When Does Contact with Successful Ingroup Members Change Self-Stereotypes?

A Longitudinal Study Comparing the Effect of Quantity vs. Quality of Contact with Successful Individuals

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Abstract. A longitudinal study examined the relationship between contact with successful ingroup members and women's stereotypes about their own leadership abilities, career goals, and assertive behavior in class. Upon entry into college and toward the end of their sophomore year we measured (1) participants' quantity and quality of contact with successful ingroup members (female professors), (2) implicit and explicit leadership self-concept, (3) career goals, and (4) classroom behavior. Frequent contact with ingroup members predicted stronger implicit self-conceptions of leadership and more career ambitions, but only when contact experiences were of high quality rather than superficial. Quality and quantity of contact independently predicted assertive behavior. The findings suggest that changing implicit self-beliefs requires both high quality and frequent exposure to counterstereotypic individuals.

Keywords: self-concept, implicit gender stereotypes, leadership

Stereotypes perpetuate societal inequalities not only by biasing the attitudes and behavior of advantaged individuals toward disadvantaged outgroups, but also by biasing disadvantaged individuals' judgments of their own group and self-conceptions (Aronson, Quinn, & Spencer, 1998; Dasgupta, 2004; Jost, Banaji, & Nosek, 2004; Major, 1994). For example, in the context of gender, from an early age, girls and boys learn to bifurcate traits, roles, and behaviors into masculine and feminine qualities and use these stereotypes to evaluate in- and outgroup members with equal facility (Bauer, 1993; Bem, 1981; Bigler, 1997; Fagot, Leinbach, & O'Boyle, 1992; Signorella, Bigler, & Liben, 1993). Members of both sexes automatically associate high-status professional roles (e.g., doctor, leader) with men more than with women and lower status roles (e.g., nurse, supporter) with women more than with men (Banaji & Hardin, 1996; Dasgupta & Asgari, 2004). Such stereotypes predict punitive behavior toward gender-nonconforming individuals even when they belong to one's ingroup (Rudman, 1998; Rudman & Glick, 1999, 2001): Both women and men react more negatively to women leaders who adopt an assertive leadership style compared to male leaders with a similar style (Butler & Geis, 1990;

see Eagly & Karau, 2002, and Eagly & Carli, 2007, for reviews) and tend to be less willing to hire an assertive female job candidate compared to an assertive male candidate (Rudman & Glick, 2001).

Group-based stereotypes not only influence people's evaluations of other ingroup and outgroup members, they also influence *self-perceptions* (Hogg, 1996; Tajfel, 1978; Turner, 1982, 1999; Turner & Oakes, 1986). For example, women are more likely to associate themselves with communal and care-oriented traits (e.g., supportive, helpful, agreeable, sensitive) rather than agentic and power-oriented traits (e.g., ambitious, assertive, dominant, powerful (Eagly & Karau, 2002; Guimond, Chatard, Martinot, Crisp, & Redersdorff, 2006; Haines & Kray, 2005). Moreover, descriptive and prescriptive stereotypes about social roles steer women more away from powerful leadership and supervisory roles compared to men (Killeen, Lopez-Zafra, & Eagly, 2006; Lips, 2000) and orient them toward jobs that are care-focused (for a review see Eagly & Carli, 2007; for a meta-analysis see Konrad, Ritchie, Lieb, & Corrigal, 2000).

While these strands of research have made many contributions by documenting the prevalence of self-stereo-

typing, they have remained relatively silent about two important issues: First, to the best of our knowledge no studies have examined whether or not stereotypic self-conceptions change over time as a function of contact with stereotypic or counterstereotypic individuals in one's environment. Past studies have almost exclusively used cross-sectional experimental designs to examine the impact of stereotypes on the self-concept in a given moment in time, but none has tested whether these self-beliefs change over time. Second, very few studies have identified the conditions under which self-stereotypes can be overcome; instead, most have concentrated on underscoring the negative impact of stereotypes on self-conceptions (for exceptions see Davies, Spencer, & Steele, 2005; Haines & Kray, 2005; McIntyre, Paulson, & Lord, 2003). In terms of theory building, research that identifies strategies to reduce self-stereotyping promises to shed light on whether the process of stereotype change is different when the attitude object is the self-concept rather than outgroups or ingroups (see Dasgupta & Asgari, 2004; Richards & Hewstone, 2001). In terms of practical benefits, identifying strategies that reduce self-stereotyping promises to allow individuals the room to pursue a wide range of life goals free from normative constraints and expectations.

