

Tilburg University

## An exploration of stereotypical beliefs about leadership styles

Vinkenburg, C.J.; van Engen, M.L.; Eagly, A.H.; Johannesen-Schmidt, M.C.

*Published in:*  
The Leadership Quarterly

*Publication date:*  
2011

*Document Version*  
Publisher's PDF, also known as Version of record

[Link to publication in Tilburg University Research Portal](#)

*Citation for published version (APA):*  
Vinkenburg, C. J., van Engen, M. L., Eagly, A. H., & Johannesen-Schmidt, M. C. (2011). An exploration of stereotypical beliefs about leadership styles: Is transformational leadership a route to women's promotion? *The Leadership Quarterly*, 22(1), 10-21.

### General rights

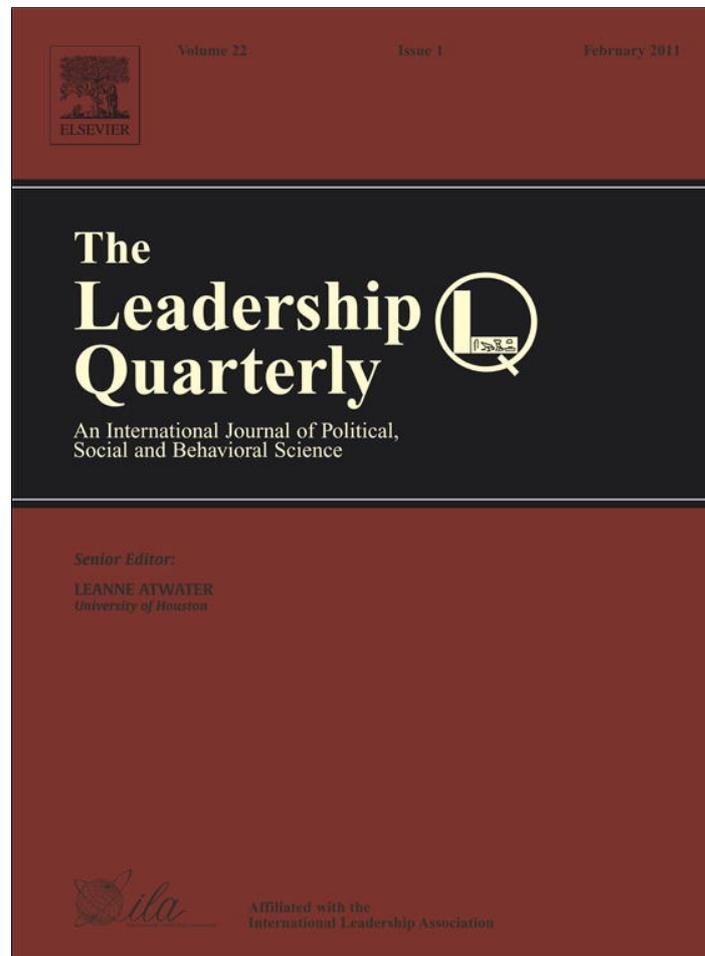
Copyright and moral rights for the publications made accessible in the public portal are retained by the authors and/or other copyright owners and it is a condition of accessing publications that users recognise and abide by the legal requirements associated with these rights.

- Users may download and print one copy of any publication from the public portal for the purpose of private study or research.
- You may not further distribute the material or use it for any profit-making activity or commercial gain
- You may freely distribute the URL identifying the publication in the public portal

### Take down policy

If you believe that this document breaches copyright please contact us providing details, and we will remove access to the work immediately and investigate your claim.

Provided for non-commercial research and education use.  
Not for reproduction, distribution or commercial use.



This article appeared in a journal published by Elsevier. The attached copy is furnished to the author for internal non-commercial research and education use, including for instruction at the authors institution and sharing with colleagues.

Other uses, including reproduction and distribution, or selling or licensing copies, or posting to personal, institutional or third party websites are prohibited.

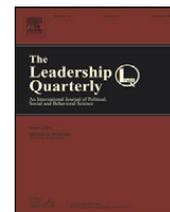
In most cases authors are permitted to post their version of the article (e.g. in Word or Tex form) to their personal website or institutional repository. Authors requiring further information regarding Elsevier's archiving and manuscript policies are encouraged to visit:

<http://www.elsevier.com/copyright>



Contents lists available at ScienceDirect

## The Leadership Quarterly

journal homepage: [www.elsevier.com/locate/leaqua](http://www.elsevier.com/locate/leaqua)

## An exploration of stereotypical beliefs about leadership styles: Is transformational leadership a route to women's promotion?

Claartje J. Vinkenburg<sup>a,\*</sup>, Marloes L. van Engen<sup>b</sup>, Alice H. Eagly<sup>c</sup>, Mary C. Johannesen-Schmidt<sup>d</sup>

<sup>a</sup> VU University Amsterdam, Amsterdam, The Netherlands

<sup>b</sup> Tilburg University, Tilburg, The Netherlands

<sup>c</sup> Northwestern University, Evanston, IL, USA

<sup>d</sup> Oakton Community College, Des Plaines, IL, USA

### ARTICLE INFO

Available online 2 February 2011

#### Keywords:

Gender roles  
Promotion  
Sex differences  
Stereotype accuracy  
Transformational leadership

### ABSTRACT

Two experimental studies examined whether gender stereotypes about the transformational, transactional, and laissez-faire leadership styles constitute an advantage or an impediment for women's access to leadership positions in organizations. The first study investigated the accuracy of *descriptive* gender stereotypes about leadership styles, showing that participants accurately believe that women display more transformational and contingent reward behaviors, and fewer management-by-exception and laissez-faire behaviors than men. The second study investigated *prescriptive* stereotypes about the importance of leadership styles for the promotion of women and men to different levels in organizations. Inspirational motivation was perceived as more important for men than women and especially important for promotion to CEO. In contrast, individualized consideration was perceived as more important for women than men and especially important for promotion to senior management. Consistent with these stereotypical beliefs about leadership, women interested in promotion may be well advised to blend individualized consideration and inspirational motivation behaviors.

© 2011 Elsevier Inc. All rights reserved.

Despite the increasing numbers of female managers in industrialized nations, few women occupy top management positions in large corporations. This situation prevails in most countries, including the United States and the Netherlands, the two nations in which we conducted our research (Catalyst, 2008a, b; European Commission, 2008). This phenomenon of few women in top corporate positions is often ascribed to a discriminatory glass ceiling that prevents women from rising to high positions (Hymowitz & Schellhardt, 1986). This article moves beyond this metaphor by examining whether people's stereotypical beliefs about the leadership styles of women and men constitute one of the impediments that lessen women's chances of achieving high positions. Our studies therefore assessed gender stereotypes about leadership styles, which likely influence who is hired and promoted (Agars, 2004).

### 1. Stereotypical beliefs about male and female leadership styles

Insight concerning the role of gender stereotypes in promotion decisions follows from distinguishing between *descriptive* beliefs, which pertain to the typical attributes of women and men, and *prescriptive* beliefs, which pertain to their ideal or desirable attributes (Burgess & Borgida, 1999; Eagly & Karau, 2002; Heilman, 2001). Descriptive gender stereotypes thus refer to beliefs regarding how women and men *do* behave, whereas prescriptive gender stereotypes refer to beliefs regarding how they *should*

\* Corresponding author. Department of Management & Organization, Faculty of Economics & Business Administration, VU University Amsterdam, de Boelelaan 1105, 1081 HV Amsterdam, the Netherlands. Tel.: +31 20 5986074; fax: +31 20 5986005.

E-mail address: [cvinkenburg@feweb.vu.nl](mailto:cvinkenburg@feweb.vu.nl) (C.J. Vinkenburg).

**Table 1**

Definitions of transformational, transactional, and laissez-faire leadership styles in the Multifactor Leadership Questionnaire (MLQ).

