

A meta-analytic review of servant leadership consequences: The moderating roles of cultural factors

Yucheng Zhang
School of Public Administration,
Southwestern University of Finance and Economics, China
Email: yucheng.eason.zhang@gmail.com

Yuyan Zheng
Business School, Durham University, UK
Email: yuyan.zheng@durham.ac.uk

Long Zhang *
Business School, Hunan University, Changsha, China
Email: lyon.long.zhang@gmail.com

Shan Xu
School of Business Administration,
Southwestern University of Finance and Economics, China
Email: sunshinexushan@163.com

Xin Liu
Department of Organization and HR, Renmin Business School,
Renmin University of China, China
Email: liuxin@rmbs.ruc.edu.cn

Wansi Chen
School of Business,
East China University of Science and Technology, China
Email: chenwansi@126.com

* Corresponding author: Long Zhang, Business School, Hunan University, Changsha, China. Email: lyon.long.zhang@gmail.com.

Funding: This study was funded by Young Scientists Fund of the National Natural Science Foundation of China (Grant No. 71602163 and 71802077), Humanities and Social Sciences of Ministry of Education Planning Fund (Grant No. 15YJA630003), and Major Program of National Natural Science Foundation of China (Grant No. 71790593).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

A meta-analytic review of servant leadership consequences: The moderating roles of cultural factors

Abstract

The past decade has witnessed growing interests in empirically examining the effectiveness of servant leadership in management research. Our study reviews the literature on servant leadership and analyzes the relationship between servant leadership and outcome variables. Drawing on social exchange theory, this study uses meta-analysis to find that servant leadership is positively related to followers' job-related outcomes (e.g., psychological empowerment, organizational commitment, service quality), leader-related outcomes (e.g., leader effectiveness), and group-related outcomes (e.g., group service performance). Further, we find that the relationships between servant leadership and its outcomes are moderated by cultural factors (i.e., traditionality, masculinity, individualism, and power distance). Finally, we examine the incremental validity of servant leadership by taking transformational leadership into account and comparing their effects on job performance and organizational citizenship behavior (OCB) via leader-member exchange (LMX). Implications for theory and practice are discussed, and an agenda for future research is proposed.

Keywords: Servant leadership; meta-analysis; social exchange theory; cultural factors; incremental validity.

Introduction

Servant leadership refers to a leadership style in which leaders prioritize the fulfilment of their followers' needs (Greenleaf, 1970; Liden et al., 2008). Over the years, servant leadership has received increasing research attention since Liden et al. (2008) developed a multidimensional measure (see reviews by Parris & Peachey, 2013). The core idea underlying servant leadership is that servant leaders behave in moral or virtuous ways to fully develop their followers' potential and put their followers' interests ahead of their own (Greenleaf, 1970; Liden et al., 2008; van Dierendonck, 2011).

Scholars have paid increasing attention to discussing how servant leaders motivate employees to improve their work attitudes and performance (e.g., Hsiao et al., 2015; Ling et al., 2016; Testa & Sipe, 2012). For example, empirical research on servant leadership has primarily focused on examining its consequences, including individual outcomes such as employees' job engagement (De Clercq et al., 2014), trust in leader (Chan & Mak, 2014), service performance and organizational citizenship behavior (OCB) (Liden et al., 2014; van Dierendonck, 2011), as well as group-level outcomes such as service climate (Chen et al., 2015), group service performance and group OCB (Hu & Liden, 2011).

Despite the increasing number of servant leadership studies, a critical omission in the literature is that limited studies to date have attempted to systematically summarize the growing body of empirical research on servant leadership. Theoretically, although servant leadership has attracted considerable interest from quantitative scholars, there have been few narrative reviews of servant leadership (e.g., Parris & Peachey, 2013; van Dierendonck, 2011), which cannot offer sufficient retrospective analyses of servant leadership research. A critical meta-analytic study performed by Hoch et al. (2018) compared three emerging forms of positive leadership (i.e., authentic leadership, ethical leadership, and servant leadership) with transformational leadership in terms of their associations with relevant organizational

1 outcomes. Due to the relatively small number of studies the authors used to make their
2 estimates, in their review, the authors called for more studies conducting meta-analyses
3 concentrated on servant leadership to make inferences based on larger populations. Thus,
4 there is a need for a more focused and systematic summary of the existing empirical research
5 on servant leadership. To address this gap, in this paper, we apply social exchange theory
6 (Blau, 1964) and conduct a meta-analytic review and provide strong evidence that
7 demonstrates the quantified effect sizes of servant leadership on relevant outcomes.
8
9 Practically, understanding the effectiveness of servant leaders may confer considerable
10 benefits to companies by providing direction for their future training and selection
11 approaches. Therefore, by using a meta-analytic approach, our research aims to provide a
12 systematic and holistic review that summarizes the effectiveness of servant leadership with
13 regard to three key consequences: job-related outcomes, leader-related outcomes, and group-
14 related outcomes.
15
16

17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Moreover, although the majority of the servant leadership research has been based on Western contexts (see the review by Liden et al., 2008; Parris & Peachey, 2013), an increasing number of studies are interested in exploring servant leadership in Asian contexts (Hale & Fields, 2007; Han et al., 2010; Ling et al., 2016; Miao et al., 2014). Some studies have suggested that servant leadership is perceived to be culturally universal (see the review by Parris & Peachey, 2013), while others have illustrated the cultural impacts of servant leadership and have suggested that servant leadership may be executed differently in a collectivistic and higher power distance cultural context (Pekerti & Sendjaya, 2010; Sun & Wang, 2009; Trompenaars & Voerman, 2009). Therefore, scholars have called for more research to verify cultural features in studies on servant leadership (e.g., Han et al., 2010; Sun & Wang, 2009). To fill this gap, the current study offers a cultural framework by testing the moderating effects of four critical cultural dimensions—traditionality, masculinity,

1 individualism, and power distance. We thus provide strong empirical evidence on the cultural
2 impacts of servant leadership to help resolve the inconsistency within the literature.
3

4
5 In sum, our meta-analysis offers four contributions to the servant leadership research.
6
7 First, although previous studies have revealed many positive effects of servant leadership, the
8 magnitudes and consistency of these effects across studies remain open questions. This study
9 builds on Hoch et al.'s (2018) meta-analysis and systematically examines the previous
10 research and conducts a comprehensive examination of the consequences of servant
11 leadership. Second, this study compares the meta-analytical magnitudes of the relationships
12 between servant leadership and its outcomes and advances our understanding of the
13 predictive strength of servant leadership in terms of both attitude-based outcomes and
14 performance-based outcomes. We also investigate the individual-level and group-level
15 outcomes of servant leadership and emphasize the need to examine the multilevel effects of
16 servant leadership from both the top-down and bottom-up directions. Third, we provide
17 rigorous analyses and demonstrate the incremental validity of servant leadership and its
18 explanatory power on job performance and OCB through the psychological mechanism of
19 leader-member exchange (LMX) compared with transformational leadership. By doing so,
20 we show that servant leadership is a distinct construct compared to other correlated
21 leadership styles. Finally, this research introduces a cultural perspective to interpret the
22 effectiveness of servant leadership. Existing reviews or meta-analyses predominately focus
23 on investigating how servant leaders impact employee or group outcomes in general.
24
25 Nevertheless, it has been argued that values and views reflecting social norms determine
26 followers' responses to leadership (Hu & Judge, 2017). In a narrative review, van
27 Dierendonck (2011) suggested that an examination of the cross-cultural validity of servant
28 leadership is needed. In light of these studies, we attempt to identify the cultural aspects of
29 the servant leadership literature by empirically testing how cultural dimensions moderate the
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1 impacts of servant leadership. Thus, the current study expands our knowledge of the servant
2 leadership model across cultures and highlights possible cultural boundaries for the impacts
3 of servant leadership.
4
5
6
7
8

9 **Hypothesis development**

10
11
12 Servant leadership includes seven dimensions: *encouraging emotional healing*—
13 showing sensitivity to followers’ personal concerns; *creating value for the group*—displaying
14 a conscious, genuine concern for helping the group; *communicating conceptual skills*—
15 possessing knowledge about the organization and its goals and supporting followers;
16
17 *empowering followers*—encouraging and supporting followers in identifying and solving
18 problems; *helping followers grow and succeed*—demonstrating genuine concern for
19 followers’ career growth and development; *putting followers first*—prioritizing the
20 satisfaction of followers’ work needs; and *behaving ethically*—interacting openly, fairly, and
21 honestly with others (Liden et al., 2008). Studies have empirically supported the
22 distinctiveness of the construct of servant leadership from several other relevant concepts,
23 including transformational leadership, authentic leadership, ethical leadership, paternalistic
24 leadership and LMX (Ehrhart, 2004; Hale Öner, 2012; Hoch et al., 2018; Liden et al., 2008).
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40

41 Based on previous empirical studies (e.g., Chan & Mak, 2014; Han et al., 2010; Hsiao
42 et al., 2015; Ling et al., 2016) and reviews of servant leadership (Parris & Peachey, 2013; van
43 Dierendonck, 2011), this paper begins with an investigation of the consequences of servant
44 leadership according to three main categories of consequences: job-related outcomes, leader-
45 related outcomes, and group-related outcomes. Second, this paper introduces a cultural
46 perspective and proposes that servant leadership are not equally effective across different
47 cultures (Smith et al., 2004; van Dierendonck, 2011). By reviewing the extant literature
48 investigating cultural effects on the efficacy of servant leadership (e.g., Pekerti & Sendjaya,
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

2010; Trompenaars & Voerman, 2009), we examine several cultural moderators, including masculinity, individualism, power distance and traditionalism, that are expected to influence the overall predictability of the effectiveness of servant leadership on proposed outcomes at different levels. Finally, we investigate the incremental validity of servant leadership by examining whether it accounts for significant variance in job performance and OCB through the psychological mechanism of LMX beyond the effects of transformational leadership.

Servant leadership and job-related outcomes

Attitudinal and intentional outcomes. A widely recognized approach to investigating servant leadership in the management literature is examining the relationships between servant leadership and employees' work attitudes, such as work motivation and attachment to an organization (Chen et al., 2013; Donia et al., 2016; Hu & Liden, 2011). The effectiveness of servant leadership has been explained from a social exchange perspective, which proposes that the norm of reciprocity motivates an employee to return favors in social relationships (Blau, 1964). Instead of being self-interested or purely outcome-oriented, servant leaders help followers meet their needs, desires, and interests and build interpersonal relationships with their followers (Bedi et al., 2016; Hu & Liden, 2011). When these needs and interests are fulfilled, employees are likely to perceive leaders as supportive and therefore remain highly motivated. For example, servant leadership has been found to be positively associated with employees' sense of empowerment (Van Dierendonck et al., 2014). Similarly, servant leadership can drive restaurant workers' engagement (Carter & Baghurst, 2014; De Clercq et al., 2014; Sousa & van Dierendonck, 2015). In the context of private service companies, servant leadership has also been revealed to increase employees' level of intrinsic motivation (Chen et al., 2013). Based on the existing results in the literature, we suggest several attitudinal variables as important outcomes of servant leadership, including *psychological empowerment, engagement, and intrinsic motivation.*

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Hypothesis 1a: Servant leadership is positively related to individual-level psychological empowerment, engagement, and intrinsic motivation.