We sought to address the above-mentioned issues in the context of gender stereotypes about professional leadership, which refer to the widely shared belief that men are naturally more suited for professional leadership roles and women are naturally more suited for "back-up" supportive roles (Eagly & Carli, 2007; Eagly & Karau, 2002). These leadership stereotypes are both *descriptive* (in the sense that people believe that the skewed distribution of men and women in leadership roles is simply the way things are) as well as *prescriptive* (i.e., the belief that this is the way things ought to be; Fiske & Stevens, 1993; Heilman, 2001). On average, women's personal beliefs about the self tend to fall in line with these broader societal stereotypes, that is, women tend to describe themselves in terms of supportive traits (e.g., helpful, supportive, nurturant) more so than leadership traits (e.g., assertive, ambitious, go-getter). This is likely to be driven, at least in part, by the fact that, although leadership traits are high in status, they are less positively valenced and more interpersonally problematic than supportive traits, which are "nice" without any complications (Eagly & Mladinic, 1989; Lips, 2000). The focus of the present research was to identify whether critical cues in the social environment (e.g., exposure to professionally successful ingroup members in high status roles) can predict increases in women's belief about their own leadership abilities.

Past research provides indirect evidence suggesting that exposure to successful ingroup members may decrease self-stereotypes. Specifically, situational activation of ingroup identity often encourages people to search for similarities between themselves and other ingroup members present in the situation (Spears, Doosje, & Ellemers, 1997; Turner, Oakes, Haslam, & McGarty, 1994). To the extent that this is true, the presence of successful ingroup members may inspire people to imagine similar qualities in themselves and similar success in their future (Markus & Nurius, 1986). However, other research on role models has found that successful others change self-conceptions only when people feel psychologically connected to those individuals based on subjective identification, similar interests, or attainable achievements (Lockwood & Kunda, 1997, 1999; Major, Testa, & Blysma, 1991; Tesser, 1986). We propose that psychological connectedness may also develop through long-term contact with successful ingroup members that involve supportive and close interactions in the relevant performance domain.

Goals of the Present Study

Using extant research as a foundation, the present study investigated whether long-term frequent contact with successful ingroup members significantly predicts women's implicit and explicit self-conceptions, career goals, and assertive behavior in intellectual settings, or, alternatively, whether the strength of this predictive relationship is contingent on the quality of contact. We expected to find support for the latter prediction, specifically, for female participants who had many female professors (i.e., frequent contact with successful ingroup members), high-quality relationships with professors in general were expected to benefit the self-concept by reducing implicit self-stereotyping and increasing their career ambitions. However, for female participants who rarely came into contact with female professors and instead had mostly male professors (i.e., infrequent contact with successful ingroup members), high-quality relationships with professors in general were *not* expected to benefit the self-concept because those high-quality interactions would involve outgroup members who are less likely to be emulated by female students or seen as a role model for their own future self.

Importantly, although we expected women's implicit associations about the self and leadership to change over time and to be linked with greater contact with successful ingroup members, their explicit self-beliefs were expected to remain relatively resistant to change because nurturance and communality are seen as desirable qualities in women; thus, these qualities are likely to become accepted by women as personal ideals for the self (Wood, Christensen, Hebl, & Rothgerber, 1997). Put differently, we predicted that, whereas women's implicit self-beliefs would become malleable after exposure to successful ingroup members, their explicit self-descriptions would lag behind (see Dasgupta & Asgari, 2004; Haines & Kray, 2005, for conceptually similar predictions).

Study

Participants were recruited from a single-sex college and an equivalent coeducational college to determine whether mean differences in the availability of female professors at the two colleges would influence female students' self-beliefs. Participants at the women's college had more frequent contact with female professors as instructors (M = 53%) than did their peers at the coed college (M = 40%; $t(157)$ = 6.40, $p < .0009$). There was no significant difference between the two colleges in terms of students' quality of contact with their professors (Ms = 8.43 and 8.26 on an 11-point scale at the women's college and co-ed college respectively; $p > .40$). If frequency of contact with successful professional women is sufficient to influence self-beliefs, then on average, students at a women's college might show less implicit stereotyping about their personal leadership abilities than their peers at the coeducational college. However, if as we predict, *both* frequent and high-quality contact with women professors are necessary to influence participants' self-beliefs, goals, and behaviors, then students at both colleges have the potential to show reductions in implicit self-stereotyping.

