

Gender role self-concept, categorical gender, and leadership style 1

Gender role self-concept, categorical gender, and transactional-transformational leadership:
Implications for perceived workgroup performance

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Prior research has shown that female managers are more likely to display transactional-transformational leadership, but they are less likely than their male colleagues to benefit from this in terms of leadership effectiveness. The aim of this study is to address this intriguing finding. Our expectations were that female managers need masculinity so that their leadership can display positive effects on perceived workgroup performance, whereas androgyny would be advantageous in male managers. We collected data from 67 workgroups, and asked managers to report on their gender role self-concept as well as workgroup performance, and 473 workgroup members to report on their manager's leadership style. Our analyses revealed that, expectedly, androgyny might be advantageous in male managers using contingent reward, intellectual stimulation and charisma/inspiration. For female managers, however, a lack of gender-typical attributes might be disadvantageous, especially when using charisma/inspiration.

Key words

transformational leadership; transactional leadership; gender role self-concept; categorical gender; workgroup performance.

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Meta-analytical evidence (Eagly, Johannesen-Schmidt, & van Engen, 2003) suggests that female leaders are more likely to demonstrate a transformational leadership style, and are also more likely to engage in the contingent reward behaviors of transactional leadership than male leaders. These gender differences are also reflected in descriptive stereotypes about female and male leadership styles in that respondents believe that women display more transformational and contingent reward behaviors than men (Vinkenburger, van Engen, Eagly & Johannesen-Schmidt, 2011). It seems, however, that female leaders cannot fully benefit from this as research has shown that the interrelation between leadership behaviors and outcomes is stronger for male leaders than for female leaders (Druskat, 1994; Reuvers, van Engen, Vinkenburger, & Wilson-Evered, 2008).

Our study addressed this curious finding. We considered managers' gender role self-concept in addition to their (female or male) categorical gender and leadership behaviors (Vandenberghe, 1999). We expected combined effects of these variables because in work settings, gender roles are likely to interact with normative job role expectations (Eagly & Carli, 2007; Eagly & Karau, 2002). More specifically, we assumed that the strength of the interrelation between leadership and outcomes varies across female and male leaders with different gender role self-concepts. Given that contingent reward and transformational leadership are highly valued and effective leadership behaviors (Judge & Piccolo, 2004), it is crucial to identify the conditions under which these behaviors may result in success for both male and female leaders.

Leadership behaviors and outcomes in female and male leaders

Whereas contingent reward and transformational behaviors in particular appear to be more typical of female leaders (relational practices: Fletcher & Kaeufer, 2003), research has shown that female leaders do not benefit from these leadership practices as much as their male colleagues. With regard to follower attitudes, Druskat (1994) demonstrated that male followers of male transformational leaders rated themselves as more satisfied than female followers of female transformational leaders. Concerning work outcomes, Reuvers et al. (2008) reported that employees' innovative work behavior was higher for male transformational leaders than for female transformational leaders. In another study, the interrelation between female leaders' transformational leadership and followers' perceptions of effectiveness was even negative when they were evaluated by male employees (Ayman, Korabik, & Morris, 2009).

It has been suggested that when female leaders display relational practices such as transformational leadership, they are less appreciated because they are "just doing what women do" (Fletcher, 2004, p. 654). Whereas female leaders may be expected to display transformational leadership because they are women, male leaders are "overtly commended" for demonstrating transformational behaviors because they are men (Reuvers et al., 2008, p. 239). For male leaders, there is a match between their gender role and their position (Becker, Ayman, & Korabik, 2002), so when they display relational practices, this complements the masculine character of their gender role and position. Consequently, we might expect that those male leaders who display contingent reward and transformational behaviors should possess masculine and feminine attributes in order to maintain the balance between masculine gender role and feminine leadership behavior. In this paper, we argue that female leaders using contingent reward and transformational leadership must possess masculine attributes because otherwise these leadership behaviors will not display their positive effect.

Gender role self-concept

The concept of gender role self-concept was introduced more than thirty years ago (e.g., Bem, 1974) and has been used in recent gender-in-organizations research (e.g., Eddleston, Veiga, & Powell, 2006; Powell & Butterfield, 2003). Gender role self-concepts refer to the extent to which an individual possesses stereotypically feminine and masculine attributes (Bem, 1974). These gender role self-concepts emerge from the internalization of gender roles (Bem, 1981; Cejka & Eagly, 1999; Deaux & Major, 1987) and can be considered a trait variable as they are comparatively stable across time.

Measures assessing the gender role self-concept (e.g., Bem Sex Role Inventory: Bem, 1974; 1994) provide a femininity and a masculinity score. From these scores four types of gender role self-concepts can be differentiated: feminine (scoring high on feminine traits, scoring low on masculine traits), masculine (scoring high on masculine traits, scoring low on feminine traits), androgynous (scoring high on feminine and masculine traits), and undifferentiated (scoring low on feminine and masculine traits).

The relationship between gender role self-concept and categorical gender can be described in terms of 'congruence'. Feminine women and masculine men are congruent in the sense of conventionally gender-typed, as their self-concepts are "consistent with cultural standards of gender appropriateness" (Bem, 1993, p.120). Androgynous individuals, who have both feminine and masculine traits, have a broad set of attributes and behavioral options enabling them to behave flexibly and to cope with diverse situational demands (Bierhoff-Alfermann, 1989; Alfermann, 1996; Vonk & Ashmore, 1993). Finally, undifferentiated individuals possess few feminine and masculine traits. For both women and men, possessing feminine traits is associated with displaying feminine behaviors, whereas having masculine traits is interrelated with showing masculine behaviors (Athenstaedt, 2003). Given their lack of feminine and masculine traits, one would assume that undifferentiated individuals are less

likely to display feminine and masculine behaviors. In line with this consideration it has been suggested that undifferentiated women's and men's behavioral flexibility is limited (Bem, 1974). There is some research supporting this assumption. Among others, undifferentiated individuals are less likely than androgynous individuals to engage in help seeking behaviors, and they are also less likely to increase devoted time and energy to accommodate job stress than feminine and androgynous individuals (Gianakos, 2000). Furthermore, undifferentiated individuals show lowered self-efficacy (e.g., in terms of confidence in decision-making: Gianakos, 1995), perhaps indicating a somewhat "apathetic attitude" (Gianakos, 2000, p. 1073).

Researchers have repeatedly suggested that categorical gender and gender role self-concept should be considered as separate variables in organizational research (Hooijberg & DiTomaso, 1996; Alvesson & Billing, 1997). Indeed understanding both categorical gender and gender role self-concept can add to the understanding of women's and men's behavior in the workplace (Powell, 1982). This is important because gender roles can influence a person's work behavior (Eagly, Wood, & Diekmann, 2000), and particularly their leadership behavior (Eagly, Johannesen-Schmidt, & van Engen, 2003). As Vandenberghe (1999, p. 29) has suggested, research examining the interplay between categorical gender, gender-typical personality traits, and transformational leadership is "obviously warranted".

Transactional-transformational leadership

With regards to leadership, there is evidence that good leaders display both transactional and transformational behaviors (Bass, 1997). Transactional leadership is the "exchange relationship between leader and follower to meet self-interests" (Bass, 1999, p. 10), whereas transformational leadership refers to leaders that "move followers beyond immediate self-interests" (p. 11). Bass (1988; Avolio, Bass, & Jung, 1999) has described a six-factor model

comprising three transactional factors and three transformational factors. The transactional factors are contingent reward (e.g., providing commendations for success), active management-by-exception (e.g., monitoring and taking actions against deviations), and passive management-by-exception (e.g., taking actions not until problems occur) (Bass, 1997, p. 134). The transformational factors have been named individualized consideration (e.g., considering followers' needs), charisma/inspiration (e.g., articulating appealing visions), and intellectual stimulation (e.g., questioning traditions) (Bass, 1997, p. 133).