MLQ scales and subscales	Description of leadership style
Transformational	
Inspirational motivation	Exhibits optimism and excitement about goals and future states
Idealized influence (attribute)	Demonstrates attributes that motivate respect and pride by association with him or her
Idealized influence (behavior)	Communicates values, purpose, and importance of mission
Intellectual stimulation	Examines new perspectives on problem solving and task completion
Individualized consideration	Focuses on development and mentoring of followers and attends to individual needs
Transactional	
Contingent reward	Exchanges rewards for satisfactory performance by followers
Active management-by-exception	Attends to followers' mistakes and failures to meet standards
Passive management-by-exception	Waits until problems become severe before attending and intervening
Laissez-faire	Exhibits widespread absence and lack of involvement during critical junctures

Note. Table reproduced from Eagly, A. H., Johannesen-Schmidt, M. C., & van Engen, M. L. (2003). Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. *Psychological Bulletin*, 129, 569–591. Published by American Psychological Association and reprinted with permission.

behave. If those who make selection and promotion decisions believe that women's leadership styles are different from men's (descriptive beliefs) or that women should not manifest certain particularly effective leadership styles (prescriptive beliefs), the path to leadership may become more difficult for women than men.

In investigating stereotypical beliefs about leadership styles, we focused on the *full range of leadership* paradigm (Avolio & Bass, 1991), which distinguishes between the transformational, transactional, and laissez-faire leadership styles. This focus is appropriate because meta-analyses have established the relations of these styles to leaders' effectiveness (Judge & Piccolo, 2004; Lowe, Kroeck, & Sivasubramaniam, 1996) as well as sex differences and similarities in these styles (Eagly, Johannesen-Schmidt, & van Engen, 2003).

In the full range of leadership model, transformational leaders inspire employees to go beyond the call of duty, foster creative solutions to problems, serve as mentors, create vision, and articulate plans for achieving this vision. As shown in Table 1, measurement of transformational leadership encompasses several subscales, typically inspirational motivation, two aspects of idealized influence (attributes and behavior), intellectual stimulation, and individualized consideration. In contrast, transactional leadership entails establishing exchange relationships by rewarding subordinates for a job well done and punishing them for mistakes and omissions. The transactional subscales, as also displayed in Table 1, include contingent reward and management by exception (active and passive). A final leadership style, labeled "laissez-faire," is marked by a general failure to take responsibility for managing.

As established meta-analytically, transformational leadership is generally effective, as is the contingent reward component of transactional leadership, whereas the other aspects of transactional leadership and the laissez-faire style are less effective (Judge & Piccolo, 2004). The effectiveness of these styles appears to be similar across different functional, organizational, and national contexts (Bass, 1997; Judge & Piccolo, 2004). Given these clear-cut patterns, it is important to understand what people believe about the prevalence and importance of these styles for women's and men's promotion in organizational hierarchies.

As shown by the meta-analysis that compared female and male managers (Eagly et al., 2003), women exceed men on overall transformational leadership and the contingent reward aspect of transactional leadership, especially on the individualized consideration subscale, which entails mentoring behavior that is supportive of other people. In contrast, men exceed women in management by exception (active and passive) and laissez-faire leadership. In short, although these sex differences are small, women, compared with men, more often lead with effective styles and less often with ineffective styles.

These findings pose an intriguing paradox. If women, even slightly more than men, lead with effective styles, why do women fail to advance at the same rate as their male counterparts (e.g., Maume, 2004; Smith, 2002)? Although there are many possible answers to the question, we investigate gender stereotypes about leadership styles, which might result in women seeming unsuited for leadership (e.g., Agars, 2004; Eagly & Karau, 2002; Heilman & Haynes, 2008). In a first study, we examine the accuracy of *descriptive* gender stereotypes about transformational and transactional leadership. In a second study, we address *prescriptive* stereotypes by investigating the perceived importance of these leadership styles for the promotion of male and female managers to higher ranks.

The opportunity to collect data in the United States and the Netherlands allows an exploration of national differences and similarities in these stereotypes about leadership style. This comparison is facilitated by the validation of the full range of leadership model in the Netherlands (Den Hartog, Van Muijen, & Koopman, 1997) as well as the United States. The Dutch-American comparison of prescriptive beliefs about these leadership styles is especially interesting, given differences in these nations' social values related to achievement, a theme that we develop in introducing Study 2.

## 2. Study 1: accuracy of descriptive stereotypes about female and male leadership styles

In this study, the accuracy of gender stereotypes about the leadership styles was evaluated in relation to data on the styles of male and female managers. Accuracy is important because, if decision makers should accord advantages in transformational and transactional leadership to men rather than women, these beliefs could hinder women's promotion.

It is plausible that people might misperceive women's leadership styles. In view of evidence that people perceive women as less similar than men to successful managers (Heilman, Block, Martell, & Simon, 1989; Schein, 2001), they might, for example, wrongly ascribe transformational leadership more to men than women. However, among people who have considerable experience observing male and female managers, beliefs about sex differences in leadership style may be quite accurate (Heilman, 1984). Indeed, research has shown that stereotyping of individuals weakens when people possess clear-cut behavioral information relevant to a judgment (Kunda & Spencer, 2003). Moreover, gender stereotypes in relation to many behavioral criteria are quite accurate (e.g., Hall & Carter, 1999; Swim, 1994; see review by Ryan, 2002). Therefore, we predict that descriptive stereotypes about sex differences in leadership style are substantially accurate and similar to assessments of real male and female managers on these behaviors.

In our first study, we assessed stereotypical beliefs about leadership style of participants with considerable management experience. We related these beliefs to actual sex differences in leader behaviors in a large global sample of managers, whose data established norms for the usual measure of transformational and transactional leadership styles, the Multifactor Leadership Questionnaire (MLQ Form 5-X; Center for Leadership Studies, 2000; Mindgarden, 2002). Stereotype accuracy was estimated by a sensitivity correlation that related the stereotypical beliefs from our study's participants to the data from this criterion sample. In general, sensitivity correlations represent perceivers' sensitivity to variation in the aspect of the target group's behavior that provides the criterion for assessing accuracy—in this case, sex differences in leadership style (Judd & Park, 1993).

Given our prediction of overall stereotype accuracy, we hypothesize that participants accurately believe that women manifest more transformational and contingent reward behaviors than men and that men manifest more management by exception (active and passive) behaviors and laissez-faire behaviors than women (Hypothesis 1). Because leaders' nationality had minimal effects in the Eagly et al. (2003) meta-analysis of male and female leadership styles, we do not expect Dutch and U.S. participants to differ in their descriptive beliefs about the leadership styles of men and women.

2.1. Method

2.1.1. Participants, procedure, and design

The 271 (122 U.S. and 149 Dutch) participants had a mean age of 44. Also, 44% were female, 75% had at least a Bachelor's degree, and 75% had management experience. Although comparisons of the U.S. and Dutch participants on demographic information revealed some differences (see Table 2), preliminary analyses produced no significant effects of these variables.

We sampled participants in settings with many business travelers, including airport departure lounges of a major metropolitan airport and first-class compartments of commuter trains. The adults approached were asked to complete a 5-minute questionnaire, which the surveyor described as assessing what people have learned from observing others. Those who consented (68%) received a questionnaire containing items based on the MLQ, which were presented in one of two orders, followed by demographic questions. After participants completed the questionnaire, the surveyor thanked them and gave each person a written debriefing statement.

Participants were randomly assigned to indicate their beliefs about the leadership style of either a typical man or typical woman (target sex). This individual was presented as either a representative of his or her sex ("typical woman" vs. "typical man") or of managerial women or men ("typical female manager" vs. "typical male manager"). However, this additional variable (each sex in general vs. as a manager) produced no effects in preliminary analyses, presumably because the managerial context of the MLQ items is implicit in their wording. Two additional variables, sampling location and item order, also did not produce significant effects. Consequently, the data were combined over these three inconsequential variables and analyzed in a 2 (country: United States vs. the Netherlands) × 2 (participant sex: male vs. female) × 2 (target sex: male vs. female) between-subjects factorial design.

The criterion data (sample size of 8954) were from the global sample of managers whose data provided norms for the MLQ (Center for Leadership Studies, 2000).