Method

Participants

A total of 196 female students were recruited early in their first semester of college. Participants came from two selective colleges in the Northeastern United States, a women's college (n = 100) and a coeducational college (n = 96). Participants' age at both colleges ranged from 17 to 20 years (median = 18). At the women's college, 71% of participants were White, 13% were Asian, 7% were Black, 3% were Hispanic, 1% were American Indian or multiracial, and 4% did not specify their race. At the coeducational college, 44% of participants were White, 27% were Asian, 17% were Black, 7% were multiracial, and 5% did not specify their race. Of the 196 recruits, 161 (82%) remained in the study at the end of 2 academic years (n = 84 at the women's college; n = 77 at the coeducational college).

Procedure

Upon entry into college (year 1) and at the end of their sophomore year (year 2), we measured: (a) the classes participants were taking with special attention to the sex of the instructors, (b) the quality of their relationship with instructors, (c) participants' implicit and explicit beliefs about their personal leadership qualities relative to male peers, (d) class participation as an example of intellectually assertive behavior, and (e) their career goals.

Materials

Implicit Self-Related Beliefs

An Implicit Association Test (IAT; Greenwald, McGhee, & Schwartz, 1998) was used to assess the extent to which participants spontaneously associated themselves (relative to men) with leadership versus communal qualities (self-IAT). The self-IAT consisted of four types of stimuli: Agentic vs. communal attributes (e.g., ambitious, go-getter vs. helpful, nurturing), and first-person vs. second-person male pronouns (e.g., I, me vs. he, him).

Explicit Self-Related Beliefs

Participants rated the extent to which six leadership and six communal attributes, previously used in the IAT, described their own personality. Participants' ratings of their own communal traits were averaged into a single subscale (α = .87 and α = .89; year 1 and year 2, respectively) and participants' ratings of their own leadership traits were averaged into another subscale (α = .88 and α = .82; year 1 and year 2, respectively). Participants' ratings of their own leadership qualities in year 2 (controlling for year 1 ratings) represent the explicit self-related beliefs index, such that high scores reflect greater attribution of leadership qualities to the self. All ratings were made on 7-point scales (1 = *does not describe me at all* and 7 = *describes me very well*).

Quantity of Contact with Female Professors

Quantity of contact with successful ingroup members was measured by calculating the proportion of female professors participants had as course instructors over two years.

Quality of Contact with Professors

Two items measured the overall quality of contact with both male and female professors (α = .71). Participants were asked to think about all their professors in a given semester and answer the following questions: (a) "How much support do you get from these faculty members?" and (b) "How much are these faculty members available to you?" Response scales ranged from 1 (*not much support at all* or *not available at all*) to 11 (*a lot of support* or *very available*). Participants answered these questions for all their professors as a group in a given semester; we did not ask them to answer these questions individually for each professor. Notwithstanding this limitation, it is logical to expect that if a participant had mostly female professors in a given semester, then their answer to the "quality of contact" questions would be based, for the most part, on female professors. Analogously, if a participant had mostly male professors in a given semester, then their answer to the same "quality of contact" questions would be based on male professors. Based on this logic, we predicted that,

among participants who had mostly female professors, high-quality contact with successful others who were mostly ingroup members would significantly decrease implicit self-stereotyping; whereas among participants who had few female professors (and instead, mostly male professors) high-quality contact with successful others who were mostly outgroup members should have no effect on the self-concept. Such an interaction effect would imply that the high-quality *and* frequent contact with successful same-sex role models had a combined benefit that did not occur for equivalent opposite-sex role models.

Class Participation

Two items measured class participation ($\alpha = .82$): (a) "Think of your everyday experience in the classroom . . . how often do you participate in class discussions?" (1 = *very rarely* to 11 = *very frequently*); (b) "In your opinion, how important is it to you to participate actively in class?" (1 = *not at all important* to 11 = *very important*).