In addition, on the basis of the reciprocal attitudes that servant leadership can inspire according to social exchange theory, we expect servant leaders to lead employees to reciprocate in the form of an increased level of attachment to the organization, including *trust, organizational commitment and organizational identification*, and to reduce employees' *turnover intention*. For instance, early studies proposed that servant leadership can facilitate efficient organizational functioning by sustaining high employee trust (Graham, 1991; Greenleaf, 1970). This proposition has received strong empirical support demonstrating a positive relationship between servant leadership and employee trust towards an organization (Joseph & Winston, 2005; Sendjaya & Pekerti, 2010). Further, scholars have suggested that servant leaders who exhibit genuine consideration for their employees can enhance employees' involvement and cohesiveness in the organizational process. In such situations, servant leaders can promote employees' acceptance of a company's values and norms and therefore increase their organizational commitment (Van Dierendonck et al. 2014). Relatedly, servant leaders can also reinforce the salient value of serving others, which portrays a positive image of the organization. Thus, servant leaders can actively prime a collective self-concept among employees and form high levels of social identification with an organization (Lord & Brown, 2004; Zhang et al., 2012). For example, Zhang et al. (2012) found a positive relationship between servant leadership and organizational identification. Finally, when employees are highly attached to an organization, such a strong relational bond can make the employees less likely to consider quitting (Jaramillo et al., 2009).

Hypothesis 1b: Servant leadership is positively related to individual-level follower trust, organizational commitment and organizational identification and is negatively related to turnover intention.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
Individual behavioral outcomes. In addition to the effects of servant leadership on motivation and attachment, we consider individual behavioral outcomes as another important dimension that servant leadership drives based on social exchange theory. We summarize these behavioral outcomes in two general categories: in-role behaviors, including *job performance* and *service quality*, and discretionary behaviors, including *creativity* and *OCBs* (Ehrhart, 2004; Jaramillo et al., 2009; Liden et al., 2014; Neubert et al., 2008; Walumbwa et al., 2010; Yoshida et al., 2014)

17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
We contend that servant leadership can foster employees' job performance. From a social exchange perspective, when servant leaders provide employees with resources, guidance, and emotional support, the receipt of such positive treatment from leaders is likely to engender strong feelings of obligation for the followers to achieve better job performance in return (Liden et al., 2014). Liden et al. (2008) suggested that servant leaders who create a pervasive social context characterized by high levels of trust and mutual support can foster positive exchanges with employees, which motivates the employees to respond with high levels of job performance. In particular, the literature demonstrates that servant leadership not only enhances employees' general job performance but also increases their service quality towards customers in service companies. For example, Chen et al. (2015) found that servant leaders who offered considerable assistance to employees during their working and learning process enhanced the employees' ability to deliver high-quality service to customers in hair salons.

48
49
50
51
52
53
Hypothesis 2a: Servant leadership is positively related to individual-level in-role performance and service quality.

54
55
56
57
58
59
60
61
62
63
64
65
We also expect that positive social exchanges with employees initiated by servant leaders can create a supportive social context in which employees are highly encouraged to reciprocate with prosocial behaviors that support the positive environment, such as

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
interpersonally directed OCB (OCBI) and organizationally directed OCB (OCBO)
(Walumbwa et al., 2010). In addition, servant leaders can encourage employees to express
diverse ideas and adopt innovative ways to perform their tasks (Greenleaf, 1970; Liden et al.,
2008). In this regard, servant leaders can provide employees with a psychologically safe
environment in which the employees are willing to take risks and propose and implement
creative ideas in their work (Liden et al., 2014; Neubert et al., 2008). In a similar vein,
Yoshida et al. (2014) found that servant leaders can encourage employees to develop a strong
relational identification with the leader by providing a strong sense of psychological safety so
that the employees are more willing to take risks and invest in new ideas.

21
22
23
24
25
*Hypothesis 2b: Servant leadership is positively related to individual-level OCBI, OCBO
and creativity.*

26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
Well-being outcomes. Leadership has traditionally been viewed as an essential element
influencing employee well-being in the workplace (e.g., Ilies et al., 2005; Landeweerd &
Boumans, 1994; Seltzer & Numerof, 1988; Tepper, 2000). Scholars have long argued that
negative leadership styles (e.g., destructive leadership, abusive leadership) are likely to be
psychologically distressing to employees and may therefore cause employees to feel
exhausted (see a review by Schyns & Schilling, 2013). By contrast, supportive leadership
styles (e.g., servant leadership) provide employees with sufficient support and resources to
cope with job demands and task requirements (van Dierendonck, 2011). Indeed, extant
research has demonstrated the important impact of servant leadership on well-being
outcomes. Rivkin et al. (2014) showed that servant leadership is negatively related to
emotional exhaustion, and Babakus et al. (2010) found that servant leadership increases
employees' capacity to cope with job demands. Therefore, we include *perceived job demands*
and emotional exhaustion as well-being outcomes of servant leadership, thus supporting the

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

notion that servant leaders can benefit employees' well-being (Min, 2014; Rivkin et al., 2014; Tang et al., 2015).

Hypothesis 3a: Servant leadership is negatively related to individual-level perceived job demands and emotional exhaustion.

According to Liden et al.'s (2008) original model of servant leadership, displaying genuine concern and providing support to employees is a critical feature of servant leaders. That is, when servant leaders are sensitive to the needs of their employees, they effectively provide genuine support to them, and such support is helpful in increasing employees' well-being. Prior research has considered perceived organizational support as organizations expressing care about their employees' well-being (Sousa-Poza & Sousa-Poza, 2000) and has suggested that feeling supported at work and satisfied with one's job are two important aspects of employee well-being. Of relevance to our model, the positive relationship between servant leadership and employees' perceived work support has also been supported by empirical research (e.g., Zhou & Miao, 2014). Servant leaders prioritize satisfying their followers' needs (Liden et al., 2008), and followers are therefore likely to feel supported and are subsequently more satisfied with their jobs. The positive relationship between servant leadership and job satisfaction is also well supported in the existing literature (Hebert, 2003; Schneider & George, 2011; Thompson, 2002).

Hypothesis 3b: Servant leadership is positively related to individual-level perceived work support and job satisfaction.

Servant leadership and leader-related outcomes

As noted earlier, servant leadership is effective at producing high-quality exchanges between a leader and employees in the workplace. According to Ng et al. (2008), social exchange theory also serves as a fundamental relationship-based approach to understanding the relational dynamics between servant leaders and employees. Previous research has

1 adopted this social exchange perception (Blau, 1964) to explain the effects of servant
2 leadership on leader-related outcomes, including *LMX* and *leader effectiveness*. One distinct
3 feature of servant leadership in organizations is that leaders appear friendly and approachable
4 and initiate high LMX when interacting with employees (Henderson et al., 2009; Ling et al.,
5 2016). Other studies have found that followers' perceptions of leaders possessing the
6 attributes of servant-oriented behaviors elicit favorable perceptions of leadership, which is an
7 important antecedent of followers' perceptions of the effectiveness of servant leadership
8 (Greenleaf et al., 1996; Han & Kim, 2012).

9
10
11
12
13
14
15
16
17
18
19 *Hypothesis 4: Servant leadership is positively related to LMX and leadership*
20 *effectiveness.*

21 22 23 24 **Servant leadership and group-related outcomes**

25 In addition to the individual-level effects, researchers have found that servant leaders can
26 effectively create a service climate in groups which can benefit group-level service
27 performance (Liden et al., 2014; Walumbwa et al., 2010). Service climate refers to the shared
28 perceptions of and the meaning attached to the policies, practices, and procedures employees
29 experience and the customer service behaviors they observe being rewarded and that are
30 supported and expected (Schneider & Reichers, 1983; Schneider & George, 2011). Leaders
31 are perceived as the most salient representatives of management actions, policies, and
32 procedures (Kozlowski & Doherty, 1989). Servant leaders who establish people-oriented and
33 ethical actions are often viewed as role models by employees (Greenleaf, 1970). When
34 servant leaders set performance goals (e.g., service excellence), communicate performance
35 standards, and reinforce good performance by providing genuine feedback, employees are
36 likely to feel empowered and inspired to engage in appropriate behaviors and achieve these
37 goals; this leads to higher levels of service climate. Research has indeed shown that servant
38 leadership is positively related to service climate at the group level (Walumbwa et al., 2010).

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

In addition, servant leadership has been found to significantly increase the quality of service performance (Chen et al., 2015; Liden et al., 2014; Schaubroeck et al., 2011).

Hypothesis 5: Servant leadership is positively related to group-level service climate and service performance.

Moderating effects of the cultural dimensions of the effectiveness of servant leadership

As the business world becomes increasingly globalized, the phenomenon of culture has emerged as a contentious issue in both contemporary leadership (Avolio et al., 2009; Dickson et al., 2003; Hofstede, 1980; Hofstede & Bond, 1988; House et al., 2004) and general management studies (Chan, 2002; Lim & Firkola, 2000; Wang et al., In press). For example, a very recent review performed by Koo and Park (2018) emphasized that the unique cultures and traditional philosophies in Asia make certain leadership styles more or less salient in this region. This line of research suggests that investigating the impacts of cultural factors in the Asian context is important to provide a comprehensive understanding of the leadership process in organizations around the world (Atwater et al., 2009; Den Hartog et al., 1999; Eylon & Au, 1999).

Indeed, there has been an increased level of research on the impacts of cultural factors on the relationship between servant leadership and its consequences (e.g., Haven-Tang & Jones, 2012; Testa, 2009). For example, Hale and Fields (2007) found that workers serving in Christian seminaries in Ghana reported significantly lower levels of servant leadership than those in North America. Similarly, a comparative study of servant leadership in Australia and Indonesia revealed that societal culture, including traditionality, masculinity and power distance, is a significant factor in explaining variations in employees' perceptions of the effectiveness of servant leadership (Pekerti & Sendjaya, 2010). In the following paragraph, based on the existing research, we develop hypotheses regarding the role of cultural values

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

(i.e., Chinese traditionality, masculinity, individualism, and power distance) in moderating the relationships between servant leadership and its proposed consequences.

First, we expect traditionality to buffer the positive relationships between servant leadership and employee and group outcomes. Traditionality refers to the values of submission to authority, filial piety, ancestor worship, fatalism, and male dominance (Yang et al., 1989). Traditional employees tend to expect a powerful leader to behave in commanding and controlling ways, and they are therefore socialized to show obedience to their leaders (Hui et al. 2004). Research has also shown that traditionalists are less sensitive to reciprocity from and emotional bonds with their leaders (Farh et al., 2007; Hui et al., 2004). In this regard, servant leaders who build strong interpersonal relationships with their employees (Newman et al., 2017) are less likely to foster traditional employees to reciprocate the positive exchanges with better work attitudes and performance. In contrast, employees who are less traditional view such leaders as approachable (Zhang et al., 2014) and expect their leaders to have intimate interpersonal relationships with them (Lian et al., 2012). Thus, we expect that less traditional employees tend to be more effective and respond more positively to servant leaders.

Hypothesis 6: Traditionality moderates the relationships between servant leadership and its proposed individual-level and group-level outcomes such that the positive impacts of servant leadership are stronger when employees have lower levels of traditionality.

