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# Leaders' Machiavellian traits and servant leadership behaviors – A gender perspective

Leaders'  
Machiavellian  
traits and SL  
behavior

Lin Xiu

*Department of Management Studies, University of Minnesota System,  
Minneapolis, Minnesota, USA*

Dirk van Dierendonck

*Rotterdam School of Management, Erasmus Universiteit Rotterdam,  
Rotterdam, The Netherlands, and*

Feng Lv

*Nankai University, Tianjin, China*

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## Abstract

**Purpose** – Two studies are designed to address the research questions including an experimental study and a field study. The experimental study manipulated Servant Leadership (SL vs. non-SL), leaders' Machiavellianism (H-Mach vs L-Mach), and leaders' gender (male vs. female), and measured leadership effectiveness. The second study is a survey study that collected data from employees regarding their interaction with supervisors and their perceptions of supervisors' leadership behaviors.

**Design/methodology/approach** – Leadership behaviors can correspond to or deviate from leaders' personality traits. This study aims to study the interplay of two seemingly opposite constructs in leadership – a power-pursuing and manipulation-oriented trait (i.e. Machiavellianism) and an other-oriented leadership style (i.e. servant leadership behaviors) by examining whether the effect of servant leadership behaviors on perceived leadership effectiveness varies across high and low levels of Machiavellian traits. Furthermore, built upon gender role congruency theory, the researchers pay particular attention to the (leader) gender's role in the paradox of Machiavellian traits and servant leadership behaviors.

**Findings** – Results from the two studies show that the relationship between servant leadership behaviors and followers' ratings of leaders' effectiveness varies with leaders' Machiavellian traits. More engagement in servant leadership behaviors serves as a remedy for high-Mach leaders to achieve leadership effectiveness, and this remedy effect tends to be greater for women leaders.

**Originality/value** – To the authors' best knowledge, this is one of the first attempts that examine the interplay of servant leadership behaviors and Machiavellianism on perceived leader effectiveness. The authors also contribute to the gender leadership literature by providing evidence for the contingencies of leaders' genders when employees evaluate leadership effectiveness with consideration for the dual demands for agency and communion from women leaders.

**Keywords** Servant leadership, Leadership effectiveness, Machiavellian, Gender

**Paper type** Research paper

## 1. Introduction

The current dynamic socioeconomic environment requires changes in our understanding of leadership in business and society. Servant leadership stands out among the many leadership styles (e.g. transactional leadership, transformational leadership, ethical leadership, and authentic leadership) when it comes to attention to sustainable performance and adapting to changes (Greenleaf, 1977; Liden *et al.*, 2008; see Eva *et al.*, 2019, for a review).

The extant research has shown that servant leadership is associated with positive organizational outcomes such as high-quality leader-follower relationships (De Clercq *et al.*,



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Since acceptance of this article, the following author(s) have updated their affiliation(s): Lin Xiu is at the Department of Management Studies, University of Minnesota - Duluth, Duluth, Minnesota, USA.

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2014), followers' prosocial behaviors (Sun *et al.*, 2019) and job performance (van Dierendonck *et al.*, 2014). A growing stream of research, however, has shown that the effects of leadership behaviors may vary with leaders' personality traits and self-regulation abilities (Owens *et al.*, 2015; Zhang *et al.*, 2017). This dynamic perspective on servant leadership posits that servant leadership behaviors can correspond to or deviate from leaders' personality traits related to serving. Through intentionally regulating one's behaviors (Liao *et al.*, 2021), a leader can exhibit servant leadership behaviors even if he or she possesses traits that are not fully aligned with serving others. This is especially relevant if the traits or motivation factors are, at first glance, diametrically opposite. Considering these research findings and this dynamic perspective on leadership behaviors, the current research aims to explore the impact of a power-pursuing and manipulation-oriented motivation (i.e. Machiavellian motives) on the perceived leadership effectiveness of servant leadership behaviors.

The dynamic perspective on leadership behaviors acknowledges that followers' perceptions of leadership behaviors are influenced by their expectations, which are often associated with the gender of the leader. Traditional gender expectations create different social norms for men and women leaders in terms of their traits and behaviors, leading to varying levels of perceived effectiveness (Eagly and Heilman, 2016; Eagly and Karau, 2002). This specific attention to leaders' gender is warranted because women are still significantly underrepresented in top executive leadership positions, despite an increase in female representation in middle management roles (World Economic Forum, 2020). This underrepresentation may be related to gender biases in evaluating leadership effectiveness (Sojo *et al.*, 2016). Research has shown that male and female leaders receive different evaluations even while exhibiting the same leadership styles (Brescoll, 2016; Paustian-Underdahl *et al.*, 2014). Among the many leadership styles studied in the literature, servant leadership is seen as a leadership style that is particularly aligned with the female gender role composition in teams and businesses (Lemoine *et al.*, 2019). To the extent that "serving others" is expected from women, and "being manipulative" is viewed as lacking authenticity more for women than men, social norms encourage women leaders to "serve" (Heilman and Chen, 2005) but not to "manipulate" (Czibor *et al.*, 2017). Thus, we propose that women Machiavellian leaders would gain more perceived leadership effectiveness by engaging in servant leadership behaviors. By doing so, we aim to investigate the complex relationship between gender and leadership by providing an integrative approach that will enhance our understanding of the multi-faceted challenges of gender in leadership theory (Shen and Joseph, 2021).

