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Abstract

Despite abundant research on servant leadership, the existing focus predominantly adopted a between-person approach, without considering the within-person dynamism of servant leadership behavior across time. The present research aims to refine this status quo by taking a more nuanced perspective on the dynamic feature of servant leadership behavior. Specifically, we introduce the notion of servant leadership behavior variability to capture the instability of servant leadership behaviors over time. Drawing on adaptation level theory and attachment theory, we propose that the impact of servant leadership behavior on follower outcomes depends on servant leadership behavior variability. Four studies were conducted to identify this nuanced phenomenon and examine our hypotheses. In Study I, we

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preliminarily explored the prevalence of servant leadership behavior variability in working contexts. Across two diary studies (Study 2–3), we consistently found that the positive effect of daily servant leadership behavior on follower's outcomes was weakened by servant leadership behavior variability. In Study 4, we conducted a vignette-based experiment to establish the causality. Our research sheds lights on the dynamic nature of servant leadership behavior and reveal its temporal impact on followers.

Keywords

servant leadership, variability, leader behavior, adaptation level theory, attachment theory

Introduction

"The servant always accepts and empathizes, never rejects."

—— Robert K. Greenleaf (1970)

As a main leadership approach that prioritizes followers' needs and interests, servant leadership received abundant scholarly attention in past decades (Greenleaf, 1977; Liden, Wayne, et al., 2014). Accumulated evidence reveals that servant leadership results in a broad scope of beneficial outcomes not only for followers but also for teams and organizations (Eva et al., 2019; Hu & Liden, 2011; Liden, Panaccio, et al., 2014; Peterson et al., 2012). Among numerous leadership styles, meta-analytic evidence also indicates that servant leadership stands out due to its unique contribution to key follower outcomes over and beyond moral and authentic leadership, because servant leadership directly focuses more on followers' needs (Hoch et al., 2018; Lemoine et al., 2019). To date, research on servant leadership has consistently revealed its positive implications in management domain (Eva et al., 2019; Lee et al., 2020). While most research has treated servant leadership as a stable concept that remains steady across days (Lord et al., 2017; McClean et al., 2019), recent research on the dynamic perspective of leadership suggested that leader behaviors fluctuate and vary over time (Johnson et al., 2012; McClean et al., 2019; Tepper et al., 2018).

In the present research, we shift the longstanding assumption of servant leadership as a static pattern by taking a nuanced dynamic look at the variation pattern of servant leadership *behavior*. Recent research found that servant leaders may experience the dynamics of behavioral episodes manifesting as the change from focal-day servant behaviors to next-day laissez-faire behaviors (Liao et al., 2021). Relevant evidence also indicated that other-

oriented personalities, motivations and behaviors can vary across days, which were relevant to behavioral components of servant leadership (Foulk et al., 2019; Judge et al., 2014; Lee et al., 2019). Since its prioritization of followers' interest inevitably consumes resources by other-focus, servant leadership behavior may not be always salient to followers (Gabriel et al., 2018; Liao et al., 2021). Despite this potential dynamism, existing literature largely adopted a between-person approach that treats servant leadership behavior as a stable leadership style without considering its variation. The oversight of its dynamism is problematic because variation of servant leadership behavior may affect followers' reactions.

Particularly, recent research provides a useful approach, namely, variability, to examine how variation of a certain construct influences its downstream effects. Variability refers to an individual's pattern of short-term (e.g., day-to-day) fluctuations (Matta et al., 2017, 2020). Employing this approach, studies suggest that variability at work may affect effectiveness over time. For example, empirical evidence found that high variability might undermine the positive effect of functional components (e.g., justice, engagement) (Matta et al., 2017, 2020; Tewfik et al., 2024). However, it is unclear whether servant leadership behavior as a positive leadership would still hold promise in benefiting followers when a leader shows an unstable pattern of satisfying follower needs. Since servant leadership behavior can change over time (Liao et al., 2021), it is thus crucial to examine how followers react to high variability cases.