Similarly, we expect that servant leadership has larger positive impacts on employee and group outcomes when employees have lower levels of power distance orientation. Power distance orientation refers to the extent to which an individual accepts the unequal distribution of power among people at different levels in society (Hofstede, 1980). In organizations, employees with high power distance legitimize the asymmetric power

1 distribution between leaders and followers, while employees with low power distance
2 identify with a relatively equal distribution of power between these two parties.
3

4
5 Employees with higher power distance generally prefer their leaders to give them
6 direct orders and solutions (Kirkman et al., 2009), and they are therefore less motivated to
7 participate and be involved in decision-making processes. However, servant leaders provide
8 considerable job autonomy and self-determination opportunities to employees for their
9 personal growth. Thus, servant leadership tends to be viewed as less “empowering” by high
10 power distance employees since without direct orders, these employees could feel confused
11 about how their job tasks. However, when employees have lower power distance, they are
12 empowered by the opportunities to provide input to decision-making processes, and they are
13 less likely to accept direct orders without clarification from their leaders. We therefore
14 suggest that employees with lower power distance are more likely to respond favorably to
15 servant leadership with increased levels of positive work attitudes and behaviors.
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30

31 *Hypothesis 7: Power distance moderates the relationships between servant leadership*
32 *and its proposed individual-level and group-level outcomes such that the positive*
33 *impacts of servant leadership are stronger when employees have lower levels of power*
34 *distance.*
35
36
37
38
39
40

41 Individualism refers to a preference for a loosely knit social framework and for
42 individuals taking care of themselves (Hofstede, 1984). We suggest that the positive impacts
43 of servant leadership on employee outcomes are strengthened by high levels of employee
44 individualism, and this is the case because individualists consider self-interests more than
45 group interests, especially when these two types of interests conflict. Servant leadership
46 promotes the personal growth of employees and emphasizes the satisfaction of employees’
47 personal needs (Van Dierendonck 2011). Such behaviors are more likely to be favored by
48 individualism-oriented employees since these behaviors provide more opportunities for
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1 personal development. In this situation, individualism-oriented employees are more likely to
2 feel satisfied and remain engaged in their jobs. In contrast, employees with low individualism
3 are less self-focused and consider group benefits more than individual benefits. In this sense,
4 these employees may care less about their personal interests and may be less reactive to
5 individualized support from the servant leaders compared to their counterparts.
6
7
8
9
10

11 *Hypothesis 8: Individualism positively moderates the relationships between servant*
12 *leadership and its proposed individual-level and group-level outcomes such that the*
13 *positive impacts of servant leadership are stronger when employees have higher levels of*
14 *power distance.*
15
16
17
18
19
20

21 Finally, masculinity refers to a preference for achievement, heroism, assertiveness,
22 and material success (Hofstede 1984). Masculinity reflects values associated with self-
23 assertiveness, task orientation, achievement and advancement compared to showing empathy
24 and warmth or caring for the feelings of others (Elenkov & Manev, 2005). We suggest that
25 servant leadership has stronger positive impacts on employees who have low levels of
26 masculinity. Research shows that masculine people prefer assertive and task-oriented
27 interpersonal relationships, while their counterparts prefer stronger personal relationships and
28 intimate interpersonal communications (Korabik, 1990). Servant leadership, which focuses
29 on listening to employees' concerns and caring for their personal well-being, has been
30 perceived as a type of feminine-oriented leadership style (Reynolds, 2011). In this regard, we
31 suggest that servant leadership is preferred by employees with lower masculinity because
32 these employees tend to appreciate and react more positively to intimate interpersonal
33 relationships with leaders. In contrast, highly masculine employees give primacy to task-
34 related and assertive information, and they are less socially sensitive and less genuinely
35 interested in relationships with others (Spence et al., 1975). In this regard, we suggest that
36 highly masculine employees are less likely to sense feminine behavioral cues from servant
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

leaders, and their work attitudes and behaviors are therefore less likely to be improved by this leadership style.

Hypothesis 9: Masculinity moderates the relationships between servant leadership and its proposed individual-level and group-level proposed outcomes such that the positive impacts of servant leadership are stronger when employees have lower levels of masculinity.

Incremental validity

Antonakis (2017) argued that when modeling one leadership style in predicting an outcome, it is important to control for competing correlated leadership styles. It is necessary to consider how servant leadership explains its variance in important outcomes relative to other related types of leadership, such as transformational leadership (Barbuto Jr & Wheeler, 2006; Stone et al., 2004; van Dierendonck, 2011). Transformational leadership refers to a leadership style in which leaders pay attention to the development of followers through idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass & Stogdill, 1990). Servant leadership has been argued to be theoretically distinct from transformational leadership in several important ways.

First, servant leadership involves key components of morality, humility, and authenticity, yet transformational leadership by definition does not include these components (Walumbwa et al., 2010). Second, servant leaders are not necessarily charismatic, while transformational leaders exhibit a powerful and inspirational personal image in front of their followers (Bass & Stogdill, 1990). Third, transformational leaders develop followers for the sake of the organization (Avolio, 1999), whereas servant leaders are more concerned with followers' personal growth and well-being (Liden et al. 2008). Emerging empirical evidence supports the distinction between transformational leadership and servant leadership (Parolini et al., 2009; Van Dierendonck et al., 2014). Accordingly, to investigate the incremental validity of

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

servant leadership, we focus on two critical performance outcomes, job performance and OCB. We select job performance and OCB because other ratings of these two outcome variables in the servant leadership literature are adequate, which reduces the potential for common method bias (Podsakoff et al., 2003).

We compare the incremental validity between servant leadership and transformational leadership by demonstrating their variance in affecting job performance and OCB through a key psychological mechanism, LMX. This investigation allows us to examine how the psychological process of servant leadership affects outcomes by considering the effects of transformational leadership. LMX has been highlighted as a main psychological mechanism in the relationship between leadership behaviors and their outcomes (Ng & Feldman, 2015). Similarly, LMX has been theorized as a key mediating mechanism in the servant leadership literature. The core argument is that servant leaders influence their followers to enhance their followers' job performance and OCB by developing reciprocal relationships with them (Ilies et al., 2007; Joseph & Winston, 2005; Liden et al., 2008; Newman et al., 2017). We argue that servant leadership accounts for incremental variances in its outcomes via LMX beyond the effects of transformational leadership because in developing high-quality exchange relationships with followers (LMX). It is the case because that servant leaders prioritize followers' needs and care for their well-being mainly to promote employees' self-development (Van Dierendonck et al. 2014). In contrast, transformational leaders focus more on enhancing followers' self-worth, empowering followers to internalize leaders' visions and values, and even encouraging followers to sacrifice their own interests to achieve organizational goals (Wang et al., 2005). According to social exchange theory (Blau, 1964), employees reciprocate in the form of improved job performance and OCB more to servant leaders who care more about them compared with transformational leaders who prioritize the organization's objectives. Thus, we hypothesize the following:

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Hypothesis 10: LMX mediates the positive relationship between servant leadership and employees' job performance (H10a) and OCB (H10b) when controlling for transformational leadership.

Method

Literature Search

We searched the literature on servant leadership in seven databases, including *Web of Science Social Sciences Citation Index (SSCI)*, *EBSCO*, *ABI/INFORM*, *ERIC*, *PsycINFO*, *Google Scholar* and *Scopus*. Following the practices of previous meta-analyses (e.g. Zhang & Bednall, 2016), we searched the titles, key words and abstracts for references to servant leadership or authenticity of leaders. In addition, a manual search of reviews of servant leadership was performed to supplement the data (Alvesson & Sveningsson, 2013; Banks et al., 2016; Gardner et al., 2011).

We also searched conference papers and dissertations using *PsycINFO/Dissertation*, *Scopus*, *PsycINFO* and *Web of Science (SSCI)* to avoid publication bias (Rothstein & Hopewell, 2009). Moreover, we posted information on the listservs of the Human Resources and Organizational Behavior Divisions at the Academy of Management Conference to collect working papers about servant leadership.

Inclusion Criteria

We used four criteria for inclusion of empirical studies. First, servant leadership and similar relevant constructs must be the focal variable of these empirical studies. Second, the empirical research must include a measure of servant leadership. Third, at least one of the antecedents or moderators of servant leadership is included in the study. Fourth, the research reported the zero-order correlations. In addition to studies about servant leadership, we

1 included studies of MASEM. In total, we collected 125 studies, including 34,698 participants,
2 for final analysis.
3
4

5 **Sample Information**

6
7
8
9 Among the studies included in the present meta-analysis, most of the studies were
10 published. The studies came mainly from Asia and the United States, with 42.5% of studies
11 coming from the United States and 25% from China. The sample included both male and
12 female authors. Specifically, male authors accounted for over half of the sample (57.5%),
13 while female authors accounted for less than half (42.5%). The average age of the authors
14 ranged from 30 to 60 years old, with most authors aged between 30 and 50; specifically, the
15 average age range of 31 to 40 accounted for 40% of the sample, the range between 41 and 50
16 accounted for 45%, while those under 30 accounted for 10% and those over 50 accounted for
17 5%. Detailed information is provided in Appendix A.
18
19
20
21
22
23
24
25
26
27
28
29
30

31 **Variable Classification**

32
33
34
35 Two authors of this study independently reviewed the variables and categorized the
36 consequences of servant leadership into three general categories, namely subordinate-related
37 consequences, leader-related consequences, and team-related consequences. Subordinate-
38 related consequences consisted of attitudinal consequences, behavioral consequences, and the
39 subordinate's well-being; leader-related consequences included leader effectiveness; and
40 team-related consequences included the service climate and group service performance.
41
42
43
44
45
46
47
48
49

50 **Information Extraction**

51
52
53
54 The observed correlations, sample sizes and alpha coefficient reliability estimates
55 reported in the original articles were coded. In addition, we transformed the observed
56 correlations into corrected correlations (Hunter & Schmidt, 2004). The two authors of the
57
58
59
60

1 current study coded all the papers independently and reviewed disagreements. Finally, a high
2 level of agreement was achieved (Cohen's kappa = .92).
3
4

5 **Analysis**

6

7
8
9 We applied random-effects meta-analysis to test Hypotheses 1 to 6 (Borenstein et al.,
10 2011; Hunter & Schmidt, 2004). Regarding our sample studies, because the data were
11 collected from individual research contexts, the studies are unlikely to be homogenous.
12
13 Random-effects meta-analysis should be applied if the effect size varies among studies
14 (Hedges & Vevea, 1998). Based on correlation values and sample sizes, a random-effects
15
16 model incorporates both between and within study variance. The aggregated effect sizes
17
18 based on random-effects analysis is the common effect of primary studies.
19
20
21
22
23
24
25

26
27 Following Borenstein et al. (2011), we used meta-regression to test the moderating
28 effects of four cultural dimensions. Meta-regression is a mixed model of meta-analysis,
29 which is used to estimate the effect of study characteristics on the effect sizes of primary
30 studies. The study-level characteristics, effect sizes and sample sizes should to be included
31
32 for meta-regression. The significance test for the effect of study characteristics on effect sizes
33
34 indicates whether the study characteristics can moderate the relationship between two
35
36 correlates. Meta-regression is conducted based on a linear model in which each z-transformed
37
38 effect size can be estimated by the theory driven moderators. The generalized least squares
39
40 (GLS) estimator is applied to estimate the moderation effect. We measured the four cultural
41
42 dimensions using data reported in the World Values Survey on the website maintained by
43
44 Geert Hofstede (<http://geert-hofstede.com/china.html>) to increase the accuracy of the
45
46 measures of the cultural dimensions by comparing the conventional approach of cross-
47
48 cultural meta-analysis in operationalizing cultural orientation by using location as a proxy
49
50 (Zhang & Liao, 2015). Specifically, in our analysis, because the meta moderation test is a
51
52
53
54
55
56
57
58
59
60

1 mixed model of meta-regression, it incorporates the cultural characteristics to examine
2 between-study heterogeneity (Cheung, 2015).
3
4

5 To test Hypothesis 10 about the incremental validity of servant leadership and the
6 mediating effect of LMX, we applied Bergh et al.'s (2016) meta-analytic structural equation
7 modeling (MASEM). MASEM is a combination of meta-analysis and structural equation
8 modeling to estimate a model that contains multiple independent variables, mediators and
9 dependent variables. The correlation matrix among variables is used as data input for
10 MASEM. By fitting the correlation matrix with SEM, the path coefficients can be estimated
11 (Landis, 2013). MASEM offers two advantages. First, MASEM estimates multivariate
12 relationships more accurately in terms of examining incremental validity (Clarke, 2005;
13 Viswesvaran & Ones, 1995). Specifically, we controlled for the effect of transformational
14 leadership, which is considered an important confounding variable of servant leadership
15 (Hoch et al. 2018), and therefore including transformational leadership validates the
16 incremental validity of servant leadership. Ng and Feldman (2015, p. 953) have also used this
17 method and suggested that the incremental validity can be established when MASEM
18 analysis shows that a focal variable is significantly related to a criterion variable after
19 controlling for confounding variables. Second, in addition to controlling the effects of
20 transformational leadership, MASEM is capable of testing the mediation effect of LMX
21 linking servant leadership and employees' job performance and OCB.
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46