More specifically, transactional leaders clarify workgroup members' responsibilities and negotiate objectives and tasks (e.g., Bass & Avolio, 1993), emphasize reward and punishment (Bass, 1985), and are more focused on task behavior than communal or socio-emotional behavior (Berdahl, 1996; Bass, Avolio, & Atwater, 1996). By emphasizing activities such as goal setting and rational exchange processes (Kark & Shamir, 2001), this style has been associated with more conventional styles of managing (Eagly, Johannesen-Schmidt, & van Engen, 2003). Transformational leadership, on the other hand, is a more socially oriented or relational approach to leadership that is less hierarchical and focuses on collaborative learning rather than on individual achievement (Fletcher & Kaeufer, 2003). These leaders "engage the emotional involvement of their followers to build higher levels of trust in the leader and his or her mission" (Jung & Avolio, 2000, p. 950).

Empirical evidence suggests that there is a "one-way augmentation effect" (Bass, 1997, p.135) in the sense that transformational leadership adds to outcome predictions based upon transactional leadership, but not vice versa. In their meta-analysis, Judge and Piccolo (2004) reported high and comparable overall validities for transformational leadership as well as the contingent reward behaviors of transactional leadership (.44 and .39 respectively) across a range of outcome variables such as workgroup performance and follower satisfaction. They found that transformational leadership and contingent reward were highly correlated (.80).

Whereas transformational leadership had a higher predictive validity than contingent reward for follower satisfaction with leader and for rated leader effectiveness, contingent reward had a higher validity than transformational leadership for follower job satisfaction and leader job performance (Judge & Piccolo, 2004). Regarding workgroup performance, however, there was no difference in the validity of transformational leadership and contingent reward. Therefore, we will focus on contingent reward and transformational behaviors and their interrelation with workgroup performance in our study.

Gender-typical undertones of transactional-transformational leadership

Leadership styles, and their gender-typical undertones, continue to be topics of interest to academics and practitioners (Eagly, Johannesen-Schmidt, & van Engen, 2003). With regards to leadership and gender-typical traits, research has shown that effective leaders are traditionally seen as those who possess masculine attributes (e.g., task-oriented and assertive: Schein, 2001; Koenig, Eagly, Mitchell, & Ristikari, 2011). However, others have noted that effective leadership also requires interpersonal skills and feminine attributes such as being supportive and empowering (Yukl, 2006, p. 466). As Eagly and Carli (2007, p. 91) have shown, contemporary descriptions of leaders often comprise some feminine attributes, while masculine attributes “have remained well represented”. There has been much debate about the extent to which transformational and transactional leadership reflect these feminine or masculine attributes.

With regard to gender differences, a meta-analysis has shown that female leaders score higher than male leaders on the contingent reward behaviors of transactional leadership (Eagly, Johannesen-Schmidt, & van Engen, 2003). Furthermore, female leaders are believed to display more contingent reward behaviors than men ($d = 0.55$: Vinkenbunrg et al., 2011). This has led some to assume that contingent reward behaviors might have a feminine

undertone and that these behaviors allow women to display leadership competence "in a positive manner that is particularly supportive of subordinates" (Eagly, Johannesen-Schmidt, & van Engen, 2003, p. 573).

Regarding transformational leadership, it has also been suggested that these leadership practices are closer to the feminine gender role. As Pounder and Coleman (2002, p. 124) argue, feminine attributes "tend towards a style of leadership that underlies the transformational leadership approach". There is indeed some empirical support for this view, specifically the interrelation between individualized consideration and feminine gender-role characteristics which is significantly stronger than the interrelation between individualized consideration and masculine gender-role characteristics (Hackman, Furniss, Hills, & Paterson, 1992). In another study, transformational leadership was shown to positively correlate with feminine attributes and nurturance, and negatively with criticalness and aggression (Ross & Offermann, 1997). More recent evidence suggests that this congruity between femininity and transformational behaviors is also reflected in descriptive gender stereotypes about leadership styles. According to Vinkenburg et al. (2011), people believe that female leaders display more individualized consideration ($d = 0.75$), more intellectual stimulation ($d = 0.42$), but slightly less charisma/inspiration ($d = 0.05$) than male leaders. The latter may be because charisma/inspiration perhaps requires masculine attributes such as pragmatism and self-confidence (Bass & Riggio, 2006) which might be perceived as inconsistent with the stereotypical expectation that women should be modest (Wosinska, Dabul, Whetstone-Dion, Cialdini, 1996).

Consistent with empirical findings, some authors have argued that transformational leadership does not fit the stereotype of an assertive and aggressive leader (e.g., House & Howell, 1992), but is more congenial to the feminine gender role (van Engen, van der Leeden, & Willemsen, 2001) and has feminine (communal) undertones (Yoder, 2001). Other authors

explicitly refer to transformational leadership as a feminine leadership style (e.g., Carless, 1998). However, others have argued that transformational leadership is a result of a balance between masculinity and femininity - creating an androgynous leadership style (Hackman et al., 1992). Echoing this finding, Manning (2002, p. 208) concludes that transformational leadership "may provide a way that women and men can integrate gender role and structural role demands".

In general, leadership roles and leadership behaviors continue to be associated with masculine undertones. In order to fulfill these leadership roles, having masculine attributes, such as being assertive and willing to take a stand, are seen to be crucial (Schein, 2001; Koenig et al., 2011). With regard to gender role theory (Eagly, Wood, & Diekmann, 2000; Eagly, 1987), when women *or* men are more frequently observed in certain roles, then this increases the probability that women *or* men are ascribed the attributes which enable them to succeed in fulfilling these respective roles (Cejka & Eagly, 1999). If this is the case, then perceptions that male leaders are "inherently [...] in a state in which their gender role matches their position" (Becker, Ayman, & Korabik, 2002, p. 230) are in part a result of women's underrepresentation in leadership positions.

Female leaders, on the other hand, are likely to be confronted with a mix of expectations (Eagly & Karau, 2002). They are simultaneously expected to fulfill a leadership role that requires them to display masculine (agentic) behaviors, whilst also fulfilling their feminine (communal) gender role. As Eagly and Carli (2007, p. 163) have argued, it is essential for female leaders to establish that they are agentially competent and to "temper their agency with communion", thereby compensating for an "implied communality deficit" (Heilman & Okimoto, 2007, p. 81; Johnson, Murphy, Zewdie, & Reichard, 2008). By engaging in leadership behaviors with a feminine or communal undertone, they argue that female leaders

are more able to meet the expectations of leadership, whilst simultaneously demonstrating their feminine gender role (Eagly, Johannesen-Schmidt, & van Engen, 2003).