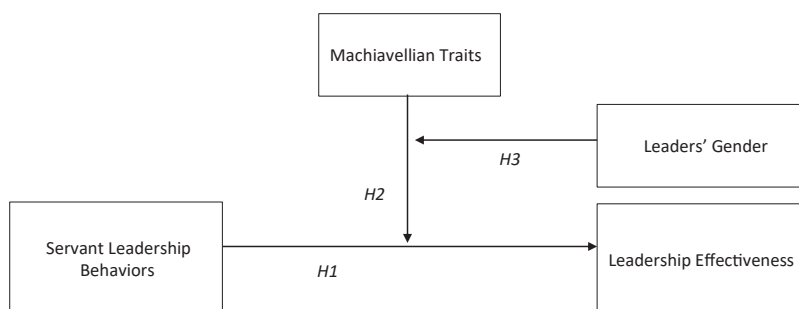
Our study makes two contributions to the literature. First, to the best of our knowledge, this is one of the first attempts to theorize and test the interplay of servant leadership behaviors and Machiavellianism in relation to perceived leadership effectiveness. Second, we contribute to the literature on gender and leadership by providing evidence for the contingencies of leaders' genders when employees evaluate leadership effectiveness, with consideration for the dual demands of agency and communion placed on women leaders (Zheng *et al.*, 2018).

We will first describe the theories and hypotheses in our theoretical framework. The theoretical framework summarizing the hypothesized relationships is presented in Figure 1. Next, we will discuss the two studies – a scenario study and a survey study – including the sample, methodologies, and results in section 3 and section 4, respectively. Finally, we will discuss the overall theoretical and practical implications of the findings in section 5.

## 2. Theory and hypotheses

### 2.1 Servant leadership behaviors and leadership effectiveness

In line with previous research, we define servant leadership behaviors as encompassing empowering employees, being humble, providing direction, showing authenticity, interpersonal acceptance, and stewardship (van Dierendonck, 2011). Literature on servant



**Note(s):** Hypotheses *H1*, *H2* and *H3* are shown below

*H1*. Engaging in servant leadership behaviors is positively associated with leadership effectiveness as rated by followers

*H2*. The positive effect of servant leadership behaviors on leadership effectiveness is greater for leaders with high-Mach traits than low-Mach traits

*H3*. *H3*. The moderating effect of Machiavellianism on the relationship between servant leadership and leadership effectiveness is stronger for women leaders than for men leaders

**Source(s):** Authors work

**Figure 1.**  
Theoretical framework

leadership has generally concluded that servant leadership behaviors are positively related to performance outcomes at the individual, team, and organizational levels (see [Eva et al., 2019](#), for a review). Moreover, because servant leadership emphasizes attention to followers' well-being and development, engaging in these behaviors fosters high-quality leader-follower relationships ([De Clercq et al., 2014](#)), followers' trust in their leaders ([Liden et al., 2008](#)) and prosocial behaviors ([Sun et al., 2019](#)).

Given the current research findings suggesting that the core elements of servant leadership behaviors promote followers' well-being, we expect that engaging in servant leadership behaviors is positively associated with followers-rated leadership effectiveness. This leads to our first hypothesis:

*H1*. Engaging in servant leadership behaviors is positively associated with leadership effectiveness as rated by followers.

## 2.2 The interplay of leaders' Machiavellian traits and servant leadership behaviors

We are interested in examining the extent to which the impact of servant leadership behaviors on leader effectiveness is influenced by leaders' Machiavellian personality trait. Machiavellians, also known as "high-Machs," are characterized by their willingness and ability to manipulate others for their self-interest ([Christie and Geis, 1970](#)). High-Machs are skilled at exercising strategies to exploit situations and people for their personal benefit ([Fehr et al., 1992](#)). At first glance, the self-promoting trait of Machiavellianism and others-oriented servant leadership behaviors are contradictory. However, it does not preclude that Machiavellian leaders may purposefully engage in servant leadership behaviors. Our theoretical model proposes that when they do, the effect of such engagement in servant leadership behaviors may be stronger than for non-Machiavellian leaders.

First, Machiavellians are likely to focus on self-interests than others' interests ([Becker and O' Hair, 2007](#)). As such, other-promoting initiatives and prosocial behaviors are expected less from Mach leaders. However, when Mach leaders do exhibit some servant leadership behaviors, the influence of these behaviors (i.e. empowerment, humility, providing direction,

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interpersonal acceptance, etc.) on perceived leadership effectiveness is likely stronger. This effect is analogous to the greater positive influence of a leader's humble behaviors on leadership outcomes for Narcissist leaders (Zhang *et al.*, 2017) and the more pronounced effect of self-sacrificing behaviors on leadership effectiveness among less prototypical leaders (van Knippenberg and Van Knippenberg, 2005).