47 **Results**

48 **Main effects of servant leadership**

49
50
51 In order to test Hypothesis 1, the relationships between servant leadership and its attitudinal
52 outcomes were examined. As illustrated in Table 1, consistent with our prediction, servant
53 leadership was positively related to psychological empowerment ($\bar{r} = 0.65$), engagement ($\bar{r} =$
54
55
56
57
58
59
60

1 0.21), and intrinsic motivation ($\bar{r} = 0.27$). In addition, for organizational attachment
2 outcomes, servant leadership was positively associated with trust ($\bar{r} = 0.77$), organizational
3 identification ($\bar{r} = 0.61$), and organizational commitment ($\bar{r} = 0.30$). All the 95% confidence
4 intervals excluded zero. Therefore, Hypothesis 1a and Hypothesis 1b were supported.
5
6
7
8
9

10 Hypothesis 2 suggested that servant leadership is associated with individual-level
11 behavioral outcomes. The results in Table 1 indicate that servant leadership was positively
12 related to in-role performance ($\bar{r} = 0.19$), creativity ($\bar{r} = 0.37$), and service quality ($\bar{r} = 0.16$).
13 Except for creativity, all the 95% confidence intervals excluded zero. For OCB, servant
14 leadership was positively associated with OCBI ($\bar{r} = 0.54$) and OCBO ($\bar{r} = 0.64$), which was
15 illustrated by the 95% confidence intervals excluding zero. Consequently, Hypotheses 2a and
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Hypothesis 3 proposed that servant leadership is related to subordinates' well-being. For
well-being outcomes, the results in Table 1 demonstrate that servant leadership was
negatively associated with perceived job demand ($\bar{r} = -0.25$) and emotional exhaustion ($\bar{r} = -$
0.23). In addition, for resource-related consequences, servant leadership was positively
related to both perceived work support ($\bar{r} = 0.50$) and job satisfaction ($\bar{r} = 0.61$). All the 95%
confidence intervals excluded zero. Thus, both Hypotheses 3a and 3b were supported.

To test Hypothesis 4, the relationships between servant leadership and leader-related
outcomes were examined. As expected, the results in Table 1 reveal that servant leadership
was positively associated with both LMX ($\bar{r} = 0.70$) and leader effectiveness ($\bar{r} = 0.76$). The
95% confidence intervals excluded 0. Thus, Hypotheses 4a and 4b received support.

In terms of Hypothesis 5, the relationships between servant leadership and team-related
outcomes were examined. As shown in Table 1, the results indicate that servant leadership
was positively related to both group service climate ($\bar{r} = 0.65$) and group service performance

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

(\bar{r} = 0.34). The 95% confidence intervals excluded 0. Therefore, Hypotheses 5a and 5b were supported. In conclusion, we found support for all five hypotheses.

In addition, we applied a one-sample removed analysis to evaluate the robustness of our analysis in terms of detecting the impact of an individual study (Borenstein et al., 2011). The results of one-sample removed analysis are displayed in Appendix B and show that there is no substantial difference in results after removing one sample.

---INSERT TABLE 1 ABOUT HERE---

Moderating effects

Hypothesis 6 proposed that cultural characteristics moderate the relationship between servant leadership and its outcomes. Hofstede's country score was used to identify the proposed cultural moderators. Hofstede (1980) developed a multi-country survey with a sample of 40 countries. The questionnaire items were grouped into four dimensions, including power distance, uncertainty avoidance, individualism versus collectivism, and masculinity versus femininity, and each dimension was measured by an index to evaluate a country's culture characteristics. Based on the existing literature on servant leadership, we included these four dimensions to test Hypothesis 6. Meta-regression was adopted to examine all the moderating effects. As Table 2 indicates, traditionality positively moderated the effects of servant leadership on job satisfaction ($b = 0.07, p < .05$), OCBI ($b = 0.10, p < .05$), OCBO ($b = 0.21, p < .01$), psychological empowerment ($b = 0.53, p < .01$), service quality ($b = 0.12, p < .01$), and trust ($b = 0.63, p < .01$), whereas it negatively moderated the effects of servant leadership on emotional exhaustion ($b = -1.06, p < .01$), intrinsic motivation ($b = -0.94, p < .01$), leader effectiveness ($b = -0.83, p < .01$), LMX ($b = -0.12, p < .01$), and service climate ($b = -0.53, p < .01$).

1
2 The results in Table 2 show that masculinity negatively moderated the relationships
3 between servant leadership and emotional exhaustion ($b = -0.01, p < .05$), LMX ($b = -0.07,$
4 $p < .05$), psychological empowerment ($b = -0.02, p < .05$), service climate ($b = -0.29, p < .01$),
5 service quality ($b = -0.07, p < .01$), and trust ($b = -0.01, p < .01$). In contrast, masculinity
6 positively moderated the relationships between servant leadership and intrinsic motivation (b
7 $= 0.02, p < .01$) and leader effectiveness ($b = 0.04, p < .01$).
8
9

10
11
12 For individualism, the results in Table 2 reveal that individualism negatively moderated
13 relationships between servant leadership and emotional exhaustion ($b = -0.01, p < .01$), job
14 satisfaction ($b = -0.01, p < .01$), psychological empowerment ($b = -0.06, p < .01$), and trust ($b =$
15 $-0.01, p < .01$), whereas it positively moderated the effects of servant leadership on intrinsic
16 motivation ($b = 0.05, p < .05$) and service climate ($b = 0.01, p < .01$).
17
18

19
20 For power distance, the results in Table 2 show that power distance negatively
21 moderated the relationships between servant leadership and psychological empowerment ($b =$
22 $0.40, p < .05$), whereas it positively moderated the effect of servant leadership on emotional
23 exhaustion ($b = 0.02, p < .01$), intrinsic motivation ($b = 0.01, p < .01$) and OCBO ($b = 0.01,$
24 $p < .01$). Thus, Hypotheses 6-9 received partial support
25
26

27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1. These results will be further considered in the discussion section.

---INSERT TABLE 2 ABOUT HERE---

Incremental validity

Regarding the incremental validity test and mediation test, as shown in Figure 2, the effect of servant leadership on LMX was positive and significant ($b = .35, p < .001$) after controlling for the effect of transformational leadership ($b = .50, p < .001$). These results provide support for the incremental validity of servant leadership. In addition, the results of

1 the mediation analysis based on a 95% Monte Carlo Bootstrap suggest that the indirect effect
2 of servant leadership via LMX on job performance was significant ($b = .06, p < .001$, CI
3 [.03, .08]) but non-significant for OCB ($b = .00, p > .05$, CI [-.02, .02]). Thus, Hypothesis 10 is
4
5 partially supported.
6
7

8
9
10 ---INSERT FIGURE 2 ABOUT HERE---

11 12 13 **Discussion**

14
15 There has been increasing interests in examining servant leadership during the past
16 decade. However, quantitative summaries of the existing empirical studies in this area remain
17 limited, with an exception of Hoch et al.'s (2018) study. By synthesizing the empirical results
18 on servant leadership over the last decade, our paper extends Hoch et al.'s work by first
19 providing a more comprehensive summary of the magnitude of the effects of servant
20 leadership on a wide range of outcomes. Second, we test the incremental validity of the
21 effectiveness of servant leadership through a comparison with transformational leadership via
22 one key mechanism: LMX. Third, our research offers insights into the boundary conditions of
23 the servant leadership–outcomes relationship from a cultural perspective.
24
25
26
27
28
29
30
31
32
33
34
35
36

37 **Results summary**

38
39 With regard to the overall magnitude of the relationships between servant leadership and
40 its outcomes, our results suggest that servant leadership strongly benefits employee work
41 attitudes and behaviors and group climate and performance (e.g., Chen et al., 2013; Liden et
42 al., 2014; Liden et al., 2014; Walumbwa et al., 2010). Based on social exchange theory (Blau,
43 1964), we offer strong support for the definitive magnitudes of the effects of servant leadership
44 on proposed outcomes, which varied in previous studies. Our study suggests that servant
45 leadership can influence both individual-level consequences and group-level consequences,
46 thus suggesting that this type of leadership is effective across different levels in organizations.
47
48 Moreover, research shows that servant leadership not only functions at different levels but also
49
50
51
52
53
54
55
56
57
58
59
60

1 has a top-down cascading impact (i.e., from top-level managers to bottom-level supervisors)
2 on improving employee work performance (Ling et al., 2016). These results underscore the
3 critical role of servant leaders in creating a positive working environment and facilitating high
4 levels of group and individual performance (Hsiao et al., 2015; Ling et al., 2016). Furthermore,
5 our findings show that servant leadership is effective across industries. Specifically, servant
6 leadership not only enhances generalized individual and group performance but also motivates
7 service employees to provide high-quality customer service in service companies (e.g., Chen
8 et al., 2015). In sum, our study provides sufficient support for the beneficial outcomes of
9 servant leadership.
10
11
12
13
14
15
16
17
18
19
20

21
22 Second, when we compare the different magnitudes of the relationships between servant
23 leadership and its outcomes, the correlations for the behavioral outcomes are smaller than the
24 correlations for the attitudinal outcomes. A possible explanation for this result is that
25 employees' attitudes mediate the relationships between servant leadership and employee
26 behavioral outcomes (e.g., Ehrhart, 2004; Hu & Liden, 2011; Hui et al., 2007; Schaubroeck et
27 al., 2011). This explanation is in line with the social exchange perspective that when servant
28 leaders respect their employees' personal growth and well-being, the employees will have a
29 more positive attitude towards their jobs, the leader, and the company. These positive
30 attitudes, in turn, result in better employee work performance.
31
32
33
34
35
36
37
38
39
40
41
42

43 Third, the findings support that, though only in part, our hypothesized boundary
44 conditions of the cultural dimensions moderate the relationship between servant leadership
45 and its consequences. Our results indicate that although the main effects of servant leadership
46 on outcomes are significant, these effects vary across cultures. For example, our results show
47 that servant leadership has weaker impacts on employees who are high in traditionality and
48 power distance and low in individualism. These results demonstrate that in collectivistic
49 contexts, such as in Asian countries, where people have higher levels of traditionality and
50
51
52
53
54
55
56
57
58
59
60

1 power distance and lower levels of individualism, servant leadership is relatively less
2 effective in influencing employee outcomes. This result can be explained by the culturally
3 endorsed implicit leadership theory (CLT; Dorfman et al., 2004). CLT suggests that cultural
4 background may affect followers' responses to leadership in many respects, for example, the
5 types of leader behaviors that are considered socially desirable (Hansbrough et al., 2015).
6
7 Indeed, research has found that servant leadership is more likely to be experienced by people
8 in individualistic contexts (i.e., the West) than by those in collectivistic contexts (i.e., the
9 East) because servant leaders who are follower-centric and self-sacrificial are compatible
10 with the leader prototypes embedded in individualism (Hale & Fields, 2007).
11

12 Fourth, we found that the positive impacts of servant leadership on employees are
13 weakened by employees' masculinity. This finding can be understood as a reflection of the
14 modern norms in the workplace. Specifically, the dominant focus of organizations has
15 changed from early classic scientific management (Taylor, 1914), which emphasized massive
16 production, to the more recent employee-centered approach in which employees' attitudes
17 and well-being are recognized by organizations (Van Buren III, 2005; Wood & Jones, 1995).
18 Therefore, values and beliefs associated with femininity, such as caring, empathy, warmth
19 and intimacy in the workplace, have been extensively promoted by researchers and
20 practitioners (Rego & Cunha, 2008). Our results show that servant leadership is more
21 embraced in a workplace in which employees have lower levels of masculine values. This
22 phenomenon reflects a rising awareness of the need to build a more democratic and equal
23 workplace. In sum, our study helps reconcile the inconsistent findings regarding the
24 effectiveness of servant leadership across different cultures.
25