Gender role self-concept, categorical gender, and transactional-transformational leadership

Our first hypothesis addresses gender role self-concepts, leadership behaviors and workgroup performance in female leaders. Our assumption is that for contingent reward and transformational leadership to be successful, female leaders must possess masculine attributes. Without this they would be perceived as “doing femininity” rather than engaging in a highly effective leadership style (Fletcher, 2004, p. 653). Masculinity will allow female leaders to demonstrate that they are agentically competent (Eagly & Carli, 2007) and therefore to benefit from contingent reward and transformational leadership in terms of workgroup performance. We suggest that those female leaders with a masculine or androgynous gender role self-concept should be more effective with contingent reward and transformational behaviors than those female leaders with feminine and undifferentiated gender role self-concepts. Androgynous female leaders will be effective in spite of their high femininity since they possess the required masculine attributes along with feminine attributes that may help “temper their agency with communion” (Eagly & Carli, 2007, p. 163), thereby compensating for an “implied communality deficit” (Heilman & Okimoto, 2007, p. 81; Johnson et al., 2008). We thus hypothesize the following:

H₁: For masculine and androgynous female leaders, there is a stronger interrelation between contingent reward/transformational leadership and higher workgroup performance than for feminine and undifferentiated female leaders.

Our second hypothesis addresses gender role self-concepts, leadership behaviors and workgroup performance in male leaders. Male leaders, unlike female leaders, are in a

situation where their categorical gender inherently matches their position (Becker, Ayman, & Korabik, 2002). Thus they automatically benefit from the status element of the male gender stereotype with regard to social significance, competence, and required skills (Ridgeway, 2001, p. 638). Indeed, they can exploit relational behaviors because these are unexpected in male leaders and in contrast to the male gender stereotype (Reuvers et al., 2008). Male leaders may be evaluated positively when they display feminine behaviors (van Engen, 2001). As Heilman and Chen (2005) have shown, demonstrating helpfulness in work settings is rewarded in men, but not in women.

When male leaders display relational practices, this complements the masculine character of their gender role and position. Male leaders displaying contingent reward and transformational behaviors do not need masculine or feminine attributes to compensate for implied deficits. Instead, they should possess masculine and feminine attributes in order to maintain the balance between masculine gender role and feminine leadership behavior. We thus hypothesize:

H₂: For androgynous male leaders, there is a stronger interrelation between contingent reward/transformational leadership and higher workgroup performance than for feminine, masculine, and undifferentiated male leaders.

Our third hypothesis addresses potential effects of the feminine undertones of contingent reward and transformational behaviors. We assume that individualized consideration may have the strongest feminine undertone (Hackman et al., 1992; Vinkenburg et al., 2011) and that this is particularly relevant in female leaders. For female leaders, the hypothesized differences between masculine as well as androgynous leaders and feminine and undifferentiated leaders should be strongest when they use individualized consideration. Having an androgynous or masculine gender role self-concept is particularly important for

female leaders to demonstrate agentic competence (Eagly & Carli, 2007) when using behaviors with a pronounced feminine undertone. For male leaders, on the other hand, their gender role self-concepts are less relevant when using individualized consideration because feminine behavior has generally positive effects when shown by men (Heilman & Chen, 2005; Reuvers et al., 2008). Accordingly, we hypothesize:

H₃: The difference between masculine/androgynous and feminine/undifferentiated female leaders in the interrelation between leadership behavior and higher workgroup performance is largest when using individualized consideration.

Method

Sample and procedure

Our sample comprised $N_1 = 67$ managers and $N_2 = 473$ members of their respective workgroups from 19 organizations. Among these organizations were seven banks and insurance companies, five technology and engineering firms, and seven other organizations. Managers' average age was 40.5 years ($SD = 7.3$). Forty-eight percent had attained an Undergraduate Degree or Postgraduate Diploma, whereas 43 % indicated that they had attained a Master's Degree or Doctorate. Managers had been fulfilling managerial roles for 9.2 years ($SD = 6.8$). Approximately half of the managers were female (i.e., thirty-seven female managers = 55 %). Eighty-seven percent of the managers indicated that their ethnic origin was White/Caucasian. On average, managers had 13.3 direct reports ($SD = 26.0$), and they were predominantly working in the areas HR and general management (25 %), finance and accounting (25 %), and marketing and sales (16 %).

Workgroups' average size was 11.2 members ($SD = 6.1$), and 3.4 workgroups per organization took part in our study ($SD = 1.5$). On average, $M = 8.3$ ($SD = 4.4$) members per workgroup took part in the survey, which is equivalent to $M = 75$ % ($SD = 14$) of the

members in each workgroup. The workgroups operated in 16 different countries, but most of them were located in the United Kingdom and Ireland (42 teams = 63 %). Workgroup members' average age was 37.3 years ($SD = 9.6$). Fifty-six percent of the members had worked for their respective organization for six years or more. Fifty percent of the members were female. Seventy-eight percent of the members indicated that their ethnic origin was White/Caucasian.

Organizations were contacted individually and asked to circulate information about the research project and contact details of the research group. We strived towards a gender-balanced sample of approximately 100 workgroups, thereby following recommendations for gender comparisons (McHugh, Koeske, & Frieze, 1986) as well as moderator studies in organizational research (Villa, Howell, Dorfmann, & Daniel, 2003). Given the generally lower number of female managers, a second attempt specifically requesting workgroups led by women was necessary. One-hundred-and-five workgroups expressed an interest in participating in the study. These workgroups were then given access to an online questionnaire which was administered in English. We received data from 82 workgroups (response rate = 78 %). Due to missing data from either the managers' or the members' side, 15 workgroups were excluded.

In order to guarantee statistical independence of the data (i.e., to control for the managers or workgroup membership respectively as potential sources of variance), members' ratings were averaged per workgroup. Thus, our findings refer to 67 workgroups. We determined within-group agreement ($r_{WG(j)}$; James, Demaree, & Wolf, 1984) and intraclass correlations (ICCs; Bliese, 2000). Median $r_{WG(j)}$, ICC(1), and ICC(2) values ranged between .79 and .89, between .06 and .20, and between .29 and .62 respectively (for complete statistics, see [Table 1](#)). The median $r_{WG(j)}$ values suggest 'strong agreement' among workgroup members, and ICC(1) values indicate 'medium' effects of group membership

(LeBreton & Senter, 2008). ICC(2) values, however, were lower than they should be, indicating that absolute consensus within work groups was high, but relative consensus (i.e., group mean reliabilities) could have been higher.

Instruments

Contingent reward and transformational leadership (members' ratings): Contingent reward was assessed with an instrument developed by Podsakoff, Todor, Grover, and Huber (1984). The scale comprises four items, one of which reads "My leader personally complements me when I do outstanding work". Members indicated the extent to which they found these leadership behaviors reflective of their manager. The answer categories ranged from 1 = *strongly disagree* to 5 = *strongly agree*.

In order to assess transformational behaviors, we used three scales developed by Podsakoff, MacKenzie, Moorman, and Fetter (1990; Podsakoff, MacKenzie, & Bommer, 1996). Individualized consideration was assessed with four items (e.g., "My leader behaves in a manner that is thoughtful of my personal needs"), charisma/inspiration with five items (e.g., "My leader inspires others with her/his plans for the future"), and intellectual stimulation with three items (e.g., "My leader has stimulated me to think about old problems in new ways"). Again, members indicated the extent to which they found these leadership behaviors accurate of their manager. The answer categories ranged from 1 = *strongly disagree* to 5 = *strongly agree*.

Managers' gender role self-concept (managers' ratings): In order to assess this variable, we used a short form of the Bem-Sex-Role-Inventory (Bem, 1974; Bem, 1994). Managers indicated the extent to which they found ten feminine and ten masculine personality traits self-descriptive (feminine: "affectionate", "sympathetic", "sensitive to needs of others", "understanding", "compassionate", "eager to soothe hurt feelings", "warm", "tender", "love

children”, “gentle”; masculine: “defend my own beliefs”, “independent”, “assertive”, “strong personality”, “forceful”, “have leadership abilities”, “willing to take risks”, “dominant”, “willing to take a stand”, “aggressive”). The answer categories ranged from 1 = *never or almost never true* to 7 = *always or almost always true*. Traditionally, different types of gender role self-concepts have been identified using the median-split method. However, more recently researchers use the continuous femininity and masculinity scores and both scores’ interaction term in particular to avoid loss of statistical power.