**Table 2**  
Sample comparisons on relevant demographics for Study 1 and Study 2.

Demographic variables	Study 1			Study 2		
	NL, n = 149	US, n = 122	Statistic	NL, n = 277	US, n = 237	Statistic
Age	43.71 (13.76)	44.51 (13.71)	$F(1, 262) = 0.39$	41.14 (11.28)	40.85 (15.62)	$t(416.57) = 0.24$
Education (% master's degree or higher)	43.4 %	28.5 %	$\chi^2(5) = 25.88^{***}$	50.7 %	30.4 %	$\chi^2(5) = 64.28^{***}$
Management experience (% ever in supervisory role)	72.6.1 %	77.1 %	$\chi^2(1) = 0.69$	79.1 %	67.1 %	$\chi^2(1) = 9.09^{**}$
Management experience (years)	10.00 (8.64)	12.82 (12.56)	$F(1, 191) = 4.69^*$	9.55 (8.37)	15.45 (12.56)	$t(260.05) = -5.06^{***}$
Employment status (% full time)	67 %	79 %	$\chi^2(2) = 10.86^{**}$	82 %	79 %	$\chi^2(2) = 20.97^{***}$
Race (% White)	100.0 %	88.7 %	$\chi^2(2) = 17.62^{***}$	99.6 %	83.6 %	$\chi^2(4) = 40.84^{***}$

\* $p < 0.05$ . \*\* $p < 0.01$ . \*\*\* $p < 0.001$ .

Note. Standard deviations appear in parentheses to the right of each mean. Chi-squares were calculated across 6 levels of education, three categories of employment status (full time, part time, not employed), and 3 or 5 categories of race.

### 2.1.2. Measuring instruments

**2.1.2.1. Stereotypes about leadership style.** Participants reported how frequently they had observed a target (e.g., typical female manager in the workplace) display the behavior described in each item. Each of the 36 items of the MLQ Form 5-X was followed by the question: “How frequently does the [target] display this behavior?” and a 5-point scale anchored by “frequently, if not always” and “not at all.” The existing Dutch translation of the rater version of the MLQ Form 5-X (Mindgarden, 2002) was adjusted to better match the connotations of some of the English items of the leader version of the MLQ Form 5-X. All other parts of the questionnaire were back-translated and checked by an independent translator. For the exact directions to our participants and a sample item, we refer to [Appendix A](#).

A confirmatory factor analysis (CFA) tested whether this stereotype measure matched the nine-factor structure of the MLQ (see Antonakis, Avolio, & Sivasubramaniam, 2003). The results indicated a moderate fit for the nine-factor model,  $\chi^2(558, N = 273) = 1035.89, p < 0.001$  (GFI = 0.82, NNFI = 0.83, RMSEA = 0.06, CFI = 0.85, AIC = 1309.67, Saturated AIC = 1332.00). Following the suggestions by van de Vijver and Leung (1997) for establishing measurement equivalence between countries, we next performed a multigroup CFA.<sup>1</sup> Results showed that the nine-factor structure was consistent across the two countries. Given that each scale contained only 4 items, some of the resulting coefficient alpha scale reliabilities were not high: idealized influence–attribute 0.65, idealized influence–behavior 0.60, inspirational motivation 0.68, intellectual stimulation 0.67, individualized consideration 0.75, contingent reward 0.68, management by exception–active 0.51, management by exception–passive 0.69, and laissez-faire 0.72. For all scales except one, item deletion would not have improved reliability levels. Despite these limitations of the nine conventional MLQ subscales, we based our analyses on these scales because our research design required comparing stereotypes about leadership styles to criterion MLQ data organized by the nine-factor model (Center for Leadership Studies, 2000).

**2.1.2.2. Effect sizes.** Effect sizes comparing male and female managers were calculated on each dimension of the full range model for (a) our participants' stereotypes about male and female leadership styles, and (b) the leadership styles in the criterion sample of male and female managers (Center for Leadership Studies, 2000). The effect size calculated was *g*, the difference between the (actual or perceived) leadership style of the male and female leaders divided by the pooled standard deviation. A positive effect size indicates that men exceed women, and a negative effect size that women exceed men. These *g*s were converted to *ds* by correcting them for bias (see Lipsey & Wilson, 2001). We also computed 95% confidence intervals for the effect sizes.

**2.1.2.3. Sensitivity correlation.** To compare participants' stereotypes to the criterion data from managers, we calculated a *sex-difference sensitivity correlation* by correlating, across the nine subscales, (a) the effect sizes (*ds*) comparing participants' mean stereotypical beliefs about male and female leadership styles, and (b) the effect sizes comparing the means for the male and female leaders in the criterion sample of managers.

**2.1.2.4. Demographic information.** Participants reported their sex, citizenship, age, educational level, current employment (full time, part time, not employed), and years of management experience. The surveyor noted the apparent race of each participant.

## 2.2. Results

Table 3 shows the two sets of effect sizes, or *ds*, and their 95% confidence intervals: (a) those representing stereotypes about male and female leadership styles, and (b) those representing sex differences in leadership styles in the criterion sample of managers. The directions of these male–female differences (*ds*) were identical in our stereotype data and the criterion sample except for the inspirational motivation subscale, which yielded very small effect sizes compared to the other subscales. Our participants believed that, compared with men, women displayed significantly more of the leadership behaviors described by three of the five transformational subscales (idealized influence–behavior, intellectual stimulation, individualized consideration) and the contingent reward subscale of transactional leadership. The participants also believed that, compared with women, men displayed significantly more of the behaviors described by both the active and passive management-by-exception subscales of transactional leadership and the laissez-faire scale. In the criterion sample of managers, the same effect sizes (i.e., sex differences) were significant with the exception of idealized influence (behavior) and intellectual stimulation subscales of transformational leadership.

To assess the correspondence of the sex differences found in our gender stereotype study and those found in the criterion sample of individual managers, a sex-difference sensitivity correlation was computed. This correlation between the *ds* for the gender stereotypes and the criterion (see Table 3), computed across the subscales, was  $r(7) = 0.90, p < 0.001$ . Computed separately within each nation, this sex-difference sensitivity correlation was  $r(7) = 0.91, p < 0.001$  for the U.S. participants and  $r(7) = 0.79, p = 0.005$  for the Dutch participants. These two correlations were not significantly different.<sup>2</sup>

<sup>1</sup> Results from the confirmatory factor analyses (CFA) for both studies including the multigroup CFA can be obtained from the first author.

<sup>2</sup> Within each nation, separate sex-difference sensitivity correlations for each participant sex were calculated and not found to be significantly different.

**Table 3**

Study 1: effect sizes for differences between male and female managers on leadership styles: beliefs and criterion scores.

Effect Size ( <i>d</i> )	Transformational subscale					Transactional subscale			
	Inspirational motivation	Idealized influence (attribute)	Idealized influence (behavior)	Intellectual stimulation	Individualized consideration	Contingent Reward	Management-by-exception (active)	Management-by-exception (passive)	Laissez-faire
Beliefs									
<i>d</i>	0.05	−0.20	−0.59	−0.42	−0.74	−0.55	0.31	0.58	0.43
	(−0.19/0.29)	(−0.44/0.04)	(−0.84/−0.35)	(−0.66/−0.18)	(−0.99/−0.50)	(−0.79/−0.31)	(0.07/0.55)	(0.34/0.82)	(0.19/0.67)
Criterion									
<i>d</i>	−0.04	−0.14	−0.03	−0.03	−0.23	−0.15	0.15	0.26	0.18
	(−0.08/0.01)	(−0.19/−0.10)	(−0.07/0.02)	(−0.07/0.02)	(−0.27/−0.18)	(−0.19/−0.10)	(0.10/0.19)	(0.22/0.31)	(0.14/0.23)

Note. Effect sizes (*ds*) were calculated for both the beliefs and the criterion scores by dividing the difference between the target sex means by the pooled standard deviations. The 95% confidence interval appears in parentheses below the effect sizes. If this interval does not include zero, the effect size differed significantly from zero. The *ns* were 137 participants who indicated their stereotypes about male leaders and 136 about female leaders, pooled across the Netherlands and the United States. The *ns* for the criterion were between 2831 and 2874 female leaders and 6081 and 6126 male leaders, depending on the scale. Positive effect sizes indicate that men had higher scores than women on a given style, and negative effect sizes indicate that women had higher scores than men.

### 2.3. Discussion

The purpose of this study was to determine if descriptive stereotypes about male and female leadership styles are accurate representations of sex differences in leadership styles as assessed in a large criterion sample of real managers. As predicted by Hypothesis 1, our participants did note these differences quite accurately: They believed that women display more effective and fewer ineffective behaviors than men. Their gender stereotypes about leadership styles corresponded well to the actual sex differences in the criterion sample as well as in the broader meta-analysis by Eagly et al. (2003).