Second, despite the positive outcomes of servant leadership behaviors on followers, engaging in servant leadership behaviors (e.g. putting followers first, attending to followers' needs, being proactive in promoting followers' wellbeing, and being humble) on a daily basis can be exhausting and requires self-control and emotion regulations to sustain (Liao *et al.*, 2021). To some extent, being perceived as an effective leader is important for the leaders themselves and reflected in an organization's expectations for leaders. As far as Machiavellians tend to focus on obtaining their personal goals, extant research shows that Machiavellian individuals use their manipulation abilities and impression management skills to engage in behaviors that can be aligned with positive organizational outcomes. For instance, Becker and O' Hair (2007) found that Machiavellian individuals utilized their impression management skills to engage in organizational citizenship behavior, evaluated as positive by their supervisors and co-workers. While inconclusive, several studies have shown that Machiavellian leaders are rated as more effective than low-Mach leaders in the degree of leadership displayed and their contributions to group performance (Deluga, 2001; Kwak and Shim, 2017). Related to servant leadership, Machiavellian leaders could manipulatively engage in servant leadership behaviors to reach preferable leadership outcomes. This leads to our second hypothesis:

- H2.* The positive effect of servant leadership behaviors on leadership effectiveness is greater for leaders with high-Mach traits than low-Mach traits.

### *2.3 Gender difference in the interplay between leaders' Machiavellian traits and servant leadership behaviors*

Role congruity theory suggests that individuals are likely to be perceived as more effective in roles congruent with the traditional expectations for their gender (Eagly and Heilman, 2016; Eagly and Karau, 2002). In the traditional leadership context, female leaders encounter resistance when they display a higher level of authority, adopt a dominant style of communication, or use a transactional leadership style. A recent meta-analysis finds that female leaders tend to be perceived as more effective and receive less resistance when they display communality and warmth by showing that they care about employees' needs for achievement and growth (Shen and Joseph, 2021).

Servant leadership is characterized by a focus on team members' success and social role theory suggests that social norms encourage women to be cooperative and men to be individualistic (Duff, 2013). Given the emphasis on serving followers, female leaders may be perceived as more effective compared to their male counterparts because the features of servant leadership align more closely with female leadership styles. Social norms theory also suggests that women are expected to behave in certain ways such as being altruistic, supporting others, and providing care and that, therefore, there tends to be the expectation that female leaders will lead as servant leaders (Heilman and Chen, 2005). However, this expectation can be a double-edged sword. Women leaders who fail to exhibit enough servant leadership behaviors may receive backlash and be overly criticized for not serving others well, especially when rated by their male followers (Hogue, 2016).

Gender may interact with Machiavellianism to drive various social and relational outcomes. Although research in this area is still in its infancy, recent studies have found gender differences in connections between Machiavellianism and other personality traits. For example, Machiavellianism among men was associated with risk-taking, self-confidence, and opportunism, while a Machiavellian worldview among women was correlated more

with avoiding harm and having less patience (Czibor *et al.*, 2017). To the extent that Machiavellianism is typically associated with control, manipulation, and pursuing power, which goes against the social norm expectations for women's roles (Eagly and Carli, 2007), female leaders with Machiavellian traits would be rated lower in their effectiveness than male counterparts. Therefore, adopting servant leadership behaviors is particularly helpful for women leaders with Machiavellian traits to avoid low ratings on leadership effectiveness. In fact, the potential disadvantageous situations of female Mach leaders could be mitigated if they employ strategies to project capable leadership and manage others' impressions of their leadership effectiveness. Recent gender and leadership literature tend to support this argument (Zheng *et al.*, 2018). Both agentic characteristics (e.g. dominant, self-confident) and communal characteristics (e.g. warm, caring, and nurturant) are expectations placed on female leaders. Those who integrate the two—agency and communion—in a more effective way experience better intrapersonal and interpersonal outcomes, including being viewed as more effective (Zheng *et al.*, 2018). As such, we argue that female leaders with Machiavellian traits would attain more benefits (i.e. a higher level of perceived leader effectiveness) by engaging in servant leadership behaviors than male leaders. This leads to our third hypothesis—that the moderating effect of Machiavellianism is stronger for female than male leaders:

*H3.* The moderating effect of Machiavellianism on the relationship between servant leadership and leadership effectiveness is stronger for women leaders than for men leaders.

In sum, we expect that the relationship between servant leadership behaviors and followers' ratings of leaders' effectiveness varies with leaders' Machiavellian traits. More engagement in servant leadership behaviors serves as a remedy for high-Mach leaders to achieve leadership effectiveness. This remedy effect tends to be greater for female leaders than for male leaders. The theoretical framework summarizing the hypothesized relationships is presented in Figure 1.

The hypotheses were tested in two studies—an experimental study and a field study. The experimental study manipulated servant leadership (SL vs non-SL), leaders' Machiavellianism (H-Mach vs L-Mach), and leaders' gender (male vs female), and measured leadership effectiveness. The second study is a survey study. It is worth noting that the decision to use a dual methodology serves multiple purposes. First, it may strengthen the results and conclusions by providing evidence from different sources. Second, it may mitigate potential weaknesses in the sampling by using a diverse range of participants and methods. Lastly, using scenario-based and survey-based methods can offer a comprehensive understanding of the research topic by exploring the research questions from different angles and obtaining a nuanced view of the phenomenon under study. SPSS and the PROCESS Macro (Hayes, 2022) were used in the data analysis.

### 3. Study 1

In Study 1, we tested the hypotheses in a 2 (servant leadership: high vs low) x 2 (leaders' Machiavellianism: high vs low) x 2 (gender of leader) between-subjects scenario design. The participants were asked to evaluate leaders' effectiveness based on leadership style notes containing information on these leaders' servant leadership and Machiavellian behaviors and gender.