In this paper, we coin the term *servant leadership behavior variability* to indicate the extent of fluctuation of leaders' exhibited servant leadership behavior (McClean et al., 2019). Following existing research on variability (Matta et al., 2017; Tewfik et al., 2024), we conceptualize servant leadership behavior variability as a between-person construct that indicates the instability of servant leadership behavior over time. Despite robust evidence on follower benefit of servant leadership (Eva et al., 2019), we propose that this beneficial impact can be moderated by servant leadership behavior variability.

Specifically, we draw on adaptation level theory (Helson, 1964a) and attachment theory (Bowlby, 1969) to develop our hypothesis. Adaptation level theory offers a relevant insight in temporal stability of servant leadership that repetitive and similar stimuli form a stable adaptation level of individuals' sensitivity to subsequent stimuli (Helson, 1964a; 1964b). Following this, when a leader shows a low variability level of servant behavior, followers would tend to adapt to the leader behavior pattern and be sensitive to any further change (Sun et al., 2022). Conversely, a high variability level may cause followers to anticipate an unstable pattern of servant leadership behavior. We then integrate this reasoning with attachment theory (Bowlby,

1969, 1982), which suggests that followers would form various types of attachment behavioral systems (i.e., secure/anxious/avoidant attachment) in determining their reactions and behaviors when they interact with the leader (Yip et al., 2018). This theory implies that servant leadership is relevant to forming followers' secure attachment (Wu & Parker, 2017). By integrating tenets from both theories, we predict that the positive effect of servant leadership behavior would decline when a leader acts as a servant occasionally rather than constantly.

To examine our propositions, we conducted a diverse set of empirical studies to identify the phenomenon of servant leadership behavior variability (Study 1a-b), test our propositions (Study 2–3), and establish the causality of effects (Study 4). By doing these, our research contributes to the literature in three ways. First, we identify servant leadership behavior variability to move beyond the traditional assumption that servant leadership is a stable construct (Eva et al., 2019). Although most studies presumed the relative stability in servant leadership, Liao et al. (2021) showed that servant leadership behavior could vary across days. Based above and beyond Liao et al.'s (2021) work, we systematically conceptualize and quantify its variability. Second, we challenge the extant research that servant leadership behavior always benefits follower outcomes. By adopting a dynamic perspective on leader behavior (McClean et al., 2019), we provide a nuanced view that the beneficial effect of servant leadership behavior depends on its temporal stability. Especially, we argue that the follower benefits of servant leadership behavior would be diminished when the variability of servant leadership is high. Third, we contribute to a broader scope of leadership literature that the temporal dynamism of leadership behavior can act as a contingent condition that determines how effective the leadership style can be. Specifically, we emphasize that high variability of a particular leadership inhibits its potential expected effectiveness.

Theory and Hypotheses

Conceptualization of Servant Leadership Behavior Variability

Based on the fundamental assumption that leader behaviors are relatively stable, research paradigms in the leadership domain predominantly adopt a between-person perspective to clarify the leader's impact on followers (McClean et al., 2019). Although literature also emphasizes the monotonic change of leadership training and development (i.e., increased effective leadership) in the long term (Day et al., 2014; Lord et al., 2017), little attention was paid to the short-term trajectory of leadership behaviors that may change

back and forth. Nevertheless, recent evidence suggests that leadership behaviors have intrapersonal variance across workdays (e.g., Johnson et al., 2012) and within the same day (e.g., Guarana et al., 2021). Thus, McClean et al. (2019) called for more future research in the dynamism of leadership behaviors to better understand the dynamic characteristics of leadership behavior as well as its impact on followers.

