and gender role beliefs. Consequently, these images can help to diminish the perceived incongruity between women and leadership and buffer women against negative responses in leadership situations. This research builds on prior research related to counterstereotypical role models by demonstrating that contact with a counterstereotypical or nontraditional woman is not requisite to alter gender stereotypes and gender role beliefs; mere exposure to media images with counterstereotypical roles can have a meaningful impact of women's leadership self-perceptions. Considering the pervasiveness of media images, if more media images of women in counterstereotypical roles were utilized, women from a young age may develop more flexible gender role beliefs that incorporate stereotypical masculine traits (or agentic traits) and roles such as leadership.

Limitations and future directions

While the current research shows the impact that the media have on leadership aspirations, it will be important for future research to also examine if viewing advertisements of women in counterstereotypical roles helps to boost actual leadership performance. In Study 2, participants did not complete a leadership task; however, this particular task was not designed to assess an objective measure of performance. Thus, future research would benefit from using an established leadership task used to assess performance. Despite the lack of performance data in Study 2, the present research, nonetheless, adds to the literature by expanding the type of dependent measures assessed in stereotype threat research. As noted by Davies et al. (2005), Steele (1997; Steele & Aronson, 1995) originally described two important consequences of stereotype threat: underperformance and decreased aspirations. However, the research that examines effects other than

performance still remain in the minority (for examples of exceptions, see Davies et al., 2002; Davies et al., 2005; Murphy, Steele, & Gross, 2007).

Moreover, the present study extends stereotype threat research that does examine leadership aspirations by exploring the mediational role of negative self-perceptions, another important consequence to consider. While negative, intrusive thoughts (Cadinu et al., 2005; Schmader et al., 2009) have been explored as mediators of performance in stereotype threat research, the present research explored whether negative self-perceptions also result in deflated aspirations. Having a nuanced understanding of multiple self-report assessments will not only help to better understand stigmatized individuals' experiences in targeted domains, but will also help to develop effective interventions. Furthermore, the present research expands our understanding of self-reported consequences of stereotype threat because, unlike past research examining aspirations, participants in the present research actually performed a task in the targeted domain at hand prior to filling out dependent variables.

Another limitation of this research is the use of a two-group design (stereotypical vs. counterstereotypical). Exploring another comparison that exposed women to neutral images would help provide a more detailed examination of how images of women in both stereotypical and counterstereotypical roles affect women in leadership situations. Nonetheless, we chose to utilize a two-group design because advertisements that portray women in stereotypical ways are the norm in the U.S. Therefore, the stereotypical condition is an apt comparison condition to compare how things are to how things could be (i.e., our experimental condition in which we manipulate the advertisements to display women in a nontypical manner). While a neutral condition would certainly be better suited to demonstrate whether advertisements with stereotypical roles are detrimental and/or whether advertisements with counterstereotypical roles are beneficial, past research speaks to these points (Davies et al., 2005, the former; Dasgupta & Asgari, 2004, the latter). Moreover, the

purpose of the present research was to examine the media's portrayal of women. Therefore, a condition in which advertisements do not display people is not an appropriate comparison for this particular research. Lastly, despite this limitation, this research does help to answer an important question in its own right—by exploring whether advertisements of women in counterstereotypical roles would have the same detrimental effect that media images of women in stereotypical roles have (in which case a null effect would have emerged). Thus, the present research does provide novel support for the positive effect of media images that depict women in counterstereotypical roles for women in leadership situations.

Conclusion

The present research explored the effect of media images of women in counterstereotypical versus stereotypical roles on female participants' gender role beliefs (Study 1) and responses in a leadership situation (Study 2). Overall, the findings offer a positive perspective on the potential for media images of women in counterstereotypical roles to help increase women's leadership aspirations, and eventually closing the gender gap that currently exists between men and women in top-level leadership positions. While women may in fact hold a leadership advantage (Eagly et al., 2003), they remain underrepresented in powerful leadership positions. Thus, these findings not only offer hope for achieving equal representation in leadership positions, but they also offer insight for how to promote more successful societal institutions, businesses, and governments.

Acknowledgments

We acknowledge and thank Audrey Innella, Yelena Johnson, and Henrietta Matheson for their excellent work as research assistants on this project. We would also like to thank Laurie T. O'Brien for her helpful comments on an earlier version of this manuscript.

Notes

1. That the increase in perceived agency is not accompanied with a commensurate decrease in

perceived communality supports the arguments that agency and communality are orthogonal constructs, and it is perceptions of agency that are directly related to images depicting traditionally masculine roles. Past research has similarly demonstrated that participants' implicit theories about leadership attributes are malleable on agentic traits, but not on communal traits (Hoyt, Simon, & Innella, 2011).

2. None of the participants mentioned suspicion about the confederates.
3. Although the goal of the present research was not to assess performance differences, for exploratory purposes, two independent coders coded the audio-recordings from each session and rated participants' on several items devised to assess performance, including whether the group reached a consensus, and general leadership skills, such as oral communication, motivational ability, and confidence. While the coders had adequate reliability, we found that participants did not differ on their rated leadership performance based on condition. Please see the Discussion section for further discussion regarding performance.
4. Although not predicted from theory, we tested a reverse mediational model, with leadership aspirations as the mediator predicting negative self-perceptions, which might also explain the data. The 99% bootstrap-based confidence interval was not significant. Thus, the reverse model is neither theoretically nor empirically supported.

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