26 We should note, however, that the moderating effects of individualism and power
27 distance are relatively small, thus indicating that the magnitudes of these two cultural
28 moderators may be slight and of limited practical significance. Additionally, our results
29

1 indicate that Chinese traditionality is more crucial to understanding the cultural boundary of
2 the relationship between servant leadership and its consequences. This finding also provides
3 additional insights, as it implies that cultural variables have different strengths when
4 moderating the effects of servant leadership.
5
6
7
8

9 **Theoretical Implications**

10
11
12 A primary goal of this meta-analysis is to examine the extent to which servant
13 leadership can explain its variance in proposed outcomes. Overall, our meta-analysis shows
14 that the outcome variables used in the existing servant leadership studies mainly focus on
15 general work attitudes and outcomes (Hoch et al., 2018; van Dierendonck, 2011) as well as
16 some context-related outcomes (e.g., service performance: Chen et al., 2015). However, other
17 types of outcome variables may need to be further clarified and explored. For instance, from
18 our examination of the existing evidence, one key aspect of servant leadership – behaving
19 ethically, and its association with ethics-related outcomes – has received very limited
20 research attention. Specifically, servant leaders act as role models in terms of demonstrating
21 ethical values and standards (Burton et al., 2017), which can therefore motivate followers to
22 imitate these values and engage in more ethical behaviors. Relatedly, although servant
23 leadership contains multiple dimensions, the existing research we examined predominantly
24 uses servant leadership as an overall construct. To achieve a deeper understanding of servant
25 leadership, it is important to identify the most salient dimension of servant leadership in
26 predicting different types of outcomes. For example, the aspect of encouraging emotional
27 healing may be particularly relevant to employees’ mental wellbeing (Panaccio et al., 2015),
28 while the aspect of creating value for the group may be particularly effective in facilitating
29 positive group climates. Further studies are encouraged to investigate these issues.
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Another aim in this study was to understand how cultural moderators could impact servant leadership effectiveness. We found that there are certain contexts in which there may be a greater preference for servant leadership. Specifically, the finding regarding a favored individualistic and less masculine context for servant leadership indicates a need for shifting organizational contexts in Asia from a parental authoritarian style to a more supportive one (Warner, 2014). To the extent that organizations shift towards a more feminine and supportive foundation, servant leadership can maximize its beneficial impacts. Thus, it could be a promising avenue for future research to examine how unique governance styles in organizations, for example an authoritarian or a supportive style, would add to the servant leadership variance.

Third, our findings with respect to comparing the explanatory power of servant leadership and transformational leadership also have important implications for servant leadership scholars. The results of our meta-analysis highlight that servant leadership can explain distinctive variance in proposed outcomes considering the impacts of transformational leadership. Yet, it is also important to consider that leaders may integrate different strategies to exert influence on employees (Arnold et al., 2017; Foti et al., 2012). Supporting this view, our meta-analysis found that both servant leadership and transformational leadership have distinct effects on employee outcomes via LMX compared with each other. It is possible that servant leaders could integrate some transformational leadership tactics as part of their own unique styles. Thus, more research should be conducted to apply a pattern-oriented approach to assess how servant leadership, as a sharing part of certain leadership styles, can impact employees.

Practical implications

1 This meta-analysis also provides insightful practical implications. Our findings
2 suggest that servant leadership has some incremental effects in fostering both group-level and
3 individual-level outcomes (Chen et al., 2015; Liden et al., 2014; Neubert et al., 2008). This
4 suggests that management efforts to encourage servant leadership should prove fruitful.
5 Relevant organizational policies that include leadership training programs should be designed
6 to encourage managers to be caring, ethical, and nurturing towards their employees.
7 Moreover, organizations can use reward systems and promotion opportunities to train leaders
8 to spontaneously consider their employees' needs. Beyond training, companies are advised to
9 employ selection and recruitment methods to hire more servant leaders. In summary, with the
10 increasing level of competition suggesting the need for strong leadership that develops
11 employees' potential, it is important for managers to be selected as servant leaders and to be
12 trained to adopt servant leadership approaches. In this sense, managers can motivate
13 employees to not only increase their performance but also demonstrate ethics, virtue, and
14 morality to the wider community (e.g., customers, stakeholders and society).
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33

34 Additionally, our results show that, although servant leadership is massively beneficial
35 in organizations, it has varied effect sizes on different outcomes. For example, in terms of
36 behavioral consequences, servant leaders are much more effective in facilitating higher levels
37 of OCBs, compared to in-role performance and creativity. This suggests that, when applying
38 servant leadership, managers should be aware of what followers' work behaviors they seek to
39 produce. In addition, compared to other attitudinal outcomes, servant leadership has the
40 strongest impact on followers' trust, indicating that building strong trust relationships with
41 followers is the core reason why followers of servant leaders display more positive attitudes
42 and behaviors. We therefore suggest that servant leaders prioritize nurturing strong
43 interpersonal relationships with followers and caring about their personal development.
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Further, several studies that we reviewed argued that servant leadership has a “trickle-down” effect from senior managers to frontline employees through a social learning process (Liden et al., 2014; Ling et al., 2016). We suggest that organizations not only train front-line employees to be customer service-oriented but also train top managers and middle-level supervisors to be kind and supportive and encourage them to act as positive role models.

Finally, we find that cultural background can influence employees’ responses to servant leadership behaviors. Thus, managers should respect employees’ different cultural backgrounds, especially in multinational corporations (MNCs), and should consider that cross-cultural differences among employees have critical implications for achieving success based on different management approaches.

Limitations and future research directions

This study has several limitations that deserve discussion. First, limited by data availability, most of the analyzed studies were based on cross-sectional data, from which it is difficult to examine the causal relationships between servant leadership and its consequences (Zhang & Bednall, 2016). Although our results have revealed robust relationships between servant leadership and most of the proposed variables in different categories, this study cannot rule out the possibility that followers’ positive attitudes and performance lead to variations in leader behaviors. Therefore, we suggest that future research collect longitudinal data to capture the causality between servant leadership and its proposed consequences. In addition, most of the studies we reviewed were cross-sectional and suffered from common-method bias. Future research should consider using objective data, which could increase our confidence in the effectiveness of servant leadership in relation to both soft criteria and hard performance data.

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42

Second, given that the examination of cultural moderators is rather limited in the existing servant leadership literature (see Hale & Fields, 2007 for an exception), the relatively small number of studies in some of our analyses prohibited us from explaining the moderating effects in a more holistic manner. In particular, the results of the Q statistic for some of the relationships between servant leadership and its consequences, such as $\bar{r} = .17$ ($p < .001$) for servant leadership on in-role performance, indicate that there is some amount of variance remaining to be explained. More research on the moderating effects of cultural dimensions could facilitate progress in our understanding of the influence of culture on servant leadership effectiveness.

43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

Third, early studies suggested that servant leadership is a leadership phenomenon that not only exists across multiple levels of management but also influences service performance at both the individual and the group levels (Graham, 1991; Greenleaf, 1970). Recent scholars have also exhibited considerable interest in the “multilevel nature” of servant leadership (Chen et al., 2015; Hui et al., 2007; Liden et al., 2014). However, in our meta-analysis, only few studies investigated the multilevel effects of servant leadership. Thus, this review highlights the need for future research that continues to examine the multilevel effects of servant leadership from both the top-down and bottom-up perspectives.

Fourth, most prior studies have focused only on a single mediator within a study. Only a few studies have examined multiple mediators associated with different sets of employee outcomes (Neubert et al., 2008; Van Dierendonck et al., 2014) for the purpose of distinguishing servant leadership from other leadership constructs (e.g., transformational leadership). Therefore, future studies should include multiple pathways of servant leadership to distinguish between the psychological processes involved. For example, although we apply social exchange theory as our general framework, social learning theory has also been used to

investigate servant leadership in organizations (e.g., Liden et al., 2008; Mayer et al., 2009).

Studies comparing these two processes in promoting efficient operations and service quality represent a promising research avenue.

Finally, given that servant leadership research is still in its infancy, most of the existing studies have focused on examining its consequences rather than its antecedents. Studies exploring its antecedents are therefore encouraged to gain a more complete picture of servant leadership. For example, according to van Dierendonck (2011), leader characteristics such as self-determination and moral development may play an influential role in an individual's development as a servant leader. In addition to leaders' characteristics, examining organizational structures and cultures may also be a promising future research avenue for the investigation of the potential antecedents of servant leadership (Liden et al., 2014).

Conclusion

Despite the increasing interest of both practitioners and researchers in servant leadership, the effectiveness of servant leadership across different analytic levels and cultures remains unclear. Based on social exchange theory, our study summarizes the existing empirical servant leadership research and offers strong support for the positive effect of servant leadership on followers' job-related outcomes, leader-related outcomes and group-related outcomes. We further shed light on the moderating impact of cultural dimensions on the effectiveness of servant leadership. Our cumulative data not only indicate multiple consequences of servant leadership through attitudes and behaviors but also suggest the promising possibility that the impacts of servant leadership may vary across Western and Asian cultural contexts (Lam et al., 2012; Liden, 2012). With these findings this meta-analysis also provides useful practical implications for organizations, such that organizations

1 should develop a portfolio of leader selection and training processes that promote servant
2 leadership.
3

4 **References**

- 5
6
7 Alvesson, M. & Sveningsson, S. 2013. Essay: Authentic leadership critically reviewed. In D.
8
9 Ladkin & C. Spiller (Eds.) *Authentic leadership: Clashes, convergences and*
10
11 *coalescences* (pp: 39-54). Cheltenham, UK: Edward Elgar.
12
13
14 Antonakis, J. 2017. On doing better science: From thrill of discovery to policy implications.
15
16 *The Leadership Quarterly*, 28(1): 5-21.
17
18
19 Arnold, K. A., Connelly, C. E., Gellatly, I. R., Walsh, M. M. & Withey, M. J. 2017. Using a
20
21 pattern - oriented approach to study leaders: Implications for burnout and perceived
22
23 role demand. *Journal of Organizational Behavior*, 38(7): 1038-1056.
24
25
26
27 Atwater, L., Wang, M., Smither, J. W. & Fleenor, J. W. 2009. Are cultural characteristics
28
29 associated with the relationship between self and others' ratings of leadership? *Journal*
30
31 *of Applied Psychology*, 94(4): 876-886.
32
33
34 Avolio, B. J. 1999. *Full leadership development: Building the vital forces in organizations*.
35
36 Sage, CA: Thousand Oaks.
37
38
39 Avolio, B. J., Walumbwa, F. O. & Weber, T. J. 2009. Leadership: Current theories, research,
40
41 and future directions. *Annual Review of Psychology*, 60: 421-449.
42
43
44 Babakus, E., Yavas, U. & Ashill, N. J. 2010. Service worker burnout and turnover intentions:
45
46 Roles of person-job fit, servant leadership, and customer orientation. *Services*
47
48 *Marketing Quarterly*, 32(1): 17-31.
49
50
51 Banks, G. C., McCauley, K. D., Gardner, W. L. & Guler, C. E. 2016. A meta-analytic review
52
53 of authentic and transformational leadership: A test for redundancy. *Leadership*
54
55 *Quarterly*, 27(4): 634-652.
56
57
58
59
60
61
62
63
64
65