Career Goals

This was assessed with 2 items ($\alpha = .70$): (a) "How important is it to you to have a full-time career after you graduate?" (b) "How likely is it that 10 years after you graduate you will be in a professional environment where you will hold a position of power and responsibility?" Response scales ranged from 1 (*not at all important* or *not at all likely*) to 11 (*very important* or *very likely*).

Demographics

Participants indicated their age, race, nationality, and SAT scores.

Results

Relationship Between Quantity of Contact with Female Faculty Versus Quality of Contact and Self-Conceptions of Leadership

Implicit self-conceptions of leadership were measured as the differential speed with which participants completed the IAT

block that paired me + leadership and he + supportive traits compared to the block with reverse stimulus pairings (me + supportive and he + leadership). These difference scores were analyzed in terms of effect size or modified Cohen's *d* (IAT *D*). Positive effect sizes indicate more gender stereotypic self-conceptions (i.e., stronger association between the self and supportive traits compared to leadership traits).

A hierarchical regression examined the predictive relationship between quantity of contact with female professors (proportion of female course instructors from year 1 and year 2), quality of contact (ratings of support and availability), and the type of college (single-sex or coed) on participants' implicit self-beliefs as the outcome variable (self-IAT *D*) in year 2 controlling for year 1 variables (self-IAT *D* in year 1 and quality of contact in year 1).[1] All predictor variables were mean centered before being entered into the regression. Results showed a significant effect of high-quality contact ($\beta = -.16$, $p = .04$) and a marginal effect of frequent contact ($\beta = -.15$, $p = .06$). Participants who experienced high-quality contact with their professors (regardless of sex) were more likely to implicitly associate leadership attributes with the self in year 2 (controlling for year 1); similarly, participants who had frequent contact with female professors in particular were somewhat more likely to associate leadership qualities with the self in year 2 (omnibus $F(5, 156) = 8.17$, $p < .0009$; $\Delta F(3, 156) = 2.78$, $p = .04$).

More importantly, as predicted, we also found a significant two-way interaction between quantity and quality of contact in the second step of the regression ($\beta = -.24$, $p = .003$; omnibus $F(8, 153) = 6.49$, $p < .0009$; $\Delta F(3, 153) = 3.14$, $p = .03$). To interpret this interaction, we followed the recommendations by Aiken and West (1991) to separately examine participants whose responses were 1 *SD* above the mean (frequent contact with female professors) versus 1 *SD* below the mean (infrequent contact with female professors). As illustrated in Figure 1, participants who had frequent contact with female professors and who rated their contact experiences with faculty members in general to be of high quality were faster at associating the self with leadership traits ($\beta = -.55$, $p = .02$). However, for those participants who more rarely came into contact with female professors, high-quality contact experiences with faculty members had the opposite effect – these participants were faster at associating the self with supportive traits, not leadership traits ($\beta = .45$, $p = .03$).[2] This finding suggests that contact with few successful ingroup members and instead mostly outgroup members who are successful might threaten women's leadership self-concept (see also Rudman &

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[1] Quantity of contact was not controlled in step 1 because it was part of the independent variable. Specifically, we added the total number of female professors participants had as instructors in each semester of year 1 and year 2. However, quality of contact with professors in year 1 was controlled in step 1 of the regression because year 1 data was collected at the very beginning of the semester after only a few class meetings, which makes it unlikely that participants would have had much meaningful high-quality contact with any of their professors by that time.