Workgroup performance (managers' ratings): We assessed this variable with an instrument developed by Zellmer-Bruhn and Gibson (2006). Managers indicated the extent to which their workgroups "achieve their goals" and "accomplish their objectives" on five items. The answer categories ranged from 1 = *very inaccurate* to 5 = *very accurate*.

Control variables: Gender composition of workgroups was documented as proportion of women among workgroup members in percent. Managers’ negative affectivity was assessed with an instrument developed by Watson, Clark, and Tellegen (1988). Managers indicated the extent to which they felt ten negative feelings and emotions during the past few weeks (e.g., "ashamed" and "guilty"). The answer categories ranged from 1 = *very slightly or not at all* to 5 = *extremely*. According to Podsakoff, MacKenzie, Lee, and Podsakoff (2003, p. 833), mood-dispositions can affect ratings on self-report questionnaires, thereby influencing “the relationships between variables in organizational research”.

Analyses

In order to examine our hypotheses we used moderated regression analyses which contained two-way, three-way, and four-way interaction terms. Variables involved were centered to the mean (Aiken & West, 1991). In the first step, managers’ negative affectivity and workgroups’ gender composition were entered into regression equations. Partialling out managers’

negative affectivity allowed us to address, at least in part, concerns regarding common method bias (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Gender composition of workgroups was considered as a second control variable, because prior research has shown that subordinates' gender can affect the interrelation between the leadership behaviors of women and men and outcomes (Ayman, Korabik, & Morris, 2009).

In the second step, the predictors leadership behavior, managers' categorical gender, managers' femininity, and managers' masculinity (i.e., their gender role self-concepts) were entered. In the third step, the six two-way and four three-way interaction terms of the predictor variables were entered. By including all possible interactions between predictor variables, we accounted for complete regression models, rather than only including those interaction terms that were of interest to us.

In the last step, the remaining four-way interaction term was entered. This last interaction term was the focus of our initial analyses. Considered jointly, our two hypotheses proposed a higher-order gender difference in that we expected different moderating effects of gender role self-concepts (i.e., femininity x masculinity) on the interrelation between leadership behavior and workgroup performance for female and male managers. In other words, we expected the interrelation between leadership behavior and workgroup performance to be moderated by managers' gender role self-concepts (i.e., leadership x femininity x masculinity), *and* that this effect is different for female and male managers (i.e., leadership behavior x gender x femininity x masculinity). The latter four-way interaction term must show a significant relation with the dependent variable in order to qualify a combined moderating effect of gender, femininity, and masculinity (Baron & Kenny, 1986). These analyses were conducted separately for the four leadership behaviors considered (i.e., contingent reward, individualized consideration, charisma/inspiration, and intellectual stimulation).

As four-way interaction effects are often difficult to interpret, we repeated our analyses separately for female and male managers. This intermediate analytical step can reveal which three-way interactions qualify a four-way interaction effect. More specifically, this means to examine, within each gender group, whether the three-way interaction term leadership \times femininity \times masculinity is a significant predictor of workgroup performance.

Whereas the moderated regression analyses above were used as omnibus tests, the actual hypotheses testing was done using slope difference tests (Dawson & Richter, 2006). These tests indicate whether there are significant differences in the associations between leadership behavior and workgroup performance between managers with different gender role self-concepts. This approach is similar to follow-up tests in ANOVA procedures where significant interaction effects indicate the presence of differences between subgroups, but pair-wise comparisons are needed to identify which of these differences are statistically significant.

Whereas our sample size of $N = 67$ is not very large, a power analysis using G*Power (Erdfeiler, Faul, & Buchner, 1996) showed that it should be sufficient to detect effects of medium to large size in regression analyses. Furthermore, the sample size appears to allow identifying slope differences, provided that these differences are large and that independent and moderating variables have acceptable to perfect reliabilities (Dawson & Richter, 2006).

Results

Preliminary results

Though not the focus of our investigation, potential differences between the subsamples were examined using ANOVAs. These analyses showed that female and male managers differed with regard to negative affectivity ($F(1,65) = 4.61, p < .05$; t-test: female managers: $M = 1.80$

[$SD = 0.53$] vs. male managers: $M = 2.10$ [$SD = 0.61$]: $t(65) = -2.15, p < .05$) and concerning the gender composition of their workgroups ($F(1,63) = 11.97, p < .05$; t-test: female managers: $M = 60.6\%$ women [$SD = 28.6$] vs. male managers: $M = 38.0\%$ women [$SD = 22.8$]: $t(63) = 3.46, p < .05$). None of the other differences between female and male managers was significant (all F -values < 1.53 , all p -values $> .21$). With reference to the variables investigated, there were no differences between organizations (all F -values < 1.42 , all p -values $> .15$), industry sectors (all F -values < 1.63 , all p -values $> .18$), countries (all F -values < 1.31 , all p -values $> .26$), or managers from different ethnic backgrounds (all F -values < 1.38 , all p -values $> .24$).

Table 1 summarizes the means, standard deviations, $r_{WG(I)}$ values, $ICC(1)$ s, $ICC(2)$ s, coefficient alphas, and correlations for the variables assessed in this study. Given the comparatively high correlations between the variables assessing leadership behaviors, we conducted confirmatory factor analyses using AMOS. For these four variables, a one-factor model ($\chi^2 = 2153.13, df = 104, C_{min}/df = 20.70, CFI = .66, RMSEA = .20$) did not fit well to the data, while a four-factor model ($\chi^2 = 337.94, df = 98, C_{min}/df = 3.45, CFI = .96, RMSEA = .07$) was more consistent with the data ($\chi^2_{difference} = 1815.19, df_{difference} = 6, p < .001$). From these analyses, we concluded that the leadership behaviors in our study may be considered as overlapping, but not identical constructs.

- Table 1 about here -

Hypotheses testing: Omnibus tests

We used moderated regression analyses as omnibus tests, whereas slope difference tests were used to examine our hypotheses. Moderated regression analyses showed that the moderating effects of gender role self-concept on the interrelation between leadership behavior and workgroup performance was indeed different for female and male managers with regards to

three out of four leadership behaviors (i.e., contingent reward, charisma/inspiration, and intellectual stimulation). These analyses are documented in [Table 2](#).

- Table 2 about here -

We then analyzed our data separately for female and male managers. With regards to contingent reward these analyses revealed that the significant four-way interaction (i.e., leadership behavior \times gender \times femininity \times masculinity) was qualified by different three-way interactions (i.e., leadership behavior \times femininity \times masculinity) for female and male managers (female managers: $\beta = -.47$, $p < .01$, $\Delta R^2 = .13$; male managers: $\beta = .73$, $p < .001$, $\Delta R^2 = .31$). Regarding charisma/inspiration, the significant four-way interaction was qualified by a three-way interaction for female managers ($\beta = -.42$, $p < .01$, $\Delta R^2 = .12$) and a non-significant three-way interaction for male managers ($\beta = .42$, $p > .05$, $\Delta R^2 = .09$). With regards to intellectual stimulation, we found that the significant four-way interaction was qualified by a non-significant three-way interaction for female managers ($\beta = -.36$, $p > .05$, $\Delta R^2 = .05$) and a significant three-way interaction for male managers ($\beta = .70$, $p < .05$, $\Delta R^2 = .19$). Regarding individualized consideration, we did not identify a significant four-way interaction. However, separate moderated regression analyses showed a significant three-way interaction for female managers ($\beta = -.42$, $p < .05$, $\Delta R^2 = .11$), whereas this three-way interaction was non-significant for male managers ($\beta = .35$, $p > .05$, $\Delta R^2 = .06$). In order to interpret the above interaction effects and to examine our hypotheses, we performed slope difference tests separately for female and male managers.