To this end, variability approach offers a useful way to directly depict whether the extent of dynamism can influence how people react to a given stimuli that would not occur only once (Fleeson & Leicht, 2006; MacDonald et al., 2006). Stemming from psychology research (Murray, 1938), variability has been gradually adopted by management scholars to identify the temporal feature of individual behaviors and processes, including identity variability (Tripathi et al., 2020), justice variability (Matta et al., 2017, 2020), affect variability (Sun et al., 2022), engagement variability (Tewfik et al., 2024), and emotional labor variability (Scott et al., 2012). Furthermore, only a few studies have investigated the variability of leader behaviors, including authentic leadership¹ (Macamo & Klasmeier, 2024) and supervisor monitoring (Zheng et al., 2023).

Following previous research on variability summarized above (e.g., Matta et al., 2017, 2020; Scott et al., 2012; Tewfik et al., 2024), we define *servant leadership behavior variability* as the individual difference in the magnitude of fluctuation of a leaders' servant leadership behaviors over time. This conceptualization represents the fluctuation pattern of servant leadership behaviors (McClean et al., 2019). In other words, leaders who are high in servant leadership behavior variability fluctuate dramatically during a given period, manifesting as sometimes serving and sometimes not serving. Oppositely, leaders who are low in servant leadership behavior variability show a stable pattern of their servant leadership, manifesting as a stable trajectory ranging from serving all the time to never serving.

Additionally, some conceptual clarifications should be noted around this construct. First, servant leadership behavior variability is a between-person construct. Although it is used to depict the within-person dynamism of servant leadership behavior, it is essentially a type of individual difference. That is, while all leaders may experience fluctuations in their servant leadership behaviors from day to day (within-person variation), some leaders are generally more consistent in their servant leadership behaviors over time, whereas others exhibit greater fluctuations. Second, servant leadership behavior variability only indicates the overall extent of fluctuation, whereas the specific type of trajectory pattern cannot be depicted within. The same level of variability may entail different types of temporal trend (e.g., shift, growth and decay, ebb and flow; see McClean et al., 2019). For example, one leader's

servant leadership behavior may follow a shift pattern (i.e., a sudden and lasting increase or decrease), while another's may show a growth and decay trend (i.e., gradually increasing before declining). Third, servant leadership behavior variability specifically focuses on the magnitude of fluctuation of servant leadership behaviors instead of the overall level of servant leadership. Leaders who are rated as generally high in servant leadership may not show servant leadership behaviors at every moment they interact with followers (Liao et al., 2021). Variability only captures the dispersion of leadership behaviors (i.e., standard deviation) over time rather than the central tendency (i.e., mean). Fourth, high variability may not necessarily indicate a moderate average level of servant leadership but depend on the ratio of serving versus non-serving leadership behaviors. The same variability level may reveal different mean level of servant leadership. For instance, in a fourday diary study, two leaders (e.g., A: 3, 3, 5, 5; B: 3, 3, 1, 1) may show the same variability levels (e.g., A & B: 1) but different mean levels of servant leadership behaviors (e.g., A: 4; B: 2).

By conceptualizing servant leadership behavior variability, we argue that servant leadership behavior and servant leadership style are distinct concepts different perspectives on the concept representing leadership. Particularly, servant leadership behavior indicates whether a leader explicitly serves the followers by specific behaviors (e.g., showing respect, promoting growth, Sendjaya et al., 2019), which do not necessarily involve this leader's internal motivation. Existing research on servant leadership style emphasizes an "aggregated" level of servant leadership behavior, thereby assuming an ideal case that servant leadership as an other-oriented style with a genuine and moralized identity therein (Liden et al., 2015). However, engaging in servant leadership behavior does not necessarily represent a servant leader, which may reveal potential variability. Hence, we view servant leadership behavior as a within-person manifestation on explicit forms of behaviors, and regard servant leadership style as a between-person model on not only behaviors but also the overall presentation of a servant leader.