These results are conceptually similar to Swim's (1994) and Hall and Carter's (1999) findings that perceivers accurately estimate the sex differences obtained in meta-analyses of social behavior. As in those studies, some of the sex differences reported by our participants were larger than those in the criterion data. Whether this difference between perceptions and the criterion reflects stereotypical exaggeration or other judgmental phenomena deserves further research.<sup>3</sup>

Our findings suggest that female managers' slower rate of advancement cannot be explained by perceivers' lack of knowledge about the leadership styles of women and men. In fact, women's (small) advantages in leadership style were apparent to the participants. Therefore, we proceed to investigate another, more subtle bias that may contribute to women's slower rates of promotion: prescriptive beliefs about what it takes for men and women to get promoted to more elite positions. Although transformational and contingent reward behaviors appear to be generally effective (Judge & Piccolo, 2004), they may not be regarded as equally important for men's and women's promotions. These ideas are explored in our next study.

### 3. Study 2: prescriptive stereotypes about the importance of leadership styles for promotion

Prescriptive gender stereotypes may lessen women's advancement because they entail different norms for how women and men should lead. Such prescriptive beliefs might disadvantage female leaders even when leaders are accurately perceived (Gill, 2004), by fostering behavior consistent with gender roles and discouraging inconsistent behavior. Given prevalent gender stereotypes that men are *agentic* (e.g., assertive, directive) and women are *communal* (e.g., sensitive and caring; Newport, 2001; Williams & Best, 1990), women leaders can be evaluated unfavorably because their agentic behavior violates ideas about desirable femininity. Female leaders who display particularly agentic behavior are vulnerable to backlash that can compromise their chances to be hired or promoted (e.g., Heilman, Wallen, Fuchs, & Tamkins, 2004; Rudman & Glick, 1999; Rudman & Phelan, 2008).

These considerations are especially relevant to the charismatic aspects of transformational leadership, inspirational motivation and idealized influence, which reflect the ambition and assertiveness that are regarded as more acceptable in men than women (Prentice & Carranza, 2002). Furthermore, traditional gender norms favor modesty over self-promotion and assertiveness in women (e.g., Rudman, 1998; Wosinska, Dabul, Whetstone-Dion, & Cialdini, 1996). These norms can hinder women when executive leadership is conflated with charismatic qualities (Martell, Parker, Emrich, & Crawford, 1998), a phenomenon that may be prevalent especially at the CEO level (Agle, Nagarajan, Sonnenfeld, & Srinivasan, 2006; Hogan & Kaiser, 2005). For these reasons, people may believe that the charismatic aspects of transformational leadership (inspirational motivation and idealized influence) are more important for the promotion of men than women (Hypothesis 2).

In addition, prescriptive stereotypes may dictate that female leaders are better able to win promotions if they perform effective behaviors that correspond to beliefs about desirable female behavior. This expectation coheres with studies showing that women

<sup>3</sup> A more detailed analysis revealed that participants judged both male and female leaders less favorably than the criterion—that is, they estimated lower frequencies for the more effective leadership styles and higher frequencies for the less effective styles. Also, female participants' judgments of women conformed more closely to the criterion than their judgments of men, and male participants did not show a comparable target sex effect. The unfavorable shift in judgments of men and its absence in judgments of women (among female participants) thus exaggerated the perceived sex differences in leadership style in our overall analysis.

are better liked, more influential, and more favorably evaluated when they temper their agency with displays of communal behavior (e.g., Carli, LaFleur, & Loeber, 1995; Heilman & Okimoto, 2007). Although this prediction may appear inconsistent with the view that women's helpfulness in the workplace goes unnoticed and unrewarded (Fletcher, 1999; Heilman & Chen, 2005), women's communal behaviors do appear to have positive effects when combined with their agentic behavior as they typically would be among leaders. Therefore, we expect that the individualized consideration dimension of transformational leadership, which emphasizes female-stereotypical mentoring and nurturing (Hackman, Furniss, Hills, & Paterson, 1992), is believed to be more important for the promotion of women than men (Hypothesis 3).

Aside from considerations of gender, we expect that participants will judge more effective leadership styles to be more important for promotion (see Judge & Piccolo, 2004). This importance may be greater at higher managerial levels, given evidence that inspirational and visionary behaviors are more important for top-level managers and supportive and people-oriented behaviors for middle- and lower-level managers (Eagly & Karau, 2002; House, Hanges, Javidan, Dorfman, & Gupta, 2004; McCauley, 2004). Therefore, participants are expected to perceive charismatic behaviors such as idealized influence and inspirational motivation as especially important for promotion to higher executive ranks (Hypothesis 4), and individualized consideration behaviors as especially important for promotion to middle ranks of management (Hypothesis 5).

Even though Study 1 did not produce differences between the Dutch and U.S. participants' descriptive stereotypes, we do expect country differences in prescriptive stereotypes because the two nations have different social norms about appropriate leadership behavior. Specifically, U.S. culture is characterized as vertical-individualist, with emphasis on individual achievement (Triandis, 1995; Schwartz & Bardi, 2001) and Dutch culture as horizontal-individualist (Oppenheimer, 2004), with more emphasis on equality than achievement. These themes cohere with the GLOBE study's finding of a much stronger preference for performance orientation in the United States than the Netherlands (House et al., 2004). Therefore, U.S. participants should perceive the more effective leadership styles of transformational and contingent reward leadership as more important for promotion than Dutch participants do and the less effective styles of management by exception (active) and especially management by exception (passive) and laissez-faire leadership as more detrimental (Hypothesis 6).

### 3.1. Method

#### 3.1.1. Participants, procedure, and design

The 514 (237 U.S. and 277 Dutch) participants had a mean age of 41. Also, 45% were female, 58% had at least a Bachelor's degree, and 73% had management experience. These participants were sampled after the completion of Study 1. Although the U.S. and Dutch samples differed on some demographic variables (see Table 2), preliminary analyses controlling for these differences produced no significant effects.

These participants were sampled in various settings likely to include managers and other professionals (e.g., airport departure lounges, business center food courts, commuter trains, and meetings of professional organizations). Analyses taking the setting of data collection into account produced no significant differences for this variable. Except at meetings of professional organizations, surveyors selected participants by asking every third or (on commuter trains) every individual seated alone to complete a questionnaire pertaining to the traits that facilitate promotion. In meetings of professional organizations, everyone who volunteered to participate was included. When individuals agreed to participate (89%), the surveyor handed the participant the questionnaire, returned to collect it approximately 5 minutes later, and then handed the participant a written debriefing statement. These male and female participants of each country were randomly assigned to the target leader sex, target leader level, and item order conditions of the design (see Results).

#### 3.1.2. Manipulations

Information introducing the instrument manipulated target leader level and target leader sex (see Appendix A). Target leader level appeared as (a) lower level managers' promotions to middle management, (b) middle managers' promotions to senior management, or (c) senior managers' promotions to CEO. Target leader sex appeared as either male or female, or was not mentioned. Specifically, the instructions indicated that "This questionnaire is part of a study of what people believe are important determinants of workplace promotion. We are asking you to decide how important various behaviors are for [men's/women's/no mention] workplace success and [their/no mention] likelihood of promotion. Decide how likely it is that each behavior would help a [male/female/no mention] [lower/middle/senior] manager to get promoted to [middle manager/senior manager/CEO]".

#### 3.1.3. Measuring instruments

3.1.3.1. *Beliefs about the importance for promotion of leadership styles.* On a 7-point scale anchored by "very likely" and "very unlikely," participants rated the likelihood that each of the behaviors described by the 36 items of the MLQ-5X would help a member of the target group get promoted to a higher managerial level. The Dutch translation of the items was the same as in Study 1, with a few minor textual improvements. The translation of all other parts of the questionnaire was backtranslated and checked by an independent translator.