[2] Participants' implicit and explicit self-conceptions about leadership were not significantly affected by the proportion of gender-related classes they took in their first two years of college. Specifically, we conducted a regression in which the proportion of gender-related classes participants took and the quantity and quality of contact they had with female professors were all entered as predictor variables; implicit and explicit self-beliefs were the dependent variables. All effects for gender-related classes were nonsignificant (all βs < .02, *p* values > .50).
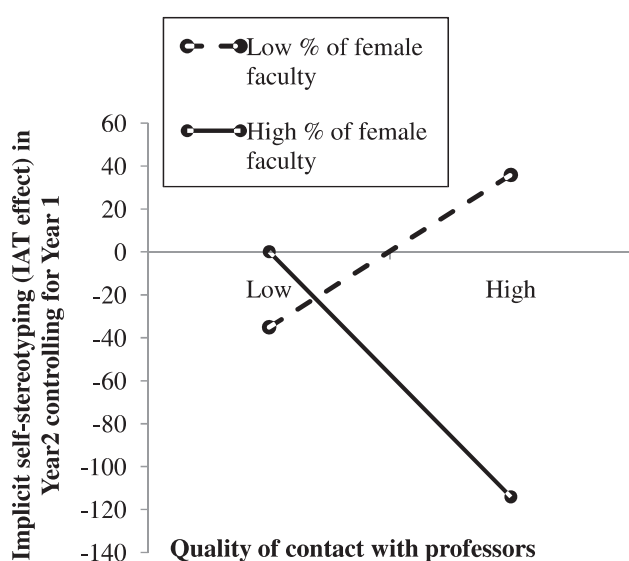
Figure 1. The relationship between quantity and quality of contact with female faculty and implicit self-stereotyping. *Note:* The results presented in this graph use IAT scores in ms on the y-axis for ease of presentation, although the actual analyses were conducted using IAT *D* scores (effect size).

Figure 2. The relationship between quantity and quality of contact with female faculty and future career goals.

Phelan, 2010). The type of college students attended did not produce any significant effects.

Another regression examined the influence of quantity and quality of contact and the type of college on participants' explicit beliefs about their leadership ability in year 2 controlling for their beliefs in year 1. A marginal effect of quality of contact ($\beta = .14$, $p = .09$) indicated that participants who had high-quality contact with their professors over time were somewhat more likely to attribute leadership traits to themselves than others who had superficial contact ($\Delta F(3, 156) = 2.17$, $p = .09$). However, the quality of contact and frequency of contact with female professors did not interact significantly to predict students' explicit beliefs about themselves. No other effects were significant.

The Relationship Between Quantity of Contact with Female Faculty Versus Quality of Contact and Career Goals

A similar regression examined whether students' career goals in year 2 were significantly predicted by the frequency with which they had contact with female professors, the quality of contact across professors, and the type of college they attended. In addition to controlling students' career goals and quality of faculty contact in year 1, we also controlled their SAT scores and citizenship status in this analysis because career goals are likely to be constrained by students' prior academic skills and legal work restrictions. As predicted, results revealed a significant two-way interaction between the quantity and quality of contact ($\beta = .28$,
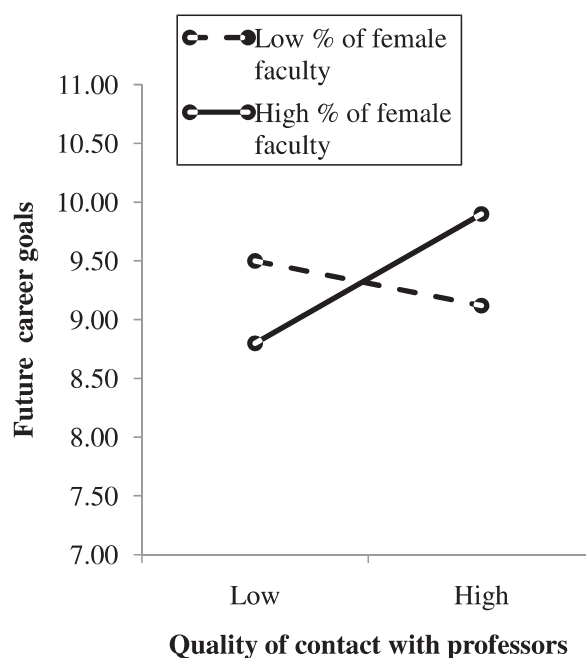
$p = .002$; omnibus $F(9, 152) = 1.93$, $p = .05$; $\Delta F(3, 152) = 3.42$, $p = .02$). Once again, we separately examined participants who had frequent vs. infrequent contact with female professors using responses that were 1 *SD* above and below the mean on the predictor variable assessing contact frequency. As shown in Figure 2, among participants who had frequent contact with female professors, the more the contact was high in quality, the more ambitious were their career goals for the future ($\beta = .44$, $p = .05$). However, among participants who had infrequent contact with female professors, there was no significant relationship between the quality of contact with professors and their personal career goals ($\beta = -.35$, $p = .12$).