Based on the related evidence of servant-like behaviors and theoretical framework of dynamic leadership (McClean et al., 2019), we propose that servant leadership behavior may vary across days due to the following possible reasons². First, as one core feature of servant leadership behavior, other-orientation manifestation may consume necessary resources and thus potentially reduce subsequent servant leadership behaviors (Liao et al., 2021). This self-regulation perspective emphasizes that other-oriented behaviors may require psychological resources to suppress self-interest for "putting others to the front" (Lanaj et al., 2016). Importantly, Liao et al. (2021) revealed that servant leadership behaviors can deplete leaders' resources especially for

leaders who are low in perspective taking. Similarly, citizenship behaviors were also shown to deplete necessary resources for showing upcoming same behaviors (Gabriel et al., 2018; Koopman et al., 2016; Trougakos et al., 2015).

Second, biological chronotypes may determine the variation of a leader's servant behaviors. People naturally differ in their circadian pattern of behaviors (Kühnel et al., 2022), so do servant leaders. Scholars suggest that leaders are more likely to show follower-focused behaviors on the days "in temporal synchrony with their level of circadian activation" (Volk, Lowe, & Barnes, 2023, p. 186). Recent research also implies that specific leadership (e.g., charismatic leadership, paradoxical leadership) reveals the circadian synchronization effect of their leadership behaviors within and across days (Guarana et al., 2021; Volk, Waldman, & Barnes, 2023).

Third, the variation of salience of followers' needs may shape the behavioral manifestation of servant leadership. The key definition in servant leadership is that servant leaders prioritize and satisfy followers' needs (Greenleaf, 1970). This implicitly specifies a fundamental premise that servant leadership behaviors can be exhibited when followers are in need. In an extreme case, servant leadership behaviors make no sense when followers need nothing at some moments. Psychology research also provides evidence that individuals' needs have variation over time (Heppner et al., 2008; Taylor & Stebbings, 2012).

Fourth, in addition to servant leadership style that constantly prioritize follower interest (Eva et al., 2019), occasional servant leadership behaviors may be driven by leaders' instrumental purposes that may change due to the interest alignment between leaders and followers. Some leaders may serve their followers because leaders can benefit from exchange relationships (Bernerth et al., 2007; Melis, 2018). Thus, a leader may choose not to serve followers when they find little return during some periods in which their interests are not aligned (Columbus & Molho, 2022). Although scholars posit that servant leadership is "other-oriented" and "manifested through one-on-one prioritizing of follower individual needs and interests" (Eva et al., 2019, p. 114), they seem to presume these such motives of servant leadership are constant in leader-follower relationship. Instead, we argue for the possibility that servant leadership behaviors may have 'ebbs and flows' depending on leaders' evaluation of potential return in different circumstances.

Following the rationales above, we further argue that the variability of servant leadership behavior has its unique features over other leadership behaviors, while we also admit that they may also have variability for some overlapped reasons (e.g., resource depletion, Lin et al., 2019). First, the manifestation of servant leadership behaviors may conceptually rely on the salience of follower needs which other leadership styles do not necessarily

require. The variation in follower needs may determine daily differences in servant leadership behaviors because servant leadership focuses on followers, whereas other leadership behaviors (e.g., transformational and ethical leadership) focus on serving organizational goals more than followers (Van Dierendonck, 2011). Second, the dynamic pattern of other leadership behaviors (e.g., ethical and authentic leadership) may induce stronger ambivalent attitude and perception because the variation of these behaviors essentially involves the contradiction to a fixed set of behavioral standards (e.g., ethics) (Macamo & Klasmeier, 2024; Schilling et al. (2023). Instead, we argue that the fluctuation of servant leadership behaviors may not induce strong sense of confusion because the temporary lack of servant leadership behavior does not contradict to a specific standard. Third, servant leadership behaviors have stronger impacts on followers need satisfaction, whereas other leadership behaviors affect more on followers' goal pursuit and social learning processes (Van Dierendonck, 2011; Van Dierendonck et al., 2014). In this case, the influence of servant leadership behavior variability may be enacted via communal mechanism while the effect of other leadership variabilities may go through agentic mechanism.