#### 3.1 Methods

*3.1.1 Sample and procedure.* The hypotheses were tested using a sample of 274 managers in China. The participants were obtained through a convenience sample. First, we invited

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300 managers who were alumni of a major university in China's MBA program to participate in this research project. Next, the experimenter obtained the participants' consent from those managers who were willing to participate and then distributed online scenarios containing information on the leaders' leadership styles and Machiavellian tendencies. A total of 274 managers (101 women, 173 men) participated in Study 1. The response rate was 91.3%. The instruction asked the participants to adopt the role of an employee working in a work team. The team leader's background information was identical across conditions (i.e. age, company, location, etc.). All materials were originally drafted in English. They were then translated into Chinese and validated through a double-translation process for use in China. To ensure the accuracy of the translation, after the translation-back-translation procedure, two bilingual scholars compared the results to ensure each of the survey questions was phrased clearly and accurately.

*3.1.2 Experimental manipulations.* We used gender-appropriate pronouns in our narratives and referred to the candidate as either a man or a woman. Following [van Dierendonck et al. \(2014\)](#), the manipulation of servant leadership (SL) contained the following core elements: "Your supervisor knows what you personally need. Your supervisor is modest, of integrity, honest, and authentic and shares his/her thoughts and feelings with you. Your supervisor is courageous, allows for mistakes, and provides freedom so you can develop your own abilities. Your supervisor shows great humanity and understanding of your position." For the low SL condition, the sentences were rephrased by including "not" throughout the text. For the Machiavellianism (Mach) condition, a similar manipulation was developed using the core elements of [Dahling et al. \(2009\)](#) conceptual model of Machiavellianism: "Your supervisor is willing to sabotage the efforts of others to suit her own goals; she likes to be in control of a situation, likes status and does not show weakness to others to avoid them taking advantage of it." For the low-Mach condition, the sentences were rephrased by including "not" throughout the text.

The participants were randomly assigned to one of the eight scenarios and were asked to imagine that they personally experienced the situation described in the manipulation. For each of the eight scenarios, we created two versions of the narratives. The two paragraphs on servant leadership and Machiavellianism were stated in reverse order so that the results would not be driven by the ordering effect of the two statements.

*3.1.3 Measures.* The participants were then asked to respond to a series of questions regarding how effective they thought the leader was. Leader effectiveness is measured using a three-item scale adapted from the leadership effectiveness scale in [De Hoogh et al. \(2005\)](#). The respondents were asked to indicate how likely they were to rate their supervisor on a seven-point Likert type scale: "To what extent is the overall functioning of the supervisor as satisfactory?" "How capable is the person you are evaluating as a leader?" "How effective is the person you are evaluating as a leader?" Internal consistency was verified with a Cronbach's alpha of 0.90. Followers' age and gender are controlled in the analysis. Participants also filled out a survey containing demographic questions and manipulation check questions.

*3.1.4 Manipulation checks.* The participants were asked to identify whether the leader in the scenario was male or female. We then asked three questions from [Ehrhart's \(2004\)](#) one-dimensional measure of SL as a manipulation check for SL: "Your supervisor makes the personal development of employees a priority," "Your supervisor makes you feel that you work with him/her instead of for him/her," and "Your supervisor works hard to find new ways to help others be the best they can be." These were the same items used in [van Dierendonck et al. \(2014\)](#), chosen based on their ability to exemplify core aspects of SL. Internal consistency was verified with a Cronbach's alpha of 0.88.

The manipulation check for Machiavellianism was adapted from [Dahling et al. \(2009\)](#) and included four questions: "Your supervisor would cheat if there was a low chance of getting

caught,” “Your supervisor likes to give the orders in interpersonal situations,” “Your supervisor wants to be rich and powerful someday,” and “Your supervisor believes that other people are always planning ways to take advantage of the situation at their expense.” Internal consistency reliability was 0.88.

The items of both short scales were also part of the measures in Study 2, where the correlations between the short and long scales were 0.93 for servant leadership and 0.86 for Machiavellianism. This confirms that the short versions did represent the core content of the longer scales. A summary table of measurement is presented in [Appendix – Table A1](#).

### 3.2 Results

As a first step, we checked whether the participants correctly identified the leader as male or female: 86.5% (237 out of 274) correctly identified the leader’s gender. We excluded those who failed the manipulation check question on the leader’s gender. In the high-SL condition, the participants scored significantly higher on the SL scale ( $M = 5.07$ ;  $SD = 1.50$ ) than in the low-SL condition ( $M = 2.26$ ;  $SD = 1.25$ ) ( $F(2, 235) = 8.36, p < 0.001$ ). In the high-Mach condition, the participants scored significantly higher than in the low-Mach condition on the Mach scale ( $M = 5.88$ ;  $SD = 0.10$ ) versus ( $M = 3.17$ ;  $SD = 1.44$ ) ( $F(2, 235) = 9.31, p < 0.001$ ). This result suggests that the leadership manipulation was successful. Checking the individual participants’ data by comparing their manipulation check scores with their conditions revealed that three participants responded to the manipulation check on the extreme opposite of their servant leadership manipulation. We omitted them from the sample. As a result, our analysis sample included 234 participants (60% men vs 40% women). The distribution of participants among the eight experimental conditions was relatively balanced, with 27–31 participants in each condition (See [Table 1](#)).