As in Study 1, we used a confirmatory factor analysis to test whether our measure of beliefs about the importance for promotion of leadership styles matched the usual nine-factor structure of the original MLQ. Results of the CFA indicated that again the nine-factor model fit the data moderately well,  $\chi^2(558, N=514)=1572.74, p<0.001$  (GFI=0.84, NNFI=0.81, RMSEA=0.06, CFI=0.83, AIC=1919.30, Saturated AIC=1332.00). Also, the multigroup CFA showed that the nine-factor structure was

consistent across the two countries. Therefore, we again based our analyses on the a priori MLQ subscales, even though some alpha coefficients were low (idealized influence—attribute 0.52, idealized influence—behavior 0.62, inspirational motivation 0.72, intellectual stimulation 0.67, individualized consideration 0.78, contingent reward 0.60, management by exception—active 0.55, management by exception—passive 0.71, and laissez-faire 0.77). As in Study 1, item deletion would not have improved reliability levels for most scales.

3.1.3.1.1. *Demographic information.* These measures were the same as in Study 1.

3.2. Results

Because preliminary analyses taking item order into account produced very few effects, the data were combined for further analyses. The resulting full factorial general linear model analysis of variance had a mixed design: Target Leader Sex (male, female, sex unspecified) × Target Leader Level (lower to middle, middle to senior, senior to CEO) × Participant Sex (male, female) × Country (United States, The Netherlands) × Subscale (9 subscales), with repeated measures on the subscales of the MLQ.

Following Hertzog and Rovine's (1985) suggestions for mixed design repeated measures data that, like our data, violate the assumption of sphericity, we implemented the Huynh–Feldt correction to adjust the degrees of freedom for the within-subjects overall tests of significance (resulting in noninteger degrees of freedom for repeated measures effects). Also consistent with Hertzog and Rovine's advice, simple effects and contrasts were computed with error terms composed only from the cells of the design that were compared. Effects not reported were nonsignificant.

3.3. Subscale main effect

The main effect of subscale was significant,  $F(3.92, 1874.89) = 1261.47, p < 0.001, \eta^2 = 0.73$ . As shown in Table 4, the mean stereotypical beliefs about the importance for promotion of the behaviors measured by the MLQ subscales mirrored their relative effectiveness (Judge & Piccolo, 2004). All of the transformational leader behaviors and contingent reward were considered important for promotion, and management by exception (active), management by exception (passive), and laissez-faire styles were considered less important for promotion, with the latter two considered quite unhelpful. Contrasts comparing inspirational motivation to the other subscales showed that the participants believed inspirational motivation to be more important for promotion than any of the other subscales,  $ps < 0.001$ . The significant interactions of the subscale variable with the other variables of the design appear in the next subsections.

3.4. Target leader sex effects

The target leader sex main effect was nonsignificant,  $F(2, 478) = 1.19, p = 0.30, \eta^2 = 0.01$ , but the Subscale × Target Leader Sex interaction was significant,  $F(7.85, 1874.89) = 2.03, p = 0.04, \eta^2 = 0.01$ , consistent with the interaction postulated in Hypotheses 2 and 3. The simple effects of target leader sex (male, female, sex unspecified) within the MLQ subscales were significant only on inspirational motivation and individualized consideration (see Table 4). The contrasts between the three conditions of target leader sex for these two subscales revealed participants' beliefs that (a) inspirational motivation is more important for promotion

**Table 4**  
Study 2: mean beliefs about importance for promotion of leadership styles, overall and by target leader sex.

MLQ subscale	Overall	Target leader sex			F	$\eta^2$
		Male	Female	No mention		
Inspirational motivation	5.81 (0.83)	5.93 <sub>a</sub> (0.82)	5.67 <sub>b</sub> (0.88)	5.81 <sub>ab</sub> (0.81)	3.24*	0.01
Idealized influence (attribute)	5.52 (0.90)	5.57 (0.99)	5.42 (0.88)	5.56 (0.82)	2.40 <sup>#</sup>	0.01
Idealized influence (behavior)	5.30 (0.88)	5.34 (0.98)	5.23 (0.85)	5.30 (0.80)	0.92	0.00
Intellectual stimulation	5.56 (0.86)	5.56 (0.96)	5.53 (0.81)	5.59 (0.80)	0.67	0.00
Individualized consideration	5.50 (0.99)	5.34 <sub>a</sub> (1.13)	5.57 <sub>b</sub> (0.88)	5.59 <sub>b</sub> (0.94)	5.39**	0.02
Contingent reward	5.39 (0.85)	5.35 (0.92)	5.34 (0.80)	5.46 (0.82)	3.01 <sup>#</sup>	0.01
Management by exception (active)	3.64 (1.10)	3.67 (1.04)	3.62 (1.10)	3.62 (1.17)	0.63	0.00
Management by exception (passive)	2.65 (1.14)	2.68 (1.23)	2.67 (1.03)	2.59 (1.14)	0.93	0.00
Laissez-faire	2.05 (1.13)	2.08 (1.14)	2.06 (1.16)	1.99 (1.08)	0.72	0.00

Note. Standard deviations appear in parentheses below each mean. The beliefs ranged from 1 “very unlikely” to 7 “very likely.” Means within a subscale that do not share the same subscript differed at  $p < 0.05$ .  $N = 514$  (183 for male targets, 166 for female targets, and 165 for sex not mentioned).

<sup>#</sup> $p < 0.10$ . \*  $p < 0.05$ . \*\*  $p < 0.01$ .

of a male than a female manager (supporting Hypothesis 2) and marginally more important for promotion of a sex unspecified manager than a female manager,  $p = 0.06$  and (b) individualized consideration is more important for promotion of a female and a sex unspecified manager than a male manager (supporting Hypothesis 3).

The simple effects of subscale within each condition of target leader sex were significant,  $ps < 0.001$ . We calculated contrasts comparing inspirational motivation, the most favorably evaluated aspect of leadership style, to each of the other subscales within each condition of target sex. For male targets and targets whose sex was unspecified, inspirational motivation was perceived as more important for promotion than any other set of behaviors,  $ps < 0.05$ . For female targets, inspirational motivation and individualized consideration were perceived as equally important for promotion,  $p = 0.13$ , but inspirational motivation as more important for promotion than any of the remaining subscales,  $ps < 0.05$ .

### 3.5. Target leader level effects

The target leader level effect was nonsignificant,  $F(2, 478) = 0.10, p = 0.90, \eta^2 = 0.00$ , but the Subscale  $\times$  Target Leader Level interaction was significant,  $F(7.85, 1874.89) = 3.84, p < 0.001, \eta^2 = 0.02$ , consistent with the interaction postulated in Hypotheses 4 and 5. The simple effect of target leader level within the subscales was significant on inspirational motivation, idealized influence (behavior), management-by-exception (passive), and laissez-faire, as well as marginally significant on individualized consideration,  $p = 0.07$  (see Table 5).

The contrasts associated with these effects of level revealed participants' beliefs that (a) inspirational motivation is more important for promotion to CEO than to senior manager,  $p = 0.07$ , or middle manager; (b) idealized influence (behavior) is more important for promotion to senior manager or CEO than to middle manager; (c) individualized consideration is more important for promotion to senior manager than to CEO,  $p = 0.03$ ; and (d) both management-by-exception (passive) and laissez-faire are less beneficial for promotion to senior manager or CEO than to middle manager. Hypotheses 4 and 5 were thus largely supported.

Consistent with the significant simple effects of subscale within all three target leader levels,  $ps < 0.001$ , contrasts showed that inspirational motivation was considered more important for promotion than any of the other subscales for all three levels,  $ps < 0.05$ .

### 3.6. Country effects

Given the main focus of our project on gender, we report the country effects only briefly. The country main effect,  $F(1, 478) = 12.94, p < 0.001, \eta^2 = 0.03$ , was qualified by the Subscale  $\times$  Country interaction,  $F(3.92, 1874.89) = 32.43, p < 0.001, \eta^2 = 0.06$ . In support of Hypothesis 6, the U.S. participants, compared to the Dutch participants, perceived that the leadership styles associated with greater effectiveness (transformational and contingent reward) are more important for promotion and that the styles associated with lesser effectiveness (active and passive management by exception, laissez-faire) are less important (see Judge & Piccolo, 2004). Also, consistent with the Target Leader Level  $\times$  Country interaction,  $F(2, 478) = 5.81, p = 0.003, \eta^2 = 0.02$ , which was qualified by the Subscale  $\times$  Target Leader Level  $\times$  Country interaction,  $F(7.85, 1874.89) = 3.75, p < 0.001, \eta^2 = 0.02$ , U.S. participants, more than Dutch participants, generally believed that the effective leadership styles become more advantageous for promotion at higher levels and that the less effective styles become less advantageous.