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Barbuto Jr, J. E. & Wheeler, D. W. 2006. Scale development and construct clarification of servant leadership. *Group & Organization Management*, 31(3): 300-326.
- Bass, B. M. & Stogdill, R. M. 1990. *Bass & stogdill's handbook of leadership: Theory, research, and managerial applications*. (3rd ed.). New York: Free Press.
- Bedi, A., Alpaslan, C. M. & Green, S. 2016. A meta-analytic review of ethical leadership outcomes and moderators. *Journal of Business Ethics*, 139(3): 517-536.
- Bergh, D. D., Aguinis, H., Heavey, C., Ketchen, D. J., Boyd, B. K., Su, P., Lau, C. L. L. & Joo, H. 2016. Using meta - analytic structural equation modeling to advance strategic management research: Guidelines and an empirical illustration via the strategic leadership - performance relationship. *Strategic Management Journal*, 37(3): 477-497.
- Blau, P. M. 1964. *Exchange and power in social life*. London, UK: Transaction Publishers.
- Borenstein, M., Hedges, L. V., Higgins, J. P. T. & Rothstein, H. R. 2011. *Introduction to meta-analysis*. Chichester, England: John Wiley & Sons.
- Burton, L. J., Welty Peachey, J. & Wells, J. E. 2017. The role of servant leadership in developing an ethical climate in sport organizations. *Journal of Sport Management*, 31(3): 229-240.
- Carter, D. & Baghurst, T. 2014. The influence of servant leadership on restaurant employee engagement. *Journal of Business Ethics*, 124(3): 453-464.
- Chan, D. 2002. Questions about change over time in cross-cultural organizational research. *Asia Pacific Journal of Management*, 19(2): 449-457.
- Chan, S. C. H. & Mak, W. M. 2014. The impact of servant leadership and subordinates' organizational tenure on trust in leader and attitudes. *Personnel Review*, 43(2): 272-287.
- Chen, C.-Y., Chen, C.-H. V. & Li, C.-I. 2013. The influence of leader's spiritual values of servant leadership on employee motivational autonomy and eudaemonic well-being. *Journal of Religion and Health*, 52(2): 418-438.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Chen, Z. J., Zhu, J. & Zhou, M. J. 2015. How does a servant leader fuel the service fire? A multilevel model of servant leadership, individual self identity, group competition climate, and customer service performance. *Journal of Applied Psychology*, 100(2): 511-521.
- Cheung, M. 2015. *Meta-analysis: A structural equation modeling approach*. John Chichester: Wiley.
- Clarke, K. A. 2005. The phantom menace: Omitted variable bias in econometric research. *Conflict Management and Peace Science*, 22(4): 341-352.
- De Clercq, D., Bouckenoghe, D., Raja, U. & Matsyborska, G. 2014. Servant leadership and work engagement: The contingency effects of leader-follower social capital. *Human Resource Development Quarterly*, 25(2): 183-212.
- Den Hartog, D. N., House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A. & Dorfman, P. W. 1999. Culture specific and cross-culturally generalizable implicit leadership theories: Are attributes of charismatic/transformational leadership universally endorsed? *Leadership Quarterly*, 10(2): 219-256.
- Dickson, M. W., Den Hartog, D. N. & Mitchelson, J. K. 2003. Research on leadership in a cross-cultural context: Making progress, and raising new questions. *Leadership Quarterly*, 14(6): 729-768.
- Donia, M. B. L., Raja, U., Panaccio, A. & Wang, Z. 2016. Servant leadership and employee outcomes: The moderating role of subordinates' motives. *European Journal of Work and Organizational Psychology*, 25(5), 722-734..
- Dorfman, P. W., Hanges, P. J. & Brodbeck, F. C. 2004. Leadership and cultural variation. In House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W., & Gupta, V. (Eds.), *Culture leadership and organizations: The GLOBE study of 62 societies* (pp. 669–722). London, England: Sage...

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Ehrhart, M. G. 2004. Leadership and procedural justice climate as antecedents of unit - level organizational citizenship behavior. *Personnel Psychology*, 57(1): 61-94.
- Elenkov, D. S. & Manev, I. M. 2005. Top management leadership and influence on innovation: The role of sociocultural context. *Journal of Management*, 31(3): 381-402.
- Eylon, D. & Au, K. Y. 1999. Exploring empowerment cross-cultural differences along the power distance dimension. *International Journal of Intercultural Relations*, 23(3): 373-385.
- Farh, J. L., Hackett, R. D. & Liang, J. 2007. Individual-level cultural values as moderators of perceived organizational support–employee outcome relationships in china: Comparing the effects of power distance and traditionality. *Academy of Management Journal*, 50(3): 715-729.
- Foti, R. J., Bray, B. C., Thompson, N. J. & Allgood, S. F. 2012. Know thy self, know thy leader: Contributions of a pattern-oriented approach to examining leader perceptions. *The Leadership Quarterly*, 23(4): 702-717.
- Gardner, W. L., Cogliser, C. C., Davis, K. M. & Dickens, M. P. 2011. Authentic leadership: A review of the literature and research agenda. *Leadership Quarterly*, 22(6): 1120-1145.
- Graham, J. W. 1991. Servant-leadership in organizations: Inspirational and moral. *Leadership Quarterly*, 2(2): 105-119.
- Greenleaf, R., Frick, D. & Spears, L. 1996. *On becoming a servant-leader*. San Francisco, CA: Jossey-Bass Publishers.
- Greenleaf, R. K. 1970. *The servant as a leader*. Indianapolis, IN: Greenleaf Center.
- Hale, J. R. & Fields, D. L. 2007. Exploring servant leadership across cultures: A study of followers in ghana and the USA. *Leadership*, 3(4): 397-417.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Hale Öner, Z. 2012. Servant leadership and paternalistic leadership styles in the turkish business context: A comparative empirical study. *Leadership & Organization Development Journal*, 33(3): 300-316.
- Han, S. & Kim, N. 2012. Effects of nurses' perception of servant leadership on leader effectiveness, satisfaction and additional effort: Focused on the mediating effects of leader trust and value congruence. *Journal of Korean Academy of Nursing*, 42(1): 85-94.
- Han, Y., Kakabadse, N. K. & Kakabadse, A. 2010. Servant leadership in the people's republic of china: A case study of the public sector. *Journal of Management Development*, 29(3): 265-281.
- Hansbrough, T. K., Lord, R. G. & Schyns, B. 2015. Reconsidering the accuracy of follower leadership ratings. *Leadership Quarterly*, 26(2): 220-237.
- Haven-Tang, C. & Jones, E. 2012. Local leadership for rural tourism development: A case study of adventa, monmouthshire, uk. *Tourism Management Perspectives*, 4: 28-35.
- Hebert, S. C. 2003. The relationship of perceived servant leadership and job satisfaction from the follower's perspective. *Dissertation Abstracts International*, 64(11): 4118.
- Hedges, L. V. & Vevea, J. L. 1998. Fixed-and random-effects models in meta-analysis. *Psychological Methods*, 3(4): 486-504.
- Henderson, D. J., Liden, R. C., Glibkowski, B. C. & Chaudhry, A. 2009. LMX differentiation: A multilevel review and examination of its antecedents and outcomes. *Leadership Quarterly*, 20(4): 517-534.
- Hoch, J. E., Bommer, W. H., Dulebohn, J. H. & Wu, D. 2018. Do ethical, authentic, and servant leadership explain variance above and beyond transformational leadership? A meta-analysis. *Journal of Management*, 44(2): 501-529.

- 1 Hofstede, G. 1980. Motivation, leadership, and organization: Do american theories apply
2 abroad? *Organizational Dynamics*, 9(1): 42-63.
3
4 Hofstede, G. 1984. *Culture's consequences: International differences in work-related values*.
5 CA: Newbury Park: Sage Publications.
6
7 Hofstede, G. & Bond, M. H. 1988. The confucius connection: From cultural roots to economic
8 growth. *Organizational Dynamics*, 16(4): 5-21.
9
10 House, R. J., Hanges, P. J., Javidan, M., Dorfman, P. W. & Gupta, V. 2004. *Leadership, culture,
11 and organizations: The globe study of 62 societies*. Thousand Oaks, CA: Sage.
12
13 Hsiao, C., Lee, Y.-H. & Chen, W.-J. 2015. The effect of servant leadership on customer value
14 co-creation: A cross-level analysis of key mediating roles. *Tourism Management*, 49:
15 45-57.
16
17 Hu, J. & Judge, T. A. 2017. Leader–team complementarity: Exploring the interactive effects
18 of leader personality traits and team power distance values on team processes and
19 performance. *Journal of Applied Psychology*, 102(6): 935-955.
20
21 Hu, J. & Liden, R. C. 2011. Antecedents of team potency and team effectiveness: An
22 examination of goal and process clarity and servant leadership. *Journal of Applied
23 Psychology*, 96(4): 851-862.
24
25 Hui, C., Lee, C. & Rousseau, D. M. 2004. Employment relationships in china: Do workers
26 relate to the organization or to people? *Organization Science*, 15(2): 232-240.
27
28 Hui, C. H., Chiu, W. C. K., Yu, P. L. H., Cheng, K. & Tse, H. H. M. 2007. The effects of
29 service climate and the effective leadership behaviour of supervisors on frontline
30 employee service quality: A multi - level analysis. *Journal of Occupational and
31 Organizational Psychology*, 80(1): 151-172.
32
33 Hunter, J. E. & Schmidt, F. L. 2004. *Methods of meta-analysis: Correcting error and bias in
34 research findings*. Thousand Oaks, CA: SAGE Publications.
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Ilies, R., Morgeson, F. P. & Nahrgang, J. D. 2005. Authentic leadership and eudaemonic well-being: Understanding leader–follower outcomes. *Leadership Quarterly*, 16(3): 373-394.
- Ilies, R., Nahrgang, J. D. & Morgeson, F. P. 2007. Leader-member exchange and citizenship behaviors: A meta-analysis. *Journal of Applied Psychology*, 92(1): 269-277.
- Jaramillo, F., Grisaffe, D. B., Chonko, L. B. & Roberts, J. A. 2009. Examining the impact of servant leadership on salesperson’s turnover intention. *Journal of Personal Selling & Sales Management*, 29(4): 351-365.
- Joseph, E. E. & Winston, B. E. 2005. A correlation of servant leadership, leader trust, and organizational trust. *Leadership & Organization Development Journal*, 26(1): 6-22.
- Kirkman, B. L., Chen, G., Farh, J.-L., Chen, Z. X. & Lowe, K. B. 2009. Individual power distance orientation and follower reactions to transformational leaders: A cross-level, cross-cultural examination. *Academy of Management Journal*, 52(4): 744-764.
- Koo, H. & Park, C. 2018. Foundation of leadership in asia: Leader characteristics and leadership styles review and research agenda. *Asia Pacific Journal of Management*, 35(3): 697-718.
- Korabik, K. 1990. Androgyny and leadership style. *Journal of Business Ethics*, 9(4-5): 283-292.
- Kozlowski, S. W. & Doherty, M. L. 1989. Integration of climate and leadership: Examination of a neglected issue. *Journal of Applied Psychology*, 74(4): 546-553.
- Landeweerd, J. A. & Boumans, N. P. G. 1994. The effect of work dimensions and need for autonomy on nurses' work satisfaction and health. *Journal of Occupational and Organizational Psychology*, 67(3): 207-217.
- Landis, R. S. 2013. Successfully combining meta-analysis and structural equation modeling: Recommendations and strategies. *Journal of Business and Psychology*, 28(3): 251-261.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Lian, H., Ferris, D. L. & Brown, D. J. 2012. Does power distance exacerbate or mitigate the effects of abusive supervision? It depends on the outcome. *Journal of Applied Psychology*, 97(1): 107-123.
- Liden, R. C. 2012. Leadership research in asia: A brief assessment and suggestions for the future. *Asia Pacific Journal of Management*, 29(2): 205-212.
- Liden, R. C., Panaccio, A., Meuser, J. D., Hu, J. & Wayne, S. J. 2014. 17 servant leadership: Antecedents, processes, and outcomes. In D. Day (Ed.) *The oxford handbook of leadership and organizations* (pp: 357-79). Oxford, UK: Oxford University Press.
- Liden, R. C., Wayne, S. J., Liao, C. & Meuser, J. D. 2014. Servant leadership and serving culture: Influence on individual and unit performance. *Academy of Management Journal*, 57(5): 1434-1452.
- Liden, R. C., Wayne, S. J., Zhao, H. & Henderson, D. 2008. Servant leadership: Development of a multidimensional measure and multi-level assessment. *The Leadership Quarterly*, 19(2): 161-177.
- Lim, L. & Firkola, P. 2000. Methodological issues in cross-cultural management research: Problems, solutions, and proposals. *Asia Pacific Journal of Management*, 17(1): 133-154.
- Ling, Q., Lin, M. & Wu, X. 2016. The trickle-down effect of servant leadership on frontline employee service behaviors and performance: A multilevel study of chinese hotels. *Tourism Management*, 52: 341-368.
- Lam, L. W., Huang, X. & Lau, D. C. 2012. Leadership research in asia: Taking the road less traveled? *Asia Pacific Journal of Management*, 29(2): 195-204.
- Lord, R. G. & Brown, D. J. 2004. *Leadership processes and follower self-identity*. Abingdon, UK: Psychology Press.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Mayer, D. M., Kuenzi, M., Greenbaum, R., Bardes, M. & Salvador, R. B. 2009. How low does ethical leadership flow? Test of a trickle-down model. *Organizational Behavior and Human Decision Processes*, 108(1): 1-13.
- Miao, Q., Newman, A., Schwarz, G. & Xu, L. 2014. Servant leadership, trust, and the organizational commitment of public sector employees in china. *Public Administration*, 92(3): 727-743.
- Min, H.-Y. 2014. The verification of path model on director's servant leadership and childcare center teacher's organizational citizenship behavior: Focused on teacher's organizational committment and cynicism. *Korean Journal Of Human Ecology*, 23(4): 587-598.
- Neubert, M. J., Kacmar, K. M., Carlson, D. S., Chonko, L. B. & Roberts, J. A. 2008. Regulatory focus as a mediator of the influence of initiating structure and servant leadership on employee behavior. *Journal of Applied Psychology*, 93(6): 1220-1233.
- Newman, A., Schwarz, G., Cooper, B. & Sendjaya, S. 2017. How servant leadership influences organizational citizenship behavior: The roles of LMX, empowerment, and proactive personality. *Journal of Business Ethics*, 145(1): 49-62.
- Ng, K.-Y., Koh, C. & Goh, H.-C. 2008. The heart of the servant leader: Leader's motivation-to-serve and its impact on LMX and subordinates' extra-role behavior. In G. B. Graen & J. A. Graen (Eds.) *Knowledge-driven corporation-complex creative destruction* (pp: 125-44). Charlotte, NC: Information Age.
- Ng, T. W. H. & Feldman, D. C. 2015. Ethical leadership: Meta-analytic evidence of criterion-related and incremental validity. *Journal of Applied Psychology*, 100(3): 948-965.
- Panaccio, A., Donia, M., Saint-Michel, S. & Liden, R. C. 2015. Servant leadership and wellbeing. In R. J. Burke, K. M. Page & C. L. Cooper (Eds.) *Flourishing in life, work*