The Weakening Role of Servant Leadership Behavior Variability in the Relationship Between Servant Leadership Behavior and Follower's Work Engagement

Accumulated evidence suggests that servant leadership behaviors strongly predict positive follower outcomes (Eva et al., 2019). However, it might not always be that case when it involves the consideration of servant leadership behavior variability. In the following, we draw on adaptation level theory and attachment theory to develop our theorizing on this issue. Adaptation level theory asserts that "exposure to earlier stimuli serves as a frame of reference by which later stimuli are judged" (Bowling et al., 2005, p. 1046). Thus, individuals' experience of prior servant leadership behaviors would form a reference for them to interpret and respond to subsequent servant leadership behaviors. This theory also emphasizes that similar level of the same category of stimuli (i.e., low variability) makes individuals interpret it as constant, stable, and consistent (Helson, 1964b). Instead, the fluctuation of stimuli (i.e., high variability) implies to individuals that it is unstable and unpredictable for upcoming same stimuli (Helson, 1964b). Following this reasoning, we infer that followers would accumulate the information of their leaders' servant behaviors as their reference to expect the level of future servant leadership behaviors.

Supplementing to adaptation level theory, attachment theory highlights how the relationship modes in individuals' cognitive schemas shape their reactions toward social stimuli in a given relationship (Bowlby, 1969, 1982). Specifically, this theory posits that "early relationships with caregivers influence the development of internal working models of relationships" (Yip et al., 2018, p. 187). These relational models were identified as attachment styles (i.e., anxious / avoidant / secure attachment) that determine individuals' confidence and expectation of caregivers' support (Ainsworth et al., 1978). Although attachment theory was developed for parent-child relationships, it was gradually accepted and adopted by management scholars to understand and analyze leader-follower relationships (Mayseless & Popper, 2019; Yip et al., 2018).

Aligning with attachment theory, servant leadership behavior can provide secure attachment that provides a safe environment and satisfies basic needs of thereby enhancing followers' engagement at work (van Dierendonck et al., 2014). However, we posit that the attachment system may be shaped by servant leadership behavior variability. Attachment theory emphasizes that the availability, noninterference, and encouragement of support determines the formation of secure-base support, which further affecting the attachment system (Feeney & Thrush, 2010). Based on adaptation level theory (Helson, 1964a; 1964b), a consistently high level of servant leadership behaviors can provide stable and constant support by satisfying followers' needs, thereby forming a clear expectation to followers that they can confidently anticipate high level of servant leadership behaviors in the future. This support can be interpreted by followers as constantly available whenever they need help, assistance, and support from leaders. Followers can view a leader who constantly shows servant leadership behaviors as a real servant who prioritize their personal goals and encourage their growth (Eva et al., 2019). In addition, this support is non-interfered because servant leaders would convey their trust in followers to enhance their self-efficacy to approach work based on their preferences and interests. In this case, a consistent and constant pattern of a high level of servant leadership behavior makes followers confident in anticipating leader's support, resulting in secure attachment. With this anticipated support, followers would be more motivated to engage in work (Rhoades, L., & Eisenberger, 2002). Hence, a high level of servant leadership behavior with low variability offers a pattern of secure-base support, thereby shaping a secure attachment function and increasing their work engagement (van Dierendonck et al., 2014).