### 3.7. Discussion

This study produced several important findings pertaining to prescriptive beliefs about transformational and transactional leadership and about the impact of gender on these beliefs. As expected, differences emerged in the leadership styles believed to be important for the promotion of men, compared with women. Notably, participants believed that inspirational motivation is

**Table 5**  
Study 2: Mean beliefs about importance for promotion of leadership styles by target leader level.

MLQ subscale	Target leader level			F	$\eta^2$
	Lower to middle	Middle to senior	Senior to CEO		
Inspirational motivation	5.66 <sub>a</sub> (0.79)	5.77 <sub>ab</sub> (0.85)	5.93 <sub>b</sub> (0.83)	4.56*	0.02
Idealized influence (behavior)	5.06 <sub>a</sub> (0.90)	5.32 <sub>b</sub> (0.85)	5.42 <sub>b</sub> (0.87)	6.08**	0.03
Individualized consideration	5.43 <sub>ab</sub> (1.01)	5.63 <sub>b</sub> (0.96)	5.41 <sub>a</sub> (1.02)	2.75#	0.01
Management by exception (passive)	2.90 <sub>a</sub> (1.21)	2.56 <sub>b</sub> (1.07)	2.56 <sub>b</sub> (1.36)	3.73*	0.02
Laissez-faire	2.31 <sub>a</sub> (1.27)	1.99 <sub>b</sub> (1.08)	1.93 <sub>b</sub> (1.06)	3.83*	0.02

Note. Standard deviations appear in parentheses below each mean. The beliefs ranged from 1 "very unlikely" to 7 "very likely." Means within subscale that do not share a common subscript differed at  $p < 0.05$ .  $N = 514$  (128 for lower to middle, 183 for middle to senior, and 203 for senior to CEO).

# $p < 0.10$ . \*  $p < 0.05$ . \*\*  $p < 0.01$ .

more important for promotion for male than female managers. This is the only transformational subscale that participants in Study 1 did not believe is displayed more by women than men, and it was not exhibited by women more than men in the criterion sample of managers. Furthermore, our results show that inspirational motivation is seen as more important for promotion for men than any other subscale. Thus, a male manager seeking promotion would be wise to adopt a style of inspirational motivation—that is, to express optimism and excitement about goals and future states. Although our participants regarded inspirational motivation as important for women's promotion, it was less important than for men. Such behaviors are somewhat inconsistent with the prescriptive stereotype that women should be modest and self-effacing, and this inconsistency can undermine the effectiveness of such behaviors (e.g., [Wosinska et al., 1996](#)).

For women, inspirational motivation and individualized consideration were regarded as equally important for promotion. Thus, a woman seeking advancement would be well advised to manifest both aspects of transformational leadership. Given the perceived advantage for women of individualized consideration, women may be especially likely to incorporate these behaviors into their leadership style. The meta-analysis by [Eagly et al. \(2003\)](#) indeed found the largest sex difference on individualized consideration behavior. Moreover, [Yoder \(2001\)](#) argued that transformational leadership, especially individualized consideration, provides a means for women to mitigate backlash against agentic women ([Rudman & Glick, 2001](#)) and to display leadership behaviors that are congruent with the female gender role.

The condition in which target leader sex was unknown is also of interest. The stereotypical beliefs about these managers resembled beliefs about male managers on inspirational motivation but resembled beliefs about female managers on individualized consideration. Given the power of gender stereotypes, participants lacking information about managers' sex may have automatically thought about male managers when rating the agentic behaviors described by the inspirational motivation items and about female managers when rating the communal behaviors described by the individualized consideration items.

With respect to levels of leadership, idealized influence (behavior) and inspirational motivation were judged more important for promotion to upper than lower levels of leadership, confirming our hypothesis for the most part. As also hypothesized, less effective styles such as management by exception (passive) and laissez-faire were considered less detrimental for promotion to middle management than to upper levels. Especially interesting in light of the target sex effects noted above is the importance for promotion of inspirational motivation. Recall that for men seeking promotion, inspirational motivation emerged as a clear choice, one that was believed to lead to promotion more than any other style. Although leaders who display these behaviors may be well served when seeking promotion at any level, inspirational motivation was perceived to be even more important at higher levels.

For individualized consideration, the pattern is different. Leaders who prefer this style may hit a ceiling, as these leader behaviors, albeit still important for promotion to CEO, were judged less important for promotion to this level than to senior manager. This finding suggests that a leader emphasizing individualized consideration may do relatively better at reaching levels below the highest level of the hierarchy. Yet, given that the simple effect of managerial level on individualized consideration did not reach a conventional level of significance, further examination of these possibilities is warranted.

The country differences were consistent with our expectations. Specifically, compared with the Dutch participants, the U.S. participants judged the leadership styles shown to be more effective ([Judge & Piccolo, 2004](#)) as more important for promotion and the leadership styles shown to be less effective as less helpful. These country differences are consistent with the more rigorous performance orientation in the United States compared to the Netherlands ([House et al., 2004](#)). In further support of this interpretation, the U.S. (but not the Dutch) participants believed that most of the more effective leadership styles were especially important for promotion to CEO.

Alternatively, these country effects may also reflect the U.S. origins of the full range of leadership paradigm ([Avolio & Bass, 1991](#)). Despite its eventual global reach (see [Bass, 1997](#)), the approach may be especially attuned to the United States. Although the dimensions of leadership might remain the same across cultures, the behaviors within a dimension may vary in meaning ([Ensari & Murphy, 2003](#)) or importance for promotion. Future research should assess differences in cultural values among participants from different countries, including a much wider range of cultures than the United States and the Netherlands.

We emphasize that our study pertained to gender stereotypes about the importance of leadership styles for promotion. Although such stereotypical beliefs may affect actual promotions, earlier research has identified many other variables that influence advancement, such as human capital, social capital, interpersonal effectiveness, firmness, and ambition (e.g., [Ng, Eby, Sorensen, & Feldman, 2005](#); [Jansen & Vinkenburg, 2006](#)). Nonetheless, gender bias in stereotypes about leadership styles that facilitate promotion can make it difficult for effective women leaders to navigate their way to the top, even if they have done “all the right stuff” (e.g., [Heilman & Haynes, 2008](#); [Stroh, Brett, & Reilly, 1992](#)). Even small effects, such as those we obtained, can have substantial cumulative effects, as illustrated by [Martell, Lane, and Emrich's \(1996\)](#) simulation of small sex biases in personnel evaluations cumulating to produce far fewer women in top positions.

#### 4. Conclusion

From Study 1, we can conclude that *descriptive* gender stereotypes about leadership styles are accurate. Participants with considerable management experience thus believe that women display more transformational and contingent reward behaviors, and fewer management-by-exception and laissez-faire behaviors than men. Study 2 investigated *prescriptive* stereotypes about the importance of leadership styles for the promotion of women and men to different levels in organizations. Inspirational motivation was perceived as more important for men than women and especially important for promotion to CEO. In contrast,

individualized consideration was perceived as more important for women than men and especially important for promotion to senior management.

Our approach has several limitations. Experimental studies that simulate employment contexts, while allowing us to test our hypotheses in a controlled manner, raise questions about generalizability to real organizations. Therefore, further research should extend the study of these issues to promotion decisions in organizations. In addition, future experiments could simulate naturalistic, complex decision-making processes in a Brunswik lens framework (e.g., Koch, 2004) that might include a wide range of contextual factors.

Another limitation of our assessment of perceived leadership behavior is that some subscale reliability coefficients were low, and the fit of the nine-factor model of the MLQ was moderate, even if it was equivalent in the two countries. Although this outcome is perhaps not surprising, given that each subscale had only four items, greater scale reliability likely would produce stronger findings. In our research, however, we were obligated to use the intact MLQ to match our findings to the accuracy criterion in Study 1 as well as the Eagly et al. (2003) meta-analysis.