Multiple regression analysis was used whereby the experimental conditions were coded as 0 and 1. We included the demographic variables (age and gender of the participants) as control variables because they are likely to be associated with perceived leadership effectiveness. Model 1 ([H1](#)) shows that servant leadership was significantly associated with the perceived effectiveness of leadership ( $\beta = 0.24, SE = 0.18$ ), thereby confirming our first hypothesis. We tested [H2](#) and [H3](#) in Model 2 and Model 3, respectively, by examining the joint effects of servant leadership behaviors, Machiavellian trait, and leaders’ gender on followers’ perceived leadership effectiveness. While the interplay of servant leadership behaviors and Machiavellian traits does not show up when gender is not considered ( $\beta = -0.02, SE = 0.31$ ) in Model 2, the moderating effect of Machiavellianism on the relationship between servant leadership and leadership effectiveness differs across the two gender groups, as shown by the significant three-way interaction term ( $\beta = 0.25, SE = 0.45$ ) in Model 3. For female managers, the moderating effect of Machiavellian Traits is positive ( $\beta = 0.25 - 0.18 = 0.07$ ), which suggests that the impact of servant leadership behaviors on leader effectiveness is greater for women leaders with high levels of Machiavellian traits, compared to those with low levels. In contrast, for male managers, the moderating effect is not significant ( $\beta = -0.18, SE = 0.43$ ). These findings provide support for hypotheses [H2](#) and [H3](#).

To further validate the results, we conducted a PROCESS analysis using the SPSS Marco as a robust check. As shown in [Table 2](#), the effect of servant leadership is positive and statistically significant across the four conditions of leaders’ gender and Machiavellian traits. These differences in effects are statistically significant, as indicated by the test of the highest order unconditional interaction ( $p < 0.05$ ). The results are further illustrated in [Figure 2](#). The positive effect of engaging in servant leadership behaviors on perceived leadership effectiveness is greatest for low-Mach male and high-Mach female leaders, followed by high-Mach male leaders, and lowest for low-Mach female leaders (see [Figure 3](#)).



**Table 1.**  
Regressions on  
Leadership  
Effectiveness  
(Study 1)

DV Variables	Model 1 (H1)		Model 2 (H2)		Model 3 (H3)	
	b	SE	b	SE	b	SE
Leaders' Gender (f = 1)	0.00	0.16	0.00	0.16	0.52	0.31
Servant Leadership	2.18***	0.15	2.21***	0.22	2.71***	0.31
Leaders' Mach	0.28	0.15	0.31	0.22	0.64*	0.32
SL x Mach			-0.06	0.31	-0.68	0.43
Leader's Gender x SL					-1.00*	0.43
Leader's Gender x Mach					-0.64	0.45
Leader's Gender x SL x Mach					1.23*	0.45
Constant	2.36***	0.70	1.06**	0.29	2.11**	0.74
R-Square		0.50		0.50		0.52
N		234		234		234

**Note(s):** Followers' age and gender are controlled in the analysis. \*\*\*<0.001, \*\*<0.01, \*<0.05  
**Source(s):** Authors work

In summary, Study 1 shows that servant leadership is positively associated with perceived leadership effectiveness, and this relationship varies based on the leaders' gender and Machiavellian Traits. Specifically, for female leaders, engaging in servant leadership behaviors is stronger for high-Mach than low-Mach women leaders. These findings provide support for H2 and H3.

#### 4. Study 2

In Study 2, survey data were collected from employees in different companies on their direct supervisors' gender, Machiavellian traits, servant leadership behaviors, and leadership effectiveness. The survey questionnaires were first developed in English and translated into Chinese. Forward and backward translation procedure was followed to ensure the accuracy of the wordings and expressions. The respondents in this study were recruited through purposive snowball sampling, targeting employees who have had a direct reporting relationship with their leaders from researchers' personal contacts. In all, 247 individuals from 24 provinces responded to the survey (128 women and 119 men). Table 3 shows the summary statistics of the key variables in this study.

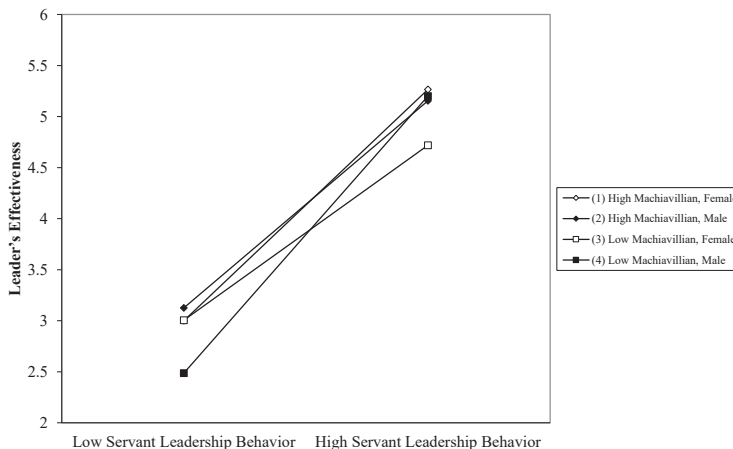
Test(s) of highest order unconditional interaction(s)				
R2-chng	F	df1	df2	p
0.01	4.11	1.00	219.00	0.04*