Hypothesis 1: Strong interrelations between leadership and workgroup performance in masculine and androgynous female managers:

Across the four leadership behaviors under study, we identified positive interrelations between leadership and workgroup performance for masculine and androgynous female

managers, whereas these interrelations were negative for undifferentiated female managers. For feminine female managers, there were positive associations between leadership and workgroup performance as well.

More specifically, with regard to *charisma/inspiration*, our follow-up analyses revealed significant differences between female managers with different gender role self-concepts. We found that for undifferentiated female managers, there was a negative interrelation between charisma/inspiration and workgroup performance. This was significantly different from the positive interrelations we found for masculine, androgynous, and feminine female managers (undifferentiated vs. androgynous: $t(28) = 2.08, p < .05$; undifferentiated vs. feminine: $t(28) = 2.45, p < .05$; undifferentiated vs. masculine: $t(28) = 2.54, p < .05$). These findings indicate that for undifferentiated female managers, charisma/inspiration is associated with lower workgroup performance. This is significantly different from masculine, androgynous, and feminine female managers, for whom charisma/inspiration is associated with higher workgroup performance. These findings do not fully support our hypothesis and are illustrated in [Figure 1](#).

- Figure 1 about here -

With regard to *intellectual stimulation* and *individualized consideration*, the same pattern was identified (i.e., negative interrelations for undifferentiated female managers and positive interrelations for masculine, androgynous, and feminine female managers). Our follow-up analyses, however, did not reveal any significant differences between female managers with different gender role self-concepts. These findings indicate that, for undifferentiated female managers, intellectual stimulation is associated with lower workgroup performance, whereas this association is positive for masculine, androgynous, and feminine female managers. However, these differences between female managers with different gender role self-concepts are not significant.

Unexpectedly, with regards to individualized consideration, the reported pattern of findings does not differ significantly between female and male managers (non-significant interaction: leadership behavior \times gender \times femininity \times masculinity: $\beta = -1.34, p > .05$). This means that for undifferentiated managers, individualized consideration is associated with lower workgroup performance, whereas this association is positive for the other three groups of managers. As reported earlier, this finding is mainly due to the female managers in our sample, whereas the associations are different for the male sub-sample. However, the non-significant four-way interaction does not qualify a significant combined effect of managers' categorical gender and their gender role self-concepts. The differences between managers with different gender role self-concepts are not significant either. Accordingly, we interpret our findings as only indirect and rather weak support for our assumption that masculine and androgynous gender role self-concepts are advantageous for female managers using transformational leadership.

Regarding *contingent reward*, we again identified positive associations between leadership and workgroup performance for masculine, androgynous, and feminine female managers, whereas this interrelation was negative for undifferentiated female managers. Our follow-up analyses revealed that the negative interrelation between contingent reward and workgroup performance in undifferentiated female managers was significantly different from the positive interrelation for masculine female managers (undifferentiated vs. masculine: $t(28) = 2.43, p < .05$). This finding means that for undifferentiated female managers, there is a negative association between contingent reward and workgroup performance, whereas this association is positive for masculine, feminine, and androgynous female managers. However, this difference between female managers with different gender role self-concepts is only significant when comparing undifferentiated and masculine female managers. This finding partly supports our hypothesis.

Hypothesis 2: Strong interrelations between leadership and workgroup performance in androgynous male managers:

Our second hypothesis was also examined using slope difference tests. For contingent reward, intellectual stimulation, and charisma/inspiration, we identified positive interrelations between leadership and workgroup performance for androgynous male managers, whereas these interrelations were negative for feminine and masculine male managers. For undifferentiated male managers, the interrelations between leadership and workgroup performance were positive as well.

Concerning *contingent reward*, follow-up analyses revealed significant differences between androgynous male managers and the other three groups of male managers. As expected, the positive interrelation between contingent reward and workgroup performance for androgynous male managers was significantly different from the negative interrelations for masculine and feminine male managers and from the positive interrelation for undifferentiated male managers (androgynous vs. masculine: $t(21) = 4.64, p < .001$; androgynous vs. feminine: $t(21) = 5.08, p < .001$; androgynous vs. undifferentiated: $t(21) = 2.32, p < .05$). This means that for androgynous male managers, there is a positive association between contingent reward and workgroup performance, and this association is significantly different from the negative interrelations in masculine and feminine male managers as well as from the positive interrelation in undifferentiated male managers. These findings support our hypothesis and are illustrated in [Figure 2](#).

- Figure 2 about here -

Regarding *intellectual stimulation*, the same pattern was identified (i.e., positive interrelations for androgynous and undifferentiated male managers and negative interrelations for feminine and masculine male managers). Our follow-up analyses showed that the positive association for androgynous male managers was significantly different from the negative

interrelations for feminine and masculine male managers (androgynous vs. feminine: $t(21) = 3.53, p < .01$; androgynous vs. masculine: $t(21) = 3.05, p < .01$). This means that, again, there was a positive association between intellectual stimulation and workgroup performance for androgynous male managers, and this interrelation was significantly different from the negative interrelation for feminine and masculine male managers. These findings partly support our hypothesis.

With regards to *charisma/inspiration*, the pattern of findings was again identical. Our analyses revealed that the positive interrelation between charisma/inspiration and workgroup performance for androgynous male managers was significantly different from the negative association for feminine male managers (androgynous vs. feminine: $t(21) = 2.15, p < .05$). This finding does not fully support our hypothesis.

For *individualized consideration*, we found that the pattern of findings does not differ significantly between female and male managers. As reported earlier, there were positive associations between individualized consideration and workgroup performance for masculine, androgynous, and feminine managers, whereas this interrelation was negative for undifferentiated managers. This unexpected finding does not support our hypothesis that an androgynous gender role self-concept is particularly advantageous for male managers using individualized consideration.

Hypothesis 3: Largest difference between masculine/androgynous and feminine/undifferentiated female managers when using individualized consideration:

Our assumption that the effects of gender role self-concepts in female managers are strongest when they use behaviors with a pronounced feminine undertone (i.e., individualized consideration) was not supported. As can be seen in [Figure 1](#), a masculine gender role self-concept might be advantageous in female managers using stereotypically masculine behaviors

(i.e., charisma/inspiration), whereas, perhaps more importantly, having an undifferentiated gender role self-concept is disadvantageous in female managers using these behaviors. This also applies to the contingent reward behaviors of transactional leadership, but to a lesser extent.

A summary of our findings is provided in [Table 3](#).

- Table 3 about here -

Discussion

Summary and discussion of results

Empirical evidence suggests that female leaders display more transformational leadership and contingent reward behaviors than men (Eagly, Johannesen-Schmidt, & van Engen, 2003), yet whilst they are also believed to show more of these behaviors (Vinkenbunrg et al. 2011), it seems they cannot fully benefit from this in terms of positive outcomes (Druskat, 1994; Reuvers et al. 2008).