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

and careers: Individual wellbeing and career experiences (pp: 334-358). Cheltenham:

Edward Elgar.

Parolini, J., Patterson, K. & Winston, B. 2009. Distinguishing between transformational and servant leadership. *Leadership & Organization Development Journal*, 30(3): 274-291.

Parris, D. L. & Peachey, J. W. 2013. A systematic literature review of servant leadership theory in organizational contexts. *Journal of Business Ethics*, 113(3): 377-393.

Pekerti, A. A. & Sendjaya, S. 2010. Exploring servant leadership across cultures: Comparative study in australia and indonesia. *The International Journal of Human Resource Management*, 21(5): 754-780.

Podsakoff, P. M., MacKenzie, S. B., Lee, J.-Y. & Podsakoff, N. P. 2003. Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, 88(5): 879-903.

Rego, A. & Cunha, M. P. 2008. Workplace spirituality and organizational commitment: An empirical study. *Journal of Organizational Change Management*, 21(1): 53-75.

Reynolds, K. 2011. Servant-leadership as gender-integrative leadership: Paving a path for more gender-integrative organizations through leadership education. *Journal of Leadership Education*, 10(2): 155-171.

Rivkin, W., Diestel, S. & Schmidt, K.-H. 2014. The positive relationship between servant leadership and employees' psychological health: A multi-method approach. *German Journal of Human Resource Management: Zeitschrift für Personalforschung*, 28(1-2): 52-72.

Rothstein, H. R. & Hopewell, S. 2009. Grey literature. In H. Cooper, L. V. Hedges & J. C. Valentine (Eds.) *The handbook of research synthesis and meta-analysis* (pp: 103-125). New York: Russell Sage Foundation.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Schaubroeck, J., Lam, S. S. K. & Peng, A. C. 2011. Cognition-based and affect-based trust as mediators of leader behavior influences on team performance. *Journal of Applied Psychology*, 96(4): 863-871.
- Schneider, B. & Reichers, A. E. 1983. On the etiology of climates. *Personnel Psychology*, 36(1): 19-39.
- Schneider, S. K. & George, W. M. 2011. Servant leadership versus transformational leadership in voluntary service organizations. *Leadership & Organization Development Journal*, 32(1): 60-77.
- Schyns, B. & Schilling, J. 2013. How bad are the effects of bad leaders? A meta-analysis of destructive leadership and its outcomes. *Leadership Quarterly*, 24(1): 138-158.
- Seltzer, J. & Numerof, R. E. 1988. Supervisory leadership and subordinate burnout. *Academy of Management Journal*, 31(2): 439-446.
- Sendjaya, S. & Pekerti, A. 2010. Servant leadership as antecedent of trust in organizations. *Leadership & Organization Development Journal*, 31(7): 643-663.
- Smith, B. N., Montagno, R. V. & Kuzmenko, T. N. 2004. Transformational and servant leadership: Content and contextual comparisons. *Journal of Leadership & Organizational Studies*, 10(4): 80-91.
- Sousa-Poza, A. & Sousa-Poza, A. A. 2000. Well-being at work: A cross-national analysis of the levels and determinants of job satisfaction. *Journal of Socio-Economics*, 29(6): 517-38.
- Sousa, M. & van Dierendonck, D. 2015. Servant leadership and the effect of the interaction between humility, action, and hierarchical power on follower engagement. *Journal of Business Ethics*, 141(1), 13-25..

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- Spence, J. T., Helmreich, R. & Stapp, J. 1975. Ratings of self and peers on sex role attributes and their relation to self-esteem and conceptions of masculinity and femininity. *Journal of Personality and Social Psychology*, 32(1): 29-39.
- Gregory Stone, A., Russell, R. F., & Patterson, K. (2004). Transformational versus servant leadership: A difference in leader focus. *Leadership & Organization Development Journal*, 25(4), 349-361.
- Sun, J.-M. & Wang, B. 2009. Servant leadership in china: Conceptualization and measurement. *Advances in Global Leadership*, 5: 321-344.
- Tang, G., Kwan, H. K., Zhang, D. & Zhu, Z. 2015. Work–family effects of servant leadership: The roles of emotional exhaustion and personal learning. *Journal of Business Ethics*, 137(2), 285-297.
- Taylor, F. W. 1914. Scientific management. *The Sociological Review*, 7(3): 266-269.
- Tepper, B. J. 2000. Consequences of abusive supervision. *Academy of Management Journal*, 43(2): 178-190.
- Testa, M. R. 2009. National culture, leadership and citizenship: Implications for cross-cultural management. *International Journal of Hospitality Management*, 28(1): 78-85.
- Testa, M. R. & Sipe, L. 2012. Service-leadership competencies for hospitality and tourism management. *International Journal of Hospitality Management*, 31(3): 648-658.
- Thompson, R. S. 2002. 'The perception of servant leadership characteristics and job satisfaction in a church-related college. Unpublished dissertation, Indiana State University, Terre Haute, IN..
- Trompenaars, F. & Voerman, E. 2009. *Servant leadership across cultures: Harnessing the strength of the world's most powerful leadership philosophy*. Oxford, UK: Infinite Ideas.
- Van Buren III, H. J. 2005. An employee-centered model of corporate social performance. *Business Ethics Quarterly*, 15(4): 687-709.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65
- van Dierendonck, D. 2011. Servant leadership: A review and synthesis. *Journal of Management*, 37(4): 1228-1261.
- Van Dierendonck, D., Stam, D., Boersma, P., De Windt, N. & Alkema, J. 2014. Same difference? Exploring the differential mechanisms linking servant leadership and transformational leadership to follower outcomes. *The Leadership Quarterly*, 25(3): 544-562.
- Viswesvaran, C. & Ones, D. S. 1995. Theory testing: Combining psychometric meta-analysis and structural equations modeling. *Personnel Psychology*, 48(4): 865-885.
- Walumbwa, F. O., Hartnell, C. A. & Oke, A. 2010. Servant leadership, procedural justice climate, service climate, employee attitudes, and organizational citizenship behavior: A cross-level investigation. *Journal of Applied Psychology*, 95(3): 517-529.
- Wang, D., Fan, D., Freeman, S. & Zhu, C. J. In press. Exploring cross-cultural skills for expatriate managers from chinese multinationals: Congruence and contextualization. *Asia Pacific Journal of Management*. 34(1), 123-146.
- Wang, H., Law, K. S., Hackett, R. D., Wang, D. & Chen, Z. X. 2005. Leader-member exchange as a mediator of the relationship between transformational leadership and followers' performance and organizational citizenship behavior. *Academy of Management Journal*, 48(3): 420-432.
- Warner, M. 2014. *Culture and management in asia*. London: Routledge Curzon..
- Wood, D. J. & Jones, R. E. 1995. Stakeholder mismatching: A theoretical problem in empirical research on corporate social performance. *The International Journal of Organizational Analysis*, 3(3): 229-267.
- Yang, K. S., Yu, A. B. & Yeh, M. 1989. Chinese individual modernity and traditionality: Construction definition and measurement [in Chinese]. Proceedings of the Interdisciplinary Conference on Chinese Psychology and Behavior: 287-354.

- 1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39
40
41
42
- Yoshida, D. T., Sendjaya, S., Hirst, G. & Cooper, B. 2014. Does servant leadership foster creativity and innovation? A multi-level mediation study of identification and prototypicality. *Journal of Business Research*, 67(7): 1395-1404.
- Zhang, A. Y., Song, L. J., Tsui, A. S. & Fu, P. P. 2014. Employee responses to employment - relationship practices: The role of psychological empowerment and traditionality. *Journal of Organizational Behavior*, 35(6): 809-830.
- Zhang, H., Kwong Kwan, H., Everett, A. M. & Jian, Z. 2012. Servant leadership, organizational identification, and work-to-family enrichment: The moderating role of work climate for sharing family concerns. *Human Resource Management*, 51(5): 747-767.
- Zhang, Y. & Bednall, T. C. 2016. Antecedents of abusive supervision: A meta-analytic review. *Journal of Business Ethics*, 139(3): 455-471.
- Zhang, Y. & Liao, Z. 2015. Consequences of abusive supervision: A meta-analytic review. *Asia Pacific Journal of Management*, 32(4): 959-987.
- Zhou, Y. & Miao, Q. 2014. Servant leadership and affective commitment in the chinese public sector: The mediating role of perceived organizational support. *Psychological Reports*, 115(2): 381-395.