Conditional effects of servant leadership behaviors at values of the moderator(s)							
Mach	Leader's gender	Effect	se	t	p	LLCI	ULCI
0	0	2.71***	0.31	8.85	0.00	2.11	3.32
0	1	1.71***	0.31	5.64	0.00	1.12	2.32
1	0	2.03***	0.30	6.66	0.00	1.43	2.63
1	1	2.26***	0.31	7.26	0.00	1.65	2.88

**Note(s):** Followers' age and gender are controlled in the analysis. \*\*\*<0.001, \*\*<0.01, \*<0.05

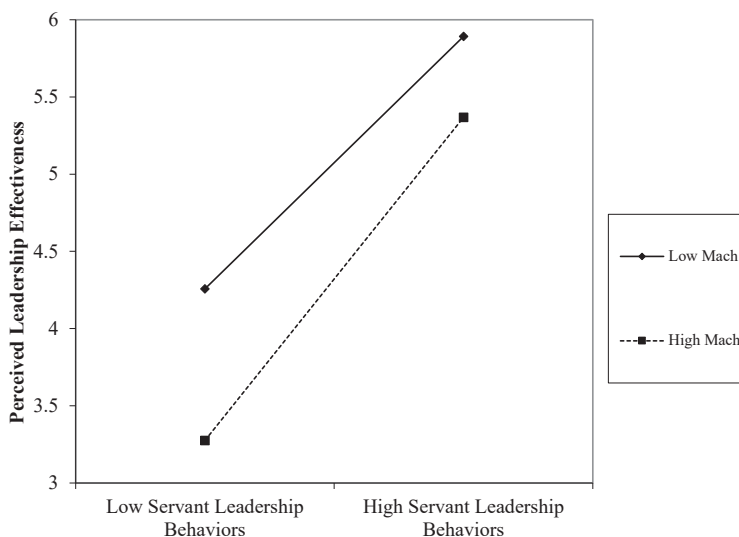
**Source(s):** Authors work

**Table 2.**  
Effects of Servant Leadership Behaviors by leaders' gender and Machiavellian Traits (Study 1)



**Source(s):** Authors work

**Figure 2.**  
Effects of servant leadership behaviors by leaders' gender and Machiavellian traits (Study 1)



**Figure 3.**  
Effects of servant leadership behaviors by leaders' gender and Machiavellian traits (Study 2)

Source(s): Authors work

#### 4.1 Measures

*Servant Leadership Behaviors* Servant leadership behaviors were measured using the 14-item servant leadership scale developed by Ehrhart (2004). A sample item is "my direct supervisor makes me feel like I work with him/her, not for him/her." Internal consistency reliability was verified with a Cronbach's Alpha of 0.92.

*Leader Effectiveness* Leaders' effectiveness is measured a 3-item scale, adapted from the leadership effectiveness scale in De Hoogh *et al.* (2005). Participants were asked to rate the leadership effectiveness of their direct supervisors. An example question is "the overall operation of the person you are evaluating satisfactory." Internal consistency reliability was verified with a Cronbach's alpha of 0.94.

*Leaders' Machiavellian Trait* Leaders' Machiavellian trait is measured using the 16-item scale developed by Dahling *et al.* (2009). A sample item is "(my supervisor) believes that status is a good sign of success in life." Internal consistency reliability was verified with Cronbach's alpha of 0.96.

The questions were scored on a seven-point Likert type scale for each of the measures to ease survey administration and provide consistency in terms of response format. A summary table of variables and measurement instruments are provided in Appendix – Table A1. In addition, participants were asked to respond to questions about their and their supervisors' age and gender, how long they have worked under this supervisor's leadership, and how often they interact with the direct supervisors, except for leaders' gender, which serves as a focal variable in the model, leaders and participants' demographic information and their interaction history and frequency were used as controlled variables in the analysis.

#### 4.2 Results

Table 3 shows the correlations among variables in the analysis. The regression results are presented in Table 4. As shown in Model 1 (H1), showing servant leadership behaviors is positively associated with leadership effectiveness, supporting H1. In Model 2 (H2), an interaction term between Machiavellian traits and servant leadership behaviors was

	Means	S.D.	SL behaviors	Mach	Leaders' gender (f)	Leadership effectiveness	Participants' age	Leaders' age	Participants' gender (f)	Leader-follower history	Leader-follower interaction frequency
SL Behaviors	4.55	1.14	1								
Mach	3.85	1.35	-0.51***	1							
Leaders' Gender (f = 1; m = 0)	0.32	0.47	0.05	-0.05	1						
Leadership Effectiveness	4.61	1.42	0.79***	-0.58***	0.06	1					
Participants' Age	3.73	1.81	0.03	0.05	-0.13*	0.02	1				
Leaders' Age	5.29	1.63	0.02	0.03	-0.04	-0.06	0.57***	1			
Participants' gender (f = 1; m = 0)	0.52	0.50	-0.16*	0.01	0.21***	-0.11	-0.13*	-0.08	1		
Leader-Follower History	4.03	1.62	0.04	-0.08	-0.00	0.10	0.36***	0.43***	-0.07	1	
Leader-Follower Interaction Frequency	2.06	1.38	-0.11	0.07	-0.07	-0.13*	0.33***	0.24***	-0.05	0.07	1

**Note(s):** 1. Participants' and leaders' age variables are categorical variables. The age categories are (1) indicates 20–25 years old, 2 indicates 26–30 years old, 3 indicates 31–35 years old, 4 indicates 36–40 years old, 5 indicates 41–45 years old, 6 indicates 46–50 years old, 7 indicates 51–55 years old, 8 indicates 56–60 years old, and 9 indicates 60 years old and above)