We hypothesized (H₁) that female managers using contingent reward and transformational leadership need to possess masculine attributes, since otherwise they would be perceived as “doing femininity” instead of engaging in effective leadership behaviors (Fletcher, 2004, p. 653). For male leaders, contingent reward and transformational leadership complement their gender role and position (Reuvers et al., 2008). So we expected (H₂) that male managers should possess masculine and feminine attributes so that the balance between masculine gender role and feminine leadership behavior is sustained. Since it is assumed that individualized consideration might have the strongest feminine undertones (Vinkenbunrg et al., 2011), we further expected (H₃) that masculine attributes are particularly important for

women using these behaviors in order to demonstrate agential competence (Eagly & Carli, 2007). Our findings partly supported our expectations.

We found that lacking gender-typical attributes might be disadvantageous in female managers, whereas a balance of gender-typical attributes might be advantageous in male managers. More specifically, our analyses revealed that, unexpectedly, for undifferentiated female managers, there were negative interrelations between charisma/inspiration as well as contingent reward and workgroup performance. For androgynous male managers, on the other hand, we found that, expectedly, there were strong positive associations between contingent reward, intellectual stimulation as well as charisma/inspiration and workgroup performance. Referring to Manning (2002), this finding indicates that relational and supportive practices might indeed be considered as a way of reconciling gender role and work role demands, but especially for androgynous male managers.

For female managers, however, it appears that charisma/inspiration and contingent reward require gender-typical attributes to display their positive effects. Charisma/inspiration, for example, may need either confidence and pragmatism or communication skills and nurturance, or perhaps a combination of both (Bass & Riggio, 2006, p. 176), in order for visions to be communicated effectively. Furthermore, we assume that our finding lends indirect support to Fiske and Lee's (2008, p. 31) suggestion that "women have to walk a delicate balance in order to succeed and be liked". Whilst this may work for androgynous female leaders, for those who have undifferentiated gender role self-concepts, lacking both masculinity and femininity, this may be more difficult to achieve. If female leaders lack masculinity, they might experience difficulties to establish their professional competence (Eagly & Carli, 2007), and if they lack femininity, it might be difficult for them to demonstrate interpersonal warmth (Heilman & Okimoto, 2007).

We expected masculinity to have strong positive effects in female managers using individualized consideration in particular. However, we identified positive effects for androgynous, feminine, and especially masculine managers, whereas the association between leadership behavior and workgroup performance was negative for undifferentiated managers. This pattern applied mainly to the female managers in our sample, but did not qualify a significant gender difference regarding gender role self-concepts' moderating effect. Furthermore, slope differences between female managers with different gender role self-concepts were not significant either.

In an attempt to explain this unexpected finding, we would assume the following: It may be that because individualized consideration has such a pronounced feminine undertone (Carless, 1998; Vinkenbunrg et al., 2011), and so contrasts with a typical leadership role, that this incongruity overruns the interplay of categorical gender and gender role self-concept that we found concerning less gender-stereotyped leadership behaviors. This would mean that, perhaps, both female and male managers need masculinity to mitigate the discrepancy between individual consideration and the leadership role. The tentative difference between masculine and undifferentiated managers indicates that masculinity might positively affect the association between individualized consideration and workgroup performance. However, this interpretation does not prove to be valid since there is no tentative stronger positive effect of masculinity when comparing feminine and androgynous managers (i.e., when femininity is high). Accordingly, it appears again that lack of feminine and masculine attributes diminishes positive effects of leadership behaviors on workgroup performance, especially in female managers.

An alternative explanation of the lack of a significant four-way interaction (i.e., leadership behaviour x gender x femininity x masculinity) for individualized consideration may be due to test power restrictions. The scale assessing individualized consideration had a

barely acceptable to acceptable reliability of .78, which can reduce statistical power when using moderated regression analyses (Aguinis & Stone-Romero, 1997). This assumption is perhaps further supported by the fact that we did not find significant slope differences between managers with different gender role self-concepts, in spite of significant three-way interactions being present (i.e., leadership behaviour x femininity x masculinity in the overall sample, and in the female sub-sample in particular) (Dawson & Richter, 2006).

Limitations

We acknowledge that our study has several limitations that should be remedied in future research. We assessed workgroup performance from the managers' perspective, and not from the followers' perspective, in order to avoid same source bias. However, empirical evidence exists that superior and follower ratings of a leader's performance were most predictive of a leader's objective performance (Sala & Dwight, 2002), indicating that using 360-degree feedback would be helpful to gain a more comprehensive, and perhaps more adequate, picture (Craig & Hannum, 2006). Moreover, the evaluation of additional outcome variables appears to be promising. Managers' gender role self-concepts might show stronger moderating effects if workgroup members' work-related attitudes were under consideration (e.g., organizational commitment or work satisfaction). Generally, a larger sample size would have been advisable as we identified comparatively consistent patterns of findings, but small slope differences might have failed to yield significance due to a lack of statistical power.

Similarly, it could provide further insights when other predictors of performance were investigated. Among others, one could be interested in interrelations between other leadership behaviors (e.g., democratic/participative vs. autocratic/directive leadership; laissez-faire leadership) and outcomes. Some of our findings were particularly relevant for female managers. Thus, it might be worthwhile to examine whether workgroup members' gender role

attitudes and their attitudes towards female authorities are crucial for female managers' effectiveness.

Finally, it has been argued that the numerical dominance of one gender group may affect the effectiveness of female and male leaders (Ayman, Korabik, & Morris, 2009; Eagly, Karau, & Makhijani, 1995). Our study was conducted in a business context, and thus it might be interesting to examine the combined effects of categorical gender, gender role self-concept and leadership style in sectors that are numerically female-dominated such as education and health.

Conclusion

Given that the labor market is increasingly dynamic and that the workforce is becoming more diverse, investigating the combined effects of social categories (e.g., categorical gender) and individual attributes (e.g., gender role self-concept) on work-related variables seems to be important. Our study showed that considering personal attributes in addition to social categories can add to the understanding of female and male managers' effectiveness. It would be promising to broaden the scope by considering a wider range of social categories (i.e., employees' gender, age, and ethnic background) as well as various personal attributes (i.e., employees' self-concepts, attitudes, and personal values).

Other researchers have derived various recommendations as to how female and male leaders should behave in order to enhance their careers. For example, it has been suggested that female leaders should demonstrate sensitivity and strength to be perceived as effective, whereas for men demonstrating strength would be sufficient (Johnson et al., 2008). Similarly, other authors have advised that female leaders should blend individualized consideration and charisma/inspiration because these behaviors are considered to be important for promotion in

women, whereas for men charisma/inspiration is considered particularly important (Vinkenburg et al., 2011).

Our findings point to the potential relevance of leaders' gender role self-concepts in addition to their leadership behaviors. Organizations aiming to enhance female leaders' career progression may be well advised to encourage female leaders to develop and display various transformational leadership behaviors. What is interesting from our study is that female leaders, and indeed the organizations they work for, should think about the extent to which they possess gender-typical attributes. Our study suggests that whilst it would be advantageous for them to have masculine *and/or* feminine attributes, what does not work is if they lack both. This lack of gender-typical attributes seems to be particularly negative when using charisma/inspiration. When female leaders lack both feminine and masculine attributes, with regard to implied role deficits they may be seen to lack both interpersonal warmth (Heilman & Okimoto, 2007) and professional competence (Eagly & Carli, 2007). For male leaders, our findings suggest that possessing feminine *and* masculine attributes (i.e., being androgynous) is advantageous, especially when using contingent reward, as this might result in increased workgroup performance.