However, despite the benefit of servant leadership behavior, the variability may alter the state of support as well as the attachment system of followers, which affects how they interpret subsequent servant leadership behavior. Based on adaptation level theory (Bowling et al., 2005; Helson, 1964a; Wasserman et al., 2004), high servant leadership behavior variability forces followers to expect an unpredictable pattern of leaders' servant behavior and thus forms an unstable adaptation level, which increases their sensitivity to and reduces their confidence in the occurrence of future servant leadership behaviors. Following attachment theory (Ainsworth et al., 1978), such a fluctuated pattern of servant leadership behavior full of unpredictability would make followers keep worrying about the availability of leader's support. In this case, they would interpret the potential leader support from servant leadership behavior as unreliable, resulting in an anxious attachment system (Mikulincer & Shaver, 2019). This implies that followers would feel unconfident about whether the leader will show servant behavior again in the future, even though the leader serves them at the moment. Accordingly, the anxious attachment would lead to followers' negative self-perception and undermine their tendency to engage in agentic and autonomous work behaviors (Yip et al., 2018). Hence, although servant leadership behavior is shown to increase follower engagement, the increased variability would weaken this positive effect because they would feel anxious about the upcoming occurrence of servant leadership behavior and are less likely to be motivated by the focal servant leadership behavior. Recent evidence also found that observed leader affect variability weakened followers' reaction magnitude to observed leader affects (Sun et al., 2022).

Regarding the low level of servant leadership behavior, we argue that the variability would not make too much difference. The low average level represents a lack of leader support. When this absence is stable (i.e., low variability), followers would have a stable adaptation level to expect no future servant leadership behaviors (Helson, 1964a). Correspondingly, they constantly feel no support from leaders and shape an avoidant attachment system, thereby lowering their work engagement (Ainsworth et al., 1978). When a leader shows an unstable pattern of low servant leadership behaviors, followers would tend to sense insecure-base support (Feeney & Thrush, 2010). However, due to the large extent of lack of leader support, followers would probably form an avoidant attachment system that undermines their engagement at work. In all, we propose the following hypothesis.

H1: The relationship between servant leadership behavior and follower's work engagement is weakened by servant leadership behavior variability, such that the relationship is weaker when servant leadership behavior variability is higher.

The Mediating Mechanism of Follower's Basic Need Satisfaction

We further propose that the interaction effect of servant leadership behaviors and variability on follower work engagement can be explained by the mediating mechanism of followers' basic need satisfaction. Attachment theory emphasizes that attachment systems matter because they reflect to what extent followers expect the fulfillment of their basic psychological needs (Yip et al., 2018). Research also indicates that the fulfillment of psychological needs presents a secure mode of attachment system (La Guardia et al., 2000). In other words, when followers form an insecure mode of support or a stable mode of lack of support, they would experience a lower level of psychological need satisfaction. Based on attachment theory (Yip et al., 2018) and previous evidence linking servant leadership to follower need satisfaction (Chiniara & Bentein, 2016), we expect that the higher (vs. lower) level of servant leadership behavior leads to more (vs. less) basic need satisfaction when variability is lower because it represents a constant pattern of secure (vs. insecure) support in forming secure (vs. avoidant) attachment. In this case, the increased (vs. decreased) level of basic need satisfaction would make followers more self-determined and motivated to show higher work engagement (Wang et al., 2020).

However, a high level of servant leadership behavior variability may shape an unstable adaptation level for followers to interpret and react to subsequent servant leadership behaviors (Helson, 1964a; 1964b). When an unpredictable leader sometimes shows more servant behaviors that are not well expected, followers' insecure attachment would make them wonder and question the real motive of serving them, thereby undermining the beneficial effect of servant leadership behavior on their need satisfaction. Specifically, they are more likely to form an anxious attachment system in this case (Yip et al., 2018). Similarly, even if a leader may sometimes show servant leadership behavior, followers are sensitive to the expected change of such behavior and worry about its future occurrence. In this case, the supporting effect of servant leadership behavior on follower basic need satisfaction would be reduced because the induced anxious attachment lowers followers' positive selfperception (Mikulincer & Shaver, 2019). The undermined self-perception would in turn decrease followers' work engagement. Consequently, we propose the following mediated moderation hypothesis. The full model is shown in Figure 1.

H2: The indirect effect of servant leadership behavior on follower's work engagement via follower's need satisfaction is weakened by servant

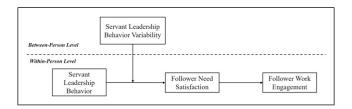


Figure 1. Conceptual model.

leadership behavior variability, such that the indirect effect is weaker when servant leadership behavior variability is higher.