2. Leader-Follower history variable is a categorical variable with 1–7 values: (1) less than 3 months; (2) 3–6 months; (3) 6 months to 1 year; (4) 1 year to 3 years; (5) 3 years–5 years; (6) 5 years–10 years; and (7) 10 years or more

3. Leader-Follower interaction frequency measured in 6 levels: (1) daily; (2) several times a week; (3) about once a week; (4) 2–3 times a month; (5) once a month; (6) less than once a month

4. \*\*\*<0.001, \*\*<0.01, \*<0.05

**Source(s):** Authors work

**Table 3.** Descriptive Statistics and Correlations (Study 2)

**Table 4.**  
The Effects of Servant Leadership Behaviors, Leaders' Gender and Machiavellian Traits on Leadership Effectiveness (Study 2)

DV Variables	Model 1 (H1)		Model 2 (H2)		Model 3 (H3)	
	b	SE	b	SE	b	SE
Leaders' Gender (f = 1)	0.04	0.11	0.01	0.11	0.13	1.50
Servant Leadership	0.84***	0.05	0.67***	0.12	0.55***	0.14
Leaders' Mach	-0.24***	0.05	-0.23***	0.13	-0.58***	0.16
SL x Mach			0.07**	0.03	0.08*	0.03
Leader's Gender x SL					-0.01	0.29
Leader's Gender x Mach					0.02	0.31
Leader's Gender x SL x Mach					-0.01	0.06
Followers' Age	0.05	0.04	0.05	0.04	0.05	0.04
Followers' Gender (f = 1)	-0.00	0.11	-0.01	0.11	-0.01	0.11
Leaders' Age	-0.11**	0.04	-0.10*	0.04	-0.10*	0.04
Leader-Follower History	0.07*	0.04	0.08*	0.04	0.08*	0.04
Leader-Follower Interaction Frequency	-0.04	0.04	-0.05	0.04	-0.05	0.04
Constant	1.87***	0.43	3.21***	0.66	3.20**	0.75
R-Square		0.67		0.68		0.68
N		247		247		247

**Note(s):** Followers' age and gender, leaders' age, are controlled in the analysis. \*\*\*<0.001, \*\*<0.01, \*<0.05

**Source(s):** Authors' work

included, and the results reveal that the interaction term was positive and statistically significant. This suggests that the benefits of demonstrating servant leadership behaviors are more pronounced for high-Mach leaders. This finding supports H2 and is consistent with the finding in the Study 1 for women leaders. Next, we examine whether this moderation effect differs for women and men leaders in the survey study. As shown in Model 3 (H3), the three-way interaction is not statistically significant. The results show that, for both male and female leaders, adopting servant leadership behaviors help them gain higher levels of effectiveness, and doing so is especially beneficial for those who tend to have relatively higher levels of Machiavellian traits.

In a short sum, across the two studies, we find a consistent story for women, but not for men, in terms of high-Mach leaders need to engage more in servant leadership behaviors to be rated as effective compared to low-Mach leaders.

## 5. Conclusion and discussion

The purpose of the study is to investigate the interplay of a power-pursuing and manipulation-oriented trait (i.e. Machiavellianism) and an other-oriented leadership style (i.e. servant leadership). The study also seeks to explore the gendered influence of this interplay on how leaders are perceived as effective. The results from the two studies – a scenario study and a survey sampling study – consistently demonstrate that the relationship between servant leadership behaviors and followers' ratings of leaders' effectiveness varies with leaders' Machiavellian traits. High-Mach leaders need to engage in more servant leadership behaviors serves to be perceived as effective, and this remedy effect is likely more pronounced for women leaders. As a result, the findings provide support for hypotheses H1, H2, and H3. Theoretical and practical implications of these findings are discussed below.

### 5.1 Theoretical implications

Starting with the notion that leadership is a complex phenomenon, our paper makes an important contribution by examining the interplay of gender, personality traits, and leadership behaviors on perceived leadership effectiveness. In particular, we advance the existing literature in three significant ways.

First, we extend the servant leadership literature by examining how leaders are perceived as effective based on their engagement in servant leadership behaviors. Existing research suggests that servant leadership is associated with positive organizational outcomes, such as increased trust in managers, job satisfaction, organizational performance, and team performance (e.g. Hoch *et al.*, 2018; Lee *et al.*, 2020). These outcomes are likely to be associated with more positive evaluations of leadership effectiveness. Our findings support this relationship, as we demonstrate that followers perceive leaders who engage in servant leadership behaviors as more effective.

Second, our study highlights the relevance of Machiavellianism in the research on servant leadership. While some scholars have argued that Machiavellianism is an unnecessary and irrelevant construct in leadership studies (McHoskey *et al.*, 1998), more recent research has emphasized the importance of studying Machiavellianism and highlighted the need to ground leadership studies in organizational reality (e.g. Cunha *et al.*, 2021; Pfeffer, 2021). Our research finds that Machiavellianism is not mutually exclusive with servant leadership behaviors. High-Mach leaders benefit more from engaging in these behaviors than low-Mach leaders, which in turn enhances their perceived leadership effectiveness. These findings support the ongoing research discourse on Machiavellian intelligence (Bereczkei, 2018), the interaction between various leadership styles and Machiavellianism (Capezio *et al.*, 2017; Kwak and Shim, 2017), and the relevance of “dark side” personality traits in leadership roles (Harms *et al.*, 2011; Pfeffer, 2021).