The Relationship Between Quantity of Contact with Female Faculty Versus Quality of Contact and Behavior in Class

Finally, one regression examined the relationship between the frequency of contact, the quality contact, and the type of college on participants' behavior in class in year 2 controlling for year 1 variables (classroom behavior in year 1 and the quality of faculty contact in year 1). As illustrated in Figure 3, we found a significant effect of high-quality contact ($\beta = .20$, $p = .004$) and a marginal effect of frequent contact ($\beta = .13$, $p = .06$) indicating that students who experienced high-quality contact with their professors (regardless of sex) were more active and participatory in class in year 2 controlling for year 1; similarly, students who frequently encountered female professors in particular
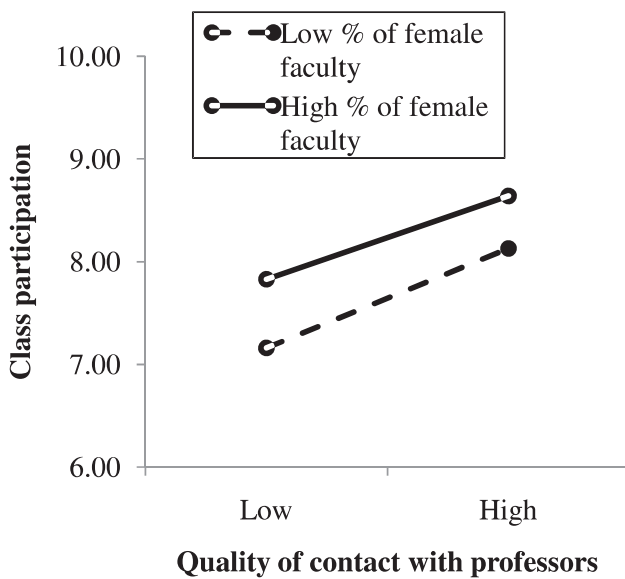
Figure 3. The relationship between quantity and quality of contact with female faculty and class participation.

were also somewhat more likely to be participatory in class in year 2 controlling for year 1 (omnibus $F(5, 156) = 22.35$, $p < .0009$; $\Delta F(3, 156) = 4.52$, $p = .005$). However, the interaction between quality of contact with professors and quantity of contact with female faculty was nonsignificant ($\Delta F < 1$).

General Discussion

The overall goal of this study was to shed light on the factors that predict changes in implicit self-stereotyping. Whereas past research has focused on demonstrating the fact that societal stereotypes can constrain the self-concept, our emphasis was on identifying when and how such beliefs might change. In addition, whereas previous research on stereotype change and the malleability of implicit bias concentrated entirely on people's attitudes and beliefs toward outgroups and ingroups, we extended this work to the self-concept, which had not been examined in the published research literature until now (see also Rudman & Phelan, 2010).

These data suggest that the process by which beliefs about the self are influenced are somewhat different from the process by which beliefs about social groups are influenced. Specifically, while exposure to successful ingroup members is sufficient to change stereotypes about the ingroup as a whole as shown by our past research (Dasgupta & Asgari, 2004), the present data show that exposure to such individuals is, by itself, not enough to change self-beliefs. Rather, both frequent contact (quantity) and subjective evaluation of that contact as meaningful (quality) are necessary to predict changes in self-beliefs. In other words,

the critical ingredients that best predict changes in implicit self-beliefs is a combination of the knowledge that other ingroup members have achieved success in leadership domains, together with the experience of personally connecting with such individuals, both of which might heighten a sense of similarity with the successful others. Moreover, as hypothesized, our data revealed that contact with professionally successful ingroup members predicted changes in students' *implicit* beliefs about the self, not how they described themselves *explicitly*, which remained relatively stable over time.

Importantly, the present study extended beyond implicit cognition to also investigate whether students' behaviors (e.g., classroom participation) and behavioral intentions (career goals) would be associated with the quantity and quality of contact with successful ingroup members. Our data revealed that the confluence of quantity and quality of contact with successful women was related to ambitious career intentions. When it came to class participation, quantity and quality of contact independently predicted greater engagement in class. It is likely that long-term contact with, and encouragement received from, successful same-sex others made students more comfortable in terms of participating in class discussions. Taken together, these findings suggest that changes in implicit self-related beliefs are not simply private thoughts that remain confined to the mind. Rather, they can impact people's behavioral intentions and goals in ways that facilitate professional success in the future. Given the correlational nature of these data, it is also plausible that the association between changes in self-beliefs and behavior in class occurred in the opposite causal direction: That is, the process of participating in class may have changed women's self-perceptions especially when they were in the company of same-sex professors and had high-quality contact with them.