From a more practical perspective, organisational career management programs may offer trainings for both female and male leaders in, for example, self-assertiveness along with communication skills to ensure these leaders develop and possess the gender-typical attributes that can positively influence effectiveness. Conventionally, it is recommended that female leaders should be trained in self-assertiveness and male leaders should be trained in communication skills, thereby compensating for stereotypically assumed deficits (i.e., lack of self-assertiveness in female leaders; lack of communication skills in male leaders) (Sargent, 1981; Berryman-Fink & Fink, 1985). Our suggestion is to train female and male leaders in both self-assertiveness as well as communication skills. In this way female leaders could be

equipped with the feminine and/or masculine attributes that they need to avoid being undifferentiated, whereas male leaders could be provided with the feminine and masculine attributes that they need to demonstrate androgyny.

Additionally, female and male leaders should be made aware of the potential effects of their categorical gender and gender role self-concept on leadership effectiveness. Fletcher (2004, p. 657) suggested that relational leadership practices including transformational behaviors are often depicted as gender neutral, but turn out to imply "displays of gender". Our findings indicate that gender blindness might not be the most promising approach to leadership development either. We suggest that categorical gender and gender role self-concepts should be explicitly addressed in career counselling and coaching.

Interestingly, our analyses revealed asymmetric patterns for both gender groups, indicating that the playing field for female and male leaders might perhaps not be completely level. Whereas female leaders *should not lack* gender-typical attributes in order to avoid *negative* outcomes, male leaders *should possess* gender-typical attributes to attain *positive* outcomes. From this, we derive the following suggestions for future research. It appears that studies examining the impact of workgroup members' prescriptive gender stereotypes about leaders are warranted (i.e., how their female and male leaders should and should not be: Heilman, 2001; Prentice & Carranza, 2002). Furthermore, future studies could additionally account for workgroup members' liking and professional respect for their leaders (e.g., using leader-member exchange sub-scales: Liden & Maslyn, 1998). The latter would allow to systematically examine whether implied deficits in warmth and competence might indeed negatively influence the effectiveness of female leaders with different gender role self-concepts.

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Table 1: *Intercorrelations between variables*

Variables	<i>M</i>	<i>SD</i>	$r_{WG(i)}$	<i>ICC(1)</i>	<i>ICC(2)</i>	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.
<i>N</i> = 67 managers and workgroups															
1. CR (o.)	3.63	0.52	.83	.07	.33	(.93)									
2. IC (o.)	3.67	0.45	.79	.06	.29	.75**	(.78)								
3. CHA (o.)	3.51	0.57	.89	.20	.62	.78**	.69**	(.92)							
4. IS (o.)	3.27	0.55	.79	.14	.50	.66**	.46**	.68**	(.92)						
5. F (s.)	4.95	0.87	--	--	--	.09	.11	.14	.04	(.89)					
6. M (s.)	5.22	0.80	--	--	--	.01	.01	.09	-.12	.38**	(.89)				
7. WP (s.)	4.10	0.68	--	--	--	.15	.22	.16	.12	.36**	.36**	(.93)			
8. NAF (s.)	1.93	0.58	--	--	--	-.22	-.06	-.14	-.14	.09	.05	-.11	(.82)		
9. GC	50.5	28.3	--	--	--	.19	.11	.19	.07	-.20	.02	-.23	-.10	--	
10. GEN	--	--	--	--	--	.13	.04	-.07	-.09	-.04	.08	-.10	-.26*	.40**	--

Notes: * $p < .05$, ** $p < .01$. o. = other-rated, s. = manager self-rating. CR = contingent reward, IC = individualized consideration, CHA = charisma/inspiration, IS = intellectual stimulation, F = femininity, M = masculinity, WP = workgroup performance, NAF = negative affectivity, GC = gender composition of workgroups (proportion of women in per cent), GEN = gender (dummy-coded: 0 = *male*, 1 = *female*). Reliabilities are shown in the principal diagonal.

Table 2: *Moderated regressions on workgroup performance: Interaction term femininity x masculinity x gender as moderating variable.*

Leadership behavior	contingent reward		individualized consideration		charisma/ inspiration		intellectual stimulation	
	β		β		β		β	
Predictors	Step	Model	Step	Model	Step	Model	Step	Model
Step 1								
gender composition	-.25*	-.07	-.25*	-.19	-.25*	-.10	-.25*	-.07
managers' negative affectivity	-.16	-.28**	-.16	-.31**	-.16	-.29*	-.16	-.31**
ΔR^2	.08		.08		.08		.08	
Step 2								
leadership behavior (LB)	.11	.30	.16	.27	.04	.07	.09	.14
managers' gender (G)	-.14	-.10	-.13	-.09	-.13	-.08	-.12	-.09
managers' femininity (F)	.21	-.31	.21	-.06	.22	-.33	.22	-.32
managers' masculinity (M)	.32*	-.07	.32*	-.04	.31*	.20	.32*	.13
ΔR^2	.22**		.23**		.21**		.21**	
Step 3								
LB x G	-.14	-.05	-.08	-.01	.02	.08	-.19	-.05
LB x F	.27	.39	.70	.91	-.21	-.07	.17	.25
LB x M	.12	.32	.28	.18	.01	-.05	.19	.12
G x F	.34	.54*	.09	.27	.28	.54	.44	.57*
G x M	.18	.31	.30	.33	.05	.13	.18	.12
F x M	.27	-.28	.02	.04	.46	.15	.30	-.32
LB x G x F	-.26	-.40	-.69	-.90	.31	.18	-.02	.02
LB x G x M	.07	-.10	-.06	.06	.15	.21	-.06	-.03
LB x F x M	-.31*	1.75**	-.33**	1.01	-.29*	.67	-.12	.81*
G x F x M	-.31	.18	-.09	-.10	-.52	-.25	-.32	.25
ΔR^2	.24*		.25*		.24*		.17	
Step 4								
LB x G x F x M	-2.10***	-2.10***	-1.34	-1.34	-.98*	-.98*	-1.05*	-1.05*
ΔR^2	.11***		.03		.05*		.07*	
Total R^2 (adjusted R^2)	.64 (.52)		.58 (.43)		.58 (.42)		.53 (.36)	

Note: * $p < .05$, ** $p < .01$, *** $p < .001$. Gender composition = proportion of women in workgroups. Managers' categorical gender was dummy-coded (0 = male, 1 = female).