Third, our study adds to the literature on gender and leadership by showing there is a three-way interaction between gender, Machiavellianism, and leadership behaviors in terms of their effects on leader effectiveness. We found that high-Mach leaders, especially women, need to engage more in servant leadership behaviors to be rated as effective compared to low-Mach leaders. This is consistent with previous research by [Lemoine et al. \(2019\)](#), which suggests that female leaders may have an advantage in demonstrating servant leadership behaviors due to their alignment with communal gender prototypes. Additionally, the scenario study revealed that female Machiavellian leaders benefit more from displaying servant leadership behaviors than male Machiavellian leaders in terms of perceived effectiveness. These findings highlight the complex interplay between gender, personality traits, and leadership behaviors in determining leader effectiveness. While women may experience role consistency as servant leaders, they may also face challenges in getting due credit for their leadership behaviors due to societal expectations.

### *5.2 Practical implications*

The study's practical implications are three-fold. Firstly, our findings indicate that engaging in servant leadership behaviors can increase leadership effectiveness, particularly for "high Mach" leaders. Organizations should consider including leaders, especially high-Mach leaders, in leadership development programs that provide guidance on servant leadership behaviors and their positive outcomes.

Secondly, our study highlights that the expectations of female leaders to be servant leaders can hamper women leaders' effectiveness rating. There has been an acceleration in the increase of female representation in leadership roles in recent years ([Sojo et al., 2016](#)), and yet women are still significantly underrepresented in leadership positions ([McKensy & Company, 2020](#); [World Economic Forum, 2020](#)). Women's underrepresentation in leadership is likely related to how their leader effectiveness is evaluated ([Sojo et al., 2016](#)), that is, the different evaluations men and women leaders receive when they exhibit the same leadership styles. While our study shows that women leaders who display servant leadership behaviors in a way that gains credit for themselves are rated more positively by their followers, relying solely on their own social manipulation skills to attain their credit is problematic. This approach would lead to underestimation of performance ratings for female leaders who engage in servant leadership behavior but are not high on Machiavellianism compared to their high-Mach counterparts. To address this issue, we suggest that organizations evaluate leaders comprehensively, considering gendered expectations and biases when conducting leadership evaluations for promotion and career development decisions ([Shen and Joseph, 2021](#)).

Moreover, our scenario study indicates that female low-Mach leaders benefit the lowest displaying servant leadership behaviors in terms of perceived effectiveness, compared to male leaders and female high-Mach leaders. These findings highlight the double-edged sword of gender prototypes in leadership evaluations, where women servant leaders may experience role consistency as women and servant leaders, but at the same time, may be deprived of credit for their performance unless they intentionally manipulate situations to protect their own interests. The differential evaluation of female and male leaders' servant leadership behavior could potentially result in gender inequality, with female leaders not receiving the deserved credit for their performance. Organizations should be aware of these dynamics when evaluating leaders and consider providing targeted support to high-Mach female leaders in developing their servant leadership skills.

### *5.3 Limitations and future research*

Our study has several limitations that warrant discussion. First, Study 1 used a scenario experiment, which means that participants had to imagine the situation rather than

experiencing it in the real life, the results may reflect the participants' perceptions instead of how they would react. A strength here is that we took a group of managers with extensive work experience so that their reactions tend to be influenced by how the scenarios were reflected in their own work experience. The randomization is hereby a strength to counterbalance the influence of non-experimental condition related factors. Moreover, its experimental setup helps to examine the causal relationships of interest. Second, the survey study is cross-sectional in nature, using self-report as the dependent variable. It is affirming to see that the findings of the field study confirm those in the experimental study for the women sample. Future studies may collect data from multiple sources (i.e. employees, co-workers, leaders) to explore the research questions. For instance, it would be interesting to examine whether the self-reported Mach scores correspond to followers-reported Mach scores, as well as how Mach's moderation effect on the relationship between servant leadership behaviors and leadership effectiveness changes when using alternative perspectives.

In conclusion, our study brings three intriguing areas together, that of servant leadership, leader's Machiavellian traits and gender. It clearly shows and confirms the importance of building more comprehensive contingent models for a full understanding of servant leadership.

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## Appendix

Variables	Measurement instruments	
	Study 1 – Scenario study	Study 2 – Survey study
Leader Effectiveness	Three-item scale (De Hoogh <i>et al.</i> , 2005)	Three-item scale (De Hoogh <i>et al.</i> , 2005)
Servant Leadership Behaviors	Scenarios, adapted from van Dierendonck <i>et al.</i> (2014) Manipulation check, adapted from Ehrhart (2004)	14-item scale (Ehrhart, 2004)
Leaders' Machiavellian Trait	Scenarios, developed based on Dahling <i>et al.</i> (2009) Manipulation check, adapted from Dahling <i>et al.</i> (2009)	16-item scale (Dahling <i>et al.</i> , 2009)

**Table A1.**  
Measurement  
instruments

Source(s): Authors work

## Corresponding author

Lin Xiu can be contacted at: [lxIU@d.umn.edu](mailto:lxIU@d.umn.edu)

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