In conclusion, leadership style is thought to be important for promotion, especially inspirational motivation. Thus, it seems advisable that both women and men seeking advancement should display these inspirational motivation behaviors, and do “the vision thing” (Ibarra & Obodaru, 2009). Yet, our findings suggest that female leaders are wise to supplement these behaviors with individualized consideration behaviors to fulfill prescriptive gender norms and avoid backlash (Heilman & Okimoto, 2007). Indeed, for female leaders to be perceived as effective they need to demonstrate both sensitivity and strength, whereas male leaders only need to demonstrate strength (Johnson, Murphy, Zewdie, & Reichard, 2008). Women are expected to blend individualized consideration and inspirational motivation—communal and agentic aspects of leadership—to navigate a route to promotion (Eagly & Carli, 2007). Men, not burdened by a mismatch between the leader role and the male gender role, are advised to place primary emphasis on inspirational motivation. This double burden on women of manifesting inspirational motivation behavior while delivering communal behavior can be a challenge, to be sure. Future research can further clarify the balance between important aspects of leadership style that best enables women to negotiate their way to the highest levels of leadership.

## Acknowledgments

The authors thank Bruce Avolio for sharing data from the norming study of the Multifactor Leadership Questionnaire. The authors thank Matthew Anderson, Andria Cress, Erica Dencer, Kelly Forys, Alys Hanzlik, Shannon Kelly, Jennifer Liebman, and Lauren Stevenson for assistance with data collection in the United States, and Celine Boumans, Eefje Demmers, Kim Kasten, Nienke Kimsma, Maaïke Ligthart, Annemieke van de Ven, and Marjolein van der Werf for assistance with data collection in the Netherlands. Special thanks to Peter Dekker and Josje Dikkers for their assistance with data analyses. We also thank Paul Jansen, the colloquium group at the department of Human Resources Studies at Tilburg University, and three anonymous reviewers for their insightful comments on earlier versions of this manuscript. The international collaboration on this manuscript was supported by the Dutch Science Foundation NWO (Expert meeting ISW travel grant 460-04-026, 2004; International Visitors' Award, 2005–06). A partial, preliminary report of the Dutch data from Study 2 appeared in a Dutch language article by Van Engen and Vinkenburg (2005) in *Gedrag & Organisatie*, a journal directed to Dutch practitioners and scholars in work and organizational psychology.

## Appendix A. Directions to participants and sample item per study

### Study 1

*Directions (note: italics added to denote the experimental condition “target sex male, target group manager”):* “This questionnaire is part of a study of what people have learned from observing others. We are asking people to report how frequently they have observed members of various social groups display a selection of behaviors. We will present you with a list of behaviors, and you should think of the group “male managers,” while reading these behaviors. For each behavior, decide how frequently a typical male manager displays this behavior and respond by circling the corresponding phrase below the behavior. We are interested in your own observations, and there are no right or wrong answers. Please circle a phrase for every statement, even when you feel you are unsure.”

*Item 1 from MLQ subscale Contingent Reward:* “Provides his assistance in exchange for people's effort. How frequently does the typical male manager display this behavior?” (Frequently, If Not Always; Fairly Often; Sometimes; Once in A While; Not At All).

### Study 2

*Directions (note: italics added to denote the experimental condition “target sex female, target level senior-to-CEO”):* “This questionnaire is part of a study of what people believe are important determinants of workplace promotion. We are asking people to decide how important various behaviors are for women's workplace success and their likelihood of promotion. Decide how likely it is that each behavior would help a female senior manager to get promoted to CEO. We are interested in your own thoughts, and there are no right or wrong answers. Please circle a phrase for every statement, even when you feel you are unsure.”

*Item 1* from MLQ subscale Contingent Reward: “Provides her assistance in exchange for people’s effort. How likely is it that this behavior would help a female senior manager to get promoted to CEO?” (Very unlikely, Somewhat unlikely, Slightly unlikely, Unrelated to promotion, Slightly likely, Somewhat likely, Very likely).

## References

- Agars, M. (2004). Reconsidering the impact of gender stereotypes on the advancement of women in organizations. *Psychology of Women Quarterly*, 28, 103–111.
- Agle, B. R., Nagarajan, N. J., Sonnenfeld, J. A., & Srinivasan, D. (2006). Does CEO charisma matter? An empirical analysis of the relationships among organizational performance, environmental uncertainty, and top management team perceptions of CEO charisma. *Academy of Management Journal*, 49, 161–174.
- Antonakis, J., Avolio, B. J., & Sivasubramaniam, N. (2003). Context and leadership: An examination of the nine-factor full-range leadership theory using the Multifactor Leadership Questionnaire. *Leadership Quarterly*, 14, 261–295.
- Avolio, B. J., & Bass, B. M. (1991). *The full range leadership development programs: Basic and advanced manuals*. Binghamton, NY: Bass, Avolio & Associates.
- Bass, B. M. (1997). Does the transactional-transformational leadership paradigm transcend organizational and national boundaries? *American Psychologist*, 52, 130–139.
- Burgess, D., & Borgida, E. (1999). Who women are, who women should be: Descriptive and prescriptive gender stereotyping in sex discrimination. *Psychology, Public Policy, and Law*, 5, 665–692.
- Carli, L. L., LaFleur, S. J., & Loeber, C. C. (1995). Nonverbal behavior, gender, and influence. *Journal of Personality and Social Psychology*, 68, 1030–1041.
- Catalyst (2008a). 2008 Catalyst census of women board directors of the Fortune 500. Retrieved March 10, 2009 from <http://www.catalyst.org/publication/282/2008-catalyst-census-of-women-board-directors-of-the-fortune-500>
- Catalyst (2008b). 2008 Catalyst census of women corporate officers and top earners of the Fortune 500. Retrieved March 10, 2009 from <http://www.catalyst.org/publication/283/2008-catalyst-census-of-women-corporate-officers-and-top-earners-of-the-fortune-500>
- Center for Leadership Studies. (2000). Multifactor Leadership Questionnaire: Norms. Unpublished document, State University of New York, Binghamton.
- Den Hartog, D. N., Van Muijen, J. J., & Koopman, P. L. (1997). Transactional versus transformational leadership: An analysis of the MLQ. *Journal of Occupational and Organizational Psychology*, 70, 19–34.
- Eagly, A. H., & Carli, L. L. (2007). *Through the labyrinth: The truth about how women become leaders*. Boston: Harvard University Business School Press.
- Eagly, A. H., Johannesen-Schmidt, M. C., & van Engen, M. L. (2003). Transformational, transactional, and laissez-faire leadership styles: A meta-analysis comparing women and men. *Psychological Bulletin*, 129, 569–591.
- Eagly, A. H., & Karau, S. J. (2002). Role congruity theory of prejudice toward female leaders. *Psychological Bulletin*, 109, 573–598.
- Ensari, N., & Murphy, S. E. (2003). Cross-cultural variations in leadership perceptions and attribution of charisma to the leader. *Organizational Behavior and Human Decision Processes*, 92, 52–66.
- European Commission (2008). Women and men in decision-making in the top 50 publicly quoted companies. Retrieved April 29, 2008 from [http://www.ec.europa.eu/employment\\_social/women\\_men\\_stats/out/measurements\\_out438\\_en.htm](http://www.ec.europa.eu/employment_social/women_men_stats/out/measurements_out438_en.htm)
- Fletcher, J. K. (1999). *Disappearing acts: Gender, power and relational practice at work*. Cambridge, MA: MIT Press.
- Gill, M. J. (2004). When information does not deter stereotyping: Prescriptive stereotyping can foster bias under conditions that deter descriptive stereotyping. *Journal of Experimental Social Psychology*, 40, 619–632.
- Hackman, M. Z., Furniss, A. H., Hills, M. J., & Paterson, T. J. (1992). Perceptions of gender-role characteristics and transformational and transactional leadership behaviours. *Perceptual and Motor Skills*, 75, 311–319.
- Hall, J. A., & Carter, J. D. (1999). Gender-stereotype accuracy as an individual difference. *Journal of Personality and Social Psychology*, 77, 350–359.
- Heilman, M. E. (1984). Information as a deterrent against sex discrimination: The effects of applicant sex and information type on preliminary employment decisions. *Organizational Behavior and Human Performance*, 33, 174–186.
- Heilman, M. E. (2001). Description and prescription: How gender stereotypes prevent women’s ascent up the organizational ladder. *Journal of Social Issues*, 57, 657–674.
- Heilman, M. E., Block, C. J., Martell, R. F., & Simon, M. C. (1989). Has anything changed? Current characterizations of men, women, and managers. *Journal of Applied Psychology*, 74, 935–942.
- Heilman, M. E., & Chen, J. J. (2005). Same behavior, different consequences: Reactions to men’s and women’s altruistic citizenship behavior. *Journal of Applied Psychology*, 90, 431–441.
- Heilman, M. E., & Haynes, M. C. (2008). Subjectivity in the appraisal process: A facilitator of gender bias in work settings. In E. Borgida & S.T. Fiske (Eds.), *Beyond common sense: Psychological science in the courtroom* (pp. 127–155). Malden, MA: Blackwell Publishing.
- Heilman, M. E., & Okimoto, T. G. (2007). Why are women penalized for success at male tasks?: The implied communality deficit. *Journal of Applied Psychology*, 92, 81–92.
- Heilman, M. E., Wallen, A. S., Fuchs, D., & Tamkins, M. M. (2004). Penalties for success: Reactions to women who succeed at male gender-typed tasks. *Journal of Applied Psychology*, 89, 416–429.
- Hertzog, C., & Rovine, M. (1985). Repeated-measures analysis of variance in developmental research: Selected issues. *Child Development*, 56, 787–809.
- Hogan, R., & Kaiser, R. B. (2005). What we know about leadership. *Review of General Psychology*, 9, 169–180.
- House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (2004). *Culture, leadership, and organizations: The Globe study of 62 societies*. Thousand Oaks, CA: Sage.
- Hymowitz, C., & Schellhardt, T. C. (1986, March 24). The glass ceiling: Why women can’t seem to break the invisible barrier that blocks them from top jobs. *Wall Street Journal* Special supplement, pp. 1, 4.
- Ibarra, H., & Obodaru, O. (2009). Women and the vision thing. *Harvard Business Review*, 87, 62–70.
- Jansen, P. G. W., & Vinkenburg, C. J. (2006). Predicting management career success from assessment center data: A longitudinal study. *Journal of Vocational Behavior*, 68, 253–266.
- Johnson, S. K., Murphy, S. E., Zewdie, S., & Reichard, R. J. (2008). The strong, sensitive type: Effects of gender stereotypes and leadership prototypes on the evaluation of male and female leaders. *Organizational Behavior and Human Decision Processes*, 106, 39–60.
- Judd, C. M., & Park, B. (1993). Definition and assessment of accuracy in social stereotypes. *Psychological Review*, 100, 109–128.
- Judge, T. A., & Piccolo, R. F. (2004). Transformational and transactional leadership: A meta-analytic test of their relative validity. *Journal of Applied Psychology*, 89, 755–768.
- Koch, S. C. (2004). Constructing gender: A lens-model inspired gender communication approach. *Sex Roles*, 51, 171–186.
- Kunda, Z., & Spencer, S. J. (2003). When do stereotypes come to mind and when do they color judgment? A goal-based theoretical framework for stereotype activation and application. *Psychological Bulletin*, 129, 522–544.
- Lipsey, M. W., & Wilson, D. B. (2001). *Practical meta-analysis*. Thousand Oaks, CA: Sage.
- Lowe, K. B., Kroeck, K. G., & Sivasubramaniam, N. (1996). Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. *Leadership Quarterly*, 7, 385–425.
- Martell, R. F., Lane, D. M., & Emrich, C. (1996). Male–female differences: A computer simulation. *American Psychologist*, 51, 157–158.
- Martell, R. F., Parker, C., Emrich, C. G., & Crawford, M. S. (1998). Sex stereotyping in the executive suite: “Much ado about something”. *Journal of Social Behavior & Personality*, 13, 127–138.
- Maume, D. J., Jr. (2004). Is the glass ceiling a unique form of inequality? Evidence from a random-effects model of managerial attainment. *Work and Occupations*, 31, 250–274.