43
44
45
46
47
48
49
50
51
52
53
54
55
56
57
58
59
60
61
62
63
64
65

¹ The Supplementary Materials, which contain both the meta-regression figures and references list used for studies included in the meta-analysis of the relationships between servant leadership and its consequences, for this article can be found online at: https://osf.io/pdm2g/?view_only=009d1c49b3dc472d8ffc767486e29889

Figure 1. Theoretical model

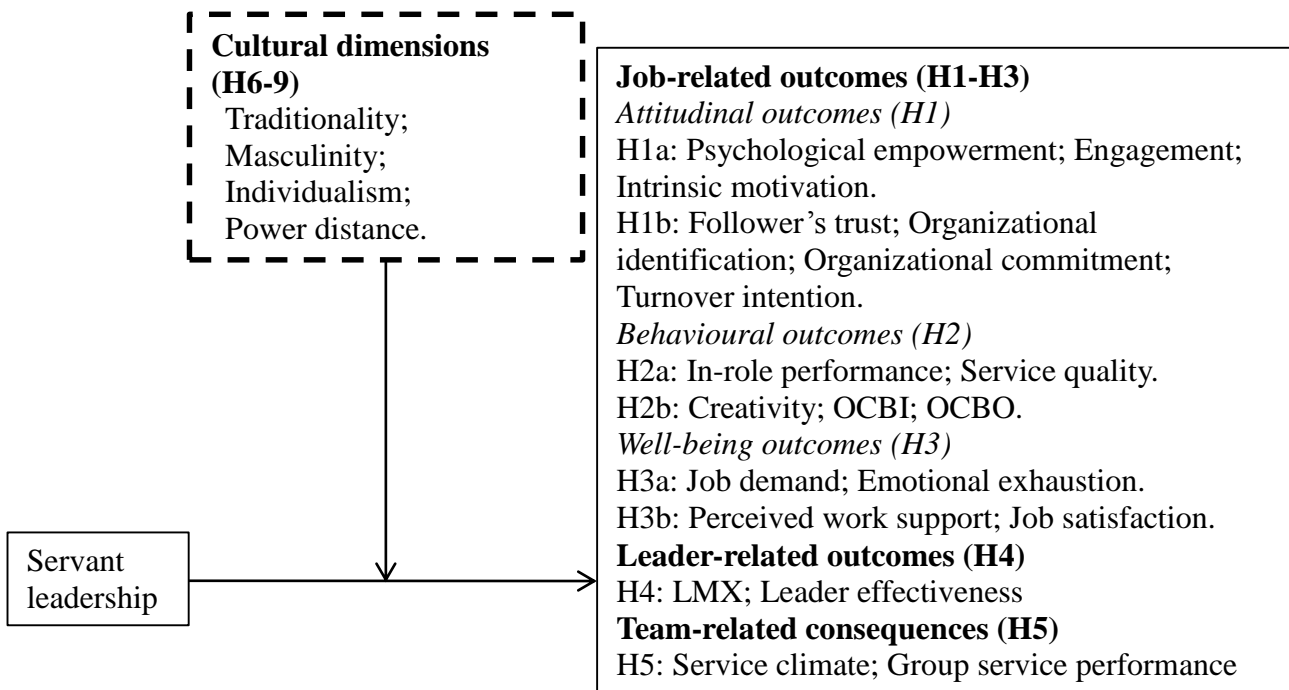


Figure 2. The mediation effects of servant leadership on OCB and job performance via LMX after controlling transformational leadership

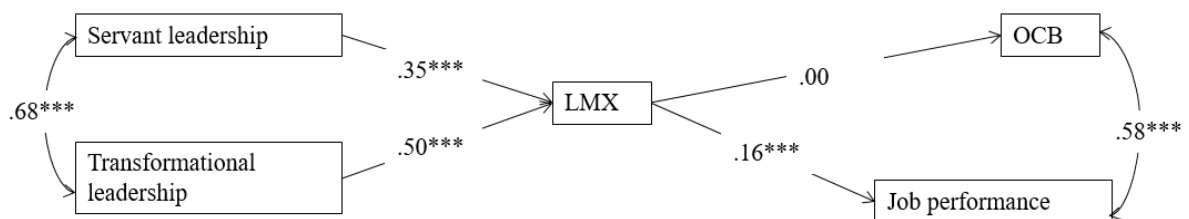


Table 1 Meta-analysis of relationships between servant leadership and its antecedents and consequences

Variables	k	N	\bar{r}	95% CI		Q	p	I ²	T
				LL	UL				
Subordinate-related consequences									
<i>Attitudinal consequences</i>									
Psychological empowerment	5	1779	0.65	0.23	0.86	379.73	0.00	98.95	0.61
Engagement	5	2102	0.21	0.01	0.39	74.28	0.00	94.62	0.23
Intrinsic motivation	5	1189	0.27	0.03	0.47	133.87	0.00	97.01	0.27
Trust	6	1266	0.77	0.61	0.87	156.39	0.00	96.80	0.39
Organizational identification	7	2862	0.61	0.47	0.72	157.16	0.00	96.18	0.26
Organizational commitment	7	2059	0.30	0.20	0.40	32.88	0.00	81.75	0.13
<i>Behavioural consequences</i>									
In-role performance	4	1570	0.19	0.05	0.32	18.03	0.00	83.36	0.13
Service quality	3	1812	0.37	0.09	0.60	80.67	0.00	97.52	0.27
Creativity	4	1982	0.16	-0.02	0.34	46.23	0.00	93.51	0.18
OCBI	7	1973	0.54	0.34	0.70	194.01	0.00	96.91	0.34
OCBO	4	1068	0.64	0.49	0.75	34.61	0.00	91.33	0.21
<i>Subordinates' well-being</i>									
Perceived job demand	3	785	-0.25	-0.43	-0.05	13.42	0.00	85.10	0.16
Emotional exhaustion	4	1048	-0.23	-0.41	-0.03	28.46	0.00	89.46	0.19
Job satisfaction	9	2152	0.50	0.29	0.67	280.87	0.00	97.15	0.38
Perceived work support	4	1157	0.61	0.25	0.82	173.82	0.00	98.27	0.45
Leader-related consequences									
Leader effectiveness	6	1558	0.76	0.28	0.93	911.53	0.00	99.45	0.87
LMX	3	1021	0.70	0.42	0.86	69.95	0.00	97.14	0.36
Team-related consequences									
Service Climate	6	2895	0.65	0.38	0.82	493.38	0.00	98.99	0.47
Group service performance	5	1604	0.34	0.16	0.50	58.34	0.00	93.14	0.21

Note: k = the number of participants in each analysis; N = the number of independent effect sizes included in each analysis; 95% CI = 95% confidence interval for \bar{r} ; LL = lower level of the 95% CI; UL = upper level of the 95% CI; Q = the Q statistic, a measure of potential heterogeneity; p = the p-value for the Q statistic; T = the standard deviation of the true effect size; I = the I² statistic, a measure of the proportion of dispersion that can be attributed to real differences in effect sizes as opposed to within-study error.

Table 2 Moderating effects of cultural dimensions on the relationship between servant leadership and its outcomes

Variable	Traditionality			Masculinity			Individualism			Power distance		
	k	B	SE	k	B	SE	k	B	SE	k	B	SE
Creativity	3	-0.45	0.35	3	0.01	0.00	3	0.00	0.00	3	-0.00	0.00
Emotional exhaustion	4	-1.06**	0.21	4	-0.01**	0.00	4	-0.01**	0.00	4	0.02**	0.00
Group service performance	3	-0.02	0.04	3	-0.01	0.02	3	0.00	0.00	3	-0.00	0.00
Intrinsic motivation	4	-0.94**	0.15	4	0.02**	0.00	4	0.05**	0.01	4	0.01**	0.00
Job satisfaction	8	0.07*	0.03	8	0.00	0.00	8	-0.01**	0.00	8	0.00*	0.00
Leader effectiveness	4	-0.83**	0.04	4	0.04**	0.01	4	0.00**	0.00	4	-0.00	0.00
LMX	3	-0.12*	0.05	3	-0.07*	0.03	3	0.00	0.00	3	0.00	0.00
OCBI	7	0.10*	0.04	7	0.01	0.00	7	0.00	0.00	7	0.00	0.00
OCBO	3	0.21**	0.06	3	-0.00	0.00	3	0.00	0.00	3	0.01**	0.00
Organizational commitment	5	0.01	0.04	5	0.00	0.00	5	0.00	0.00	5	0.00	0.00
Organizational identification	6	-0.05	0.03	6	-0.01	0.00	6	0.00	0.00	6	0.00	0.00
Psychological empowerment	3	0.53**	0.06	3	-0.02**	0.00	3	-0.06**	0.01	3	-0.40**	0.05
Service Climate	6	-0.53**	0.03	6	-0.29**	0.02	6	0.01**	0.00	6	-0.02	0.00
Service quality	3	0.12**	0.33	3	-0.07**	0.02	3	0.00	0.00	3	0.00	0.00
Trust	5	0.63**	0.08	5	-0.01**	0.00	5	-0.01**	0.00	5	0.00	0.00

Note: k = number of samples in regression analysis; B = regression coefficient for moderator; SE = standard error

Appendix A. Results of one-sample removed analysis

Variables	k	N	\bar{r}	95% CI		Q	p	I ²	T
				LL	UL				
Subordinate-related consequences									
<i>Attitudinal consequences</i>									
Psychological empowerment	4	1566	0.52	0.26	0.71	117.97	0.00	0.97	0.40
Engagement	4	1839	0.11	0.00	0.22	16.70	0.00	0.82	0.11
Intrinsic motivation	4	530	0.26	-0.12	0.57	28.94	0.00	0.97	0.33
Trust	5	905	0.73	0.51	0.86	114.51	0.00	0.97	0.40
Organizational identification	6	2576	0.59	0.49	0.68	156.40	0.00	0.97	0.28
Organizational commitment	6	1820	0.28	0.18	0.37	25.56	0.00	0.80	0.12
<i>Behavioural consequences</i>									
In-role performance	3	1396	0.13	0.01	0.24	7.27	0.03	0.72	0.09
Service quality	2	1427	0.27	0.01	0.50	34.46	0.00	0.97	0.23
Creativity	3	1732	0.06	-0.03	0.15	8.21	0.02	0.76	0.08
OCBI	6	1654	0.49	0.31	0.64	132.11	0.00	0.96	0.31
OCBO	3	636	0.59	0.43	0.72	21.36	0.00	0.91	0.22
<i>Subordinates' well-being</i>									
Perceived job demand	2	710	-0.30	-0.47	-0.12	9.13	0.00	0.89	0.16
Emotional exhaustion	3	605	-0.14	-0.25	-0.03	4.35	0.11	0.54	0.08
Job satisfaction	8	1791	0.43	0.31	0.54	90.48	0.00	0.92	0.23
Perceived work support	3	894	0.51	0.14	0.76	128.48	0.00	0.98	0.47
Leader-related consequences									
Leader effectiveness	5	1115	0.66	0.26	0.87	331.42	0.00	0.99	0.64
LMX	2	493	0.62	0.29	0.82	31.87	0.00	0.97	0.37
Team-related consequences									
Service Climate	5	2510	0.55	0.36	0.70	285.31	0.00	0.99	0.40
Group service performance	4	1604	0.37	0.14	0.55	56.81	0.00	0.95	0.24

Note: k = the number of participants in each analysis; N = the number of independent effect sizes included in each analysis; 95% CI = 95% confidence interval for \bar{r} ; LL = lower level of the 95% CI; UL = upper level of the 95% CI; Q = the Q statistic, a measure of potential heterogeneity; p = the p-value for the Q statistic; T = the standard deviation of the true effect size; I = the I² statistic, a measure of the proportion of dispersion that can be attributed to real differences in effect sizes as opposed to within-study error.

Appendix B. Sample Characteristics for Primary Studies Included in the Meta-Analysis

Category	Percentage
Gender(% of male)	
<=50%	42.50%
>50%	57.50%
Average age	
<=30	10%
>=31 & <=40	40%
>=41 & <=50	45%
>=51	5%
Country	
Australia	2.50%
China	25%
Germany	2.50%
Ghana	2.50%
Hong Kong	2.50%
India	2.50%
Indonesia	2.50%
Kenya	2.50%
Korea	2.50%
Netherlands	2.50%
Pakistan	2.50%
Taiwan	2.50%
Turkey	2.50%
Ukraiia	2.50%
United States	42.50%