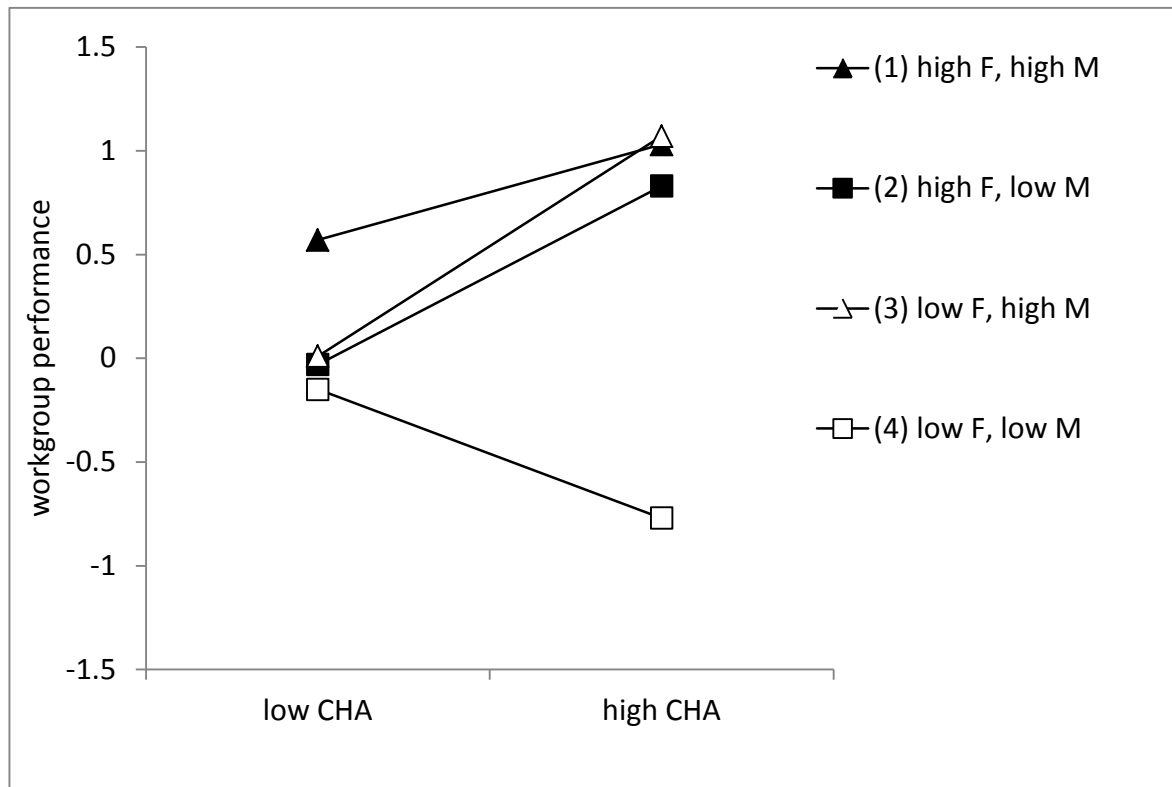


Figure 1: *Moderated regression on workgroup performance in female managers: Interaction term charisma/inspiration (CHA) \times femininity (F) \times masculinity (M) as moderating variable.*

Note: low = $M - 1 SD$; high = $M + 1 SD$.

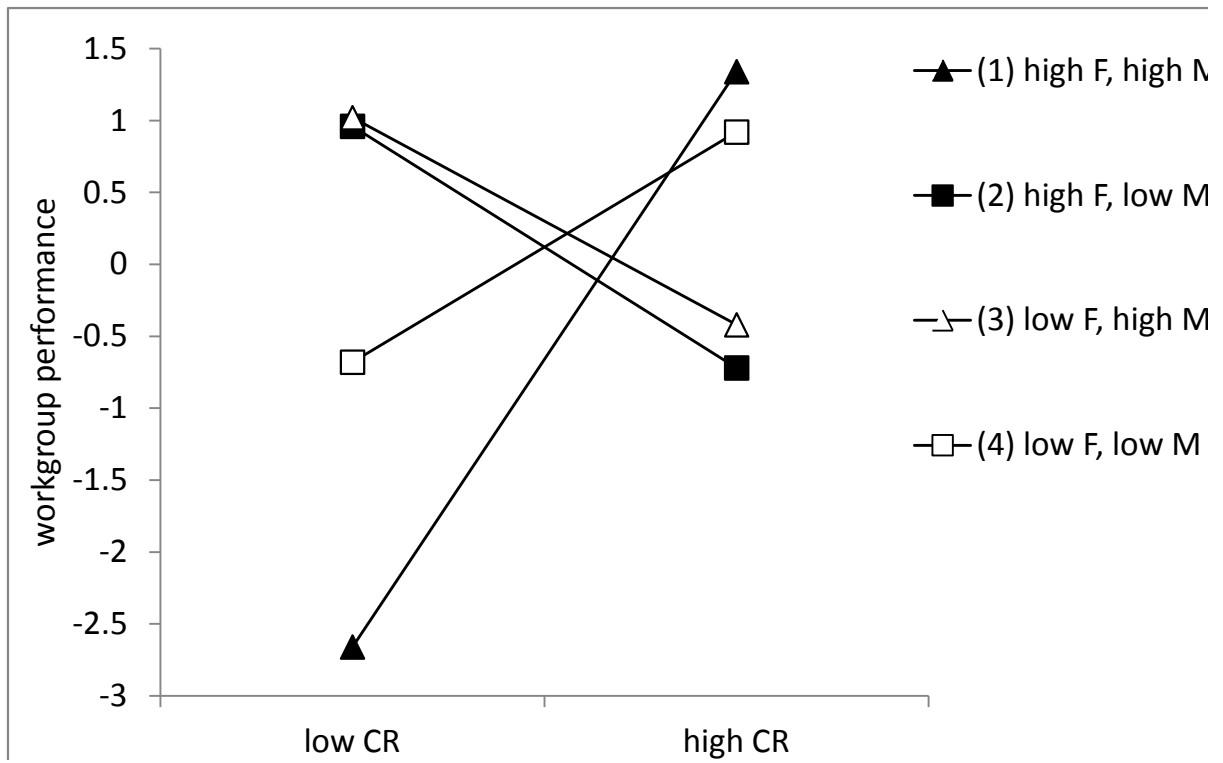


Figure 2: *Moderated regression on workgroup performance in male managers: Interaction term contingent reward (CR) \times femininity (F) \times masculinity (M) as moderating variable.*

Note: low = $M - 1 SD$; high = $M + 1 SD$.

Table 3: *Results of moderated regression analyses and slope difference tests across leadership behaviors.*

Leadership behavior	Female managers	Male managers
Contingent reward	Moderated regression analysis, four-way interaction: Effects of gender role self-concept different for female and male managers	
	Moderated regression analyses, three-way interaction: Effect of gender role self-concept	
	Effect of gender role self-concept	
	Slope difference tests: Undifferentiated (-) < masculine (+) Androgynous (+) > undifferentiated (+) Androgynous (+) > masculine (-) Androgynous (+) > feminine (-)	
Charisma/inspiration	Moderated regression analysis, four-way interaction: Effects of gender role self-concept different for female and male managers	
	Moderated regression analyses, three way interaction: Effect of gender role self-concept	
	No effect of gender role self-concept	
	Slope difference tests: Undifferentiated (-) < masculine (+) Androgynous (+) > feminine (-) Undifferentiated (-) < feminine (+) Undifferentiated (-) < androgynous (+)	
Intellectual stimulation	Moderated regression analysis, four-way interaction: Effects of gender role self-concept different for female and male managers	
	Moderated regression analyses, three-way interactions: No effect of gender role self-concept	
	Effect of gender role self-concept	
	Slope difference tests: No significant slope differences Androgynous (+) > masculine (-) Androgynous (+) > feminine (-)	
Individualized consideration	Moderated regression analysis, four-way interaction: Effects of gender role self-concept <i>not</i> different for female and male managers	
	Moderated regression analyses, three-way interaction: Effect of gender role self-concept	
	No effect of gender role self-concept	
	Slope difference tests: No significant slope differences No significant slope differences	

Note: Moderated regression analyses were used as omnibus tests, whereas slope difference tests were used to examine hypotheses 1 and 2. Significant slope differences show that the strength of the interrelation between leadership behavior and workgroup performance is significantly different for managers with different gender role self-concepts. Plus and minus

indicate whether the interrelation between leadership behavior and workgroup performance was positive or negative.