- McCauley, C. D. (2004). Successful and unsuccessful leadership. In J. Antonakis, A. T. Cianciolo, & R. J. Sternberg (Eds.), *The nature of leadership* (pp. 199–221). Thousand Oaks, CA: Sage.
- Mindgarden (2002). Multifactor Leadership Questionnaire, copyright 1995, 2000 by Bernard Bass and Bruce Avolio. *Research Edition Translation in Dutch, June 27, 2002, by special permission of the publisher, Mindgarden Inc., Redwood City, CA 94061, USA.* <http://www.mindgarden.com>
- Newport, F. (2001, February 21). Americans see women as emotional and affectionate, men as more aggressive: Gender specific stereotypes persist in recent Gallup poll. Retrieved January 25, 2005 from Gallup Brain. <http://www.brain.gallup.com>
- Oppenheimer, L. (2004). Perception of individualism and collectivism in Dutch society: A developmental approach. *International Journal of Behavioral Development*, 28, 336–346.
- Ng, T. W. H., Eby, L. T., Sorensen, K. L., & Feldman, D. C. (2005). Predictors of objective and subjective career success: A meta-analysis. *Personnel Psychology*, 58, 367–408.
- Prentice, D. A., & Carranza, E. (2002). What women and men should be, shouldn't be, are allowed to be, and don't have to be: The contents of prescriptive gender stereotypes. *Psychology of Women Quarterly*, 26, 269–281.
- Rudman, L. A. (1998). Self-promotion as a risk factor for women: The costs and benefits of counterstereotypical impression management. *Journal of Personality and Social Psychology*, 74, 629–645.
- Rudman, L. A., & Glick, P. (1999). Feminized management and backlash toward agentic women: The hidden costs to women of a kinder, gentler image of middle management. *Journal of Personality and Social Psychology*, 77, 1004–1010.
- Rudman, L. A., & Glick, P. (2001). Prescriptive gender stereotypes and backlash toward agentic women. *Journal of Social Issues*, 57, 743–762.
- Rudman, L. A., & Phelan, J. E. (2008). Backlash effects for disconfirming gender stereotypes in organizations. *Research in Organizational Behavior*, 28, 61–79.
- Ryan, C. S. (2002). Stereotype accuracy. In W. Stroebe & M. Hewstone (Eds.), *European review of social psychology*, Vol. 13. (pp. 75–109) Hove, UK: Psychology Press/Taylor & Francis.
- Schein, V. E. (2001). A global look at psychological barriers to women's progress in management. *Journal of Social Issues*, 57, 675–688.
- Schwartz, S. H., & Bardi, A. (2001). Value hierarchies across cultures: Taking a similarities perspective. *Journal of Cross-Cultural Psychology*, 32, 268–290.
- Smith, R. A. (2002). Race, gender, and authority in the workplace: Theory and research. *Annual Review of Sociology*, 28, 509–542.
- Stroh, L. K., Brett, J. M., & Reilly, A. H. (1992). All the right stuff: A comparison of female and male managers' career progression. *Journal of Applied Psychology*, 77, 251–260.
- Swim, J. K. (1994). Perceived versus meta-analytic effect sizes: An assessment of the accuracy of gender stereotypes. *Journal of Personality and Social Psychology*, 66, 21–36.
- Triandis, H. C. (1995). *Individualism and collectivism*. San Francisco, CA: Westview Press.
- Van de Vijver, F., & Leung, K. (1997). *Methods and data analysis for cross-cultural research*. Thousand Oaks, CA: Sage.
- Van Engen, M. L., & Vinkenburg, C. J. (2005). Transformationeel leiderschap en carrière maken: Sekseverschillen in consequenties van effectief leiderschap [Transformational leadership and career making: Sex differences in consequences of effective leadership]. *Gedrag & Organisatie*, 18, 103–121.
- Williams, J. E., & Best, D. L. (1990). *Measuring sex stereotypes: A multinational study*. Newbury Park, CA: Sage.
- Wosinska, W., Dabul, A. J., Whetstone-Dion, R., & Cialdini, R. (1996). Self-presentational responses to success in the organization: The costs and benefits of modesty. *Basic and Applied Social Psychology*, 18, 229–242.
- Yoder, J. D. (2001). Making leadership work more effectively for women. *Journal of Social Issues*, 57, 815–828.