Interestingly, all these effects applied equally well to students at the women's college and coeducational college, suggesting that when it comes to changing self-stereotypes, absolute differences in the frequency of contact with successful ingroup members at the two colleges may be less important than the frequency of contact combined with high-quality interactions.

These findings extend theories of implicit attitude change (Blair, 2002; Dasgupta, 2008; Gawronski & Bodenhausen, 2006) by demonstrating that the process of modifying implicit beliefs requires somewhat different ingredients when the attitude object is the self-concept rather than a social group. These findings also complement previous research on role models and explicit beliefs about the self (e.g., Lockwood, 2006; Lockwood & Kunda, 1997, 1999; Major et al., 1991; Testa & Major, 1990) by illustrating that exposure to positive ingroup members can influence implicit self-conceptions even though those changes may not be apparent at an explicit level. Given that social desirability is likely to play an important role in how people report their own personal strengths, we paid special attention to women's implicit self-beliefs.

Caveats and Limitations

Our study is not without its limitations. First, the correlational nature of our data makes it difficult to make definitive assertions about cause and effect given that we did not randomly assign participants to specific conditions where they experienced high versus low quantity and quality of contact with female professors. Moreover, as in the case of other correlational research, unmeasured third variables may have affected both implicit self-stereotypes and contact with ingroup members and thus influenced the magnitude of the relationship between these two critical variables. These caveats are somewhat (although not entirely) mitigated by the fact that we used a 2-year longitudinal research design which allowed us to measure participants' beliefs and behavior in year 1 (when they entered college) and again at the end of year 2, in order to statistically partial out individual differences in participants' self-conceptions when they entered college from the dependent variable, which were their self-conceptions, career goals, and classroom behavior at the end of the sophomore year.

A second potential limitation is that participants' quality of contact with female and male professors was measured together and cannot be disaggregated in this study. Specifically, we asked participants to indicate how supportive and available all their professors were, on average, in a given semester. We did not ask them to answer this question for each professor individually. Thus, these measures do not allow us to separately test whether the relationship between implicit self-conceptions and the quality of faculty contact varied as a function of faculty sex. Further research is needed to replicate this effect using separate measures of closeness with female versus male professors.

Notwithstanding this limitation, we have reason to think that quality of contact with *female* professors in particular did make a difference. Specifically, we know from the present data that close relationships with faculty instructors regardless of those individuals' sex (quality of contact) significantly predicted more implicit self-conceptions of leadership. However, over and above the main effect of contact quality on self-beliefs, we also found the critical interaction effect between quality of contact by quantity of contact with *female* professors. This interaction shows that among participants who had mostly female professors, high-quality contact significantly decreased implicit self-stereotyping; whereas among participants who had few female professors (and instead, mostly male professors) high-quality contact significantly increased implicit self-stereotyping. This interaction effect implies that the high-quality *and* frequent contact with successful same-sex role models had a combined benefit that did not occur for equivalent opposite-sex role models. The fact that frequent contact with successful *outgroup* members and high-quality interactions with such individuals *increased* self-stereotyping in women is interesting but perhaps not all that surprising. It suggests that this type of contact reinforces the stereotype in women's mind that successful professionals are normally men (not women) and increases the psychological distance between these leadership roles and what is achievable for oneself. These data are also reminiscent of a finding in Dasgupta and Asgari (2004), which showed that prolonged immersion in a college environment where students had frequent exposure to male faculty (rather than female faculty) strengthened the implicit gender stereotype that women are better suited for supportive than leadership roles.

In closing, we recommend that future studies test similar hypotheses in a controlled lab setting to ensure clarity about cause and effect. Such studies could examine whether in addition to receiving support from successful ingroup members, other experiences such as knowledge about the steps taken by those successful others, being able to envision oneself following the same path, and experiencing small-scale successes in one's current environment might also enhance implicit self-beliefs about leadership and future career goals and behaviors.

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