Overview of Studies

We adopted a full-cycle approach for identifying the phenomenon prevalence of servant leadership behavior variability and examining our hypotheses using a diverse set of empirical designs (Chatman & Flynn, 2005). We first explored how prevalent servant leadership behavior variability can be experienced by leaders (Study 1a) and followers (Study 1b). We then examined our theoretical model in two daily diary studies (Study 2–3). To establish the causality, we conducted a pre-registered vignette-based experiment (Study 4). All materials were uploaded to Open Science Framework (https://osf.io/vzc58/?view_only=abc2c1eb789e466996da156e14739668).

Study I

Since extant research prevailingly assumes that servant leadership remains stable, we conducted Study 1 to explore to what extent servant leadership behavior variability exists by two distinct samples with one from leaders (Study 1a) and the other from followers (Study 1b).

Participants and Procedure

Study 1a. We recruited 250 full-time U.S. managers ($M_{\rm age} = 42.46$, $M_{\rm tenure} = 18.10$, 48.4% females) from Prolific Academic. We explored the phenomenon of servant leadership behavior variability by asking them a series of questions. First, we measured their average level of servant leadership on a 7-point Likert scale ($1 = strongly\ disagree$, $7 = strongly\ agree$) using 7 items from Liden et al. (2015) (e.g., "I make my subordinates' career development a priority"; $\alpha = 10.00$

0.76) and 5 items from Liao et al. (2021) (e.g., "I put an employee's best interests ahead of my own"; $\alpha = 0.77$). Second, we directed them to reflect upon how stable of their servant leadership behavior could be across workdays. We then used the same 7 and 5 items ($\alpha = 0.86/0.85$) but adopted different scaling points ($1 = extremely stable, 7 = extremely dynamic^3$) to measure their evaluation of servant leadership behavior variability. Third, we informed them of the definition of servant leadership as a content reflection of previous items. We then asked them three questions as their overall evaluation, including: (a) "Are your servant leadership behaviors varying during a period?" (1 = yes, 0 = no), (b) "To what extent are your servant leadership behaviors varying during a period?" (1 = extremely stable, 7 = extremely dynamic), (c) "If your servant leadership is somewhat varying, is the varying level or pattern different to different followers in the same team?" (1 = extremely similar among followers). All materials were uploaded to the online supplementary documents.

Study 1b. We recruited 240 full-time U.S. employees ($M_{\rm age} = 40.68$, $M_{\rm tenure} = 19.83$, 52.5% females) from Prolific Academic. We asked employees the identical questions used in Study 1a but adapted the target to their direct leaders (e.g., replacing "you/your" with "your leader/your leader's").

Results

Study 1a. Overall, managers indicated a high-level self-report of servant leadership (7 items: M = 5.44, SD = 0.73; 5 items: M = 5.13, SD = 0.91). Regarding the variability ratings, they indicated a medium level on both scales (7 items: M = 3.87, SD = 1.25; 5 items: M = 3.81, SD = 1.31). Out of 250 managers, 109 (43.6%) answered "yes" to the binary question, suggesting that nearly half of them recognized the variability of their servant behavior. They also indicated a medium level on a 7-point item of servant leadership behavior variability (M = 3.08, SD = 1.43). We also conducted one-sample t-test to and found that their variability level was significantly different from the lowest point (1 out of 7), t(249) = 22.90, Cohen's t = 1.45, t = 0.001. Furthermore, managers indicated a medium level on the leader-follower differentiation of variability (t = 3.42, t = 1.41).

Study 1b. Overall, employees indicated a medium level of servant leadership (7 items: M = 4.79, SD = 1.33; 5 items: M = 4.21, SD = 1.59). Regarding the variability ratings, they indicated a low-to-medium level on both scales (7 items: M = 3.30, SD = 1.4; 5 items: M = 3.34, SD = 1.54). Out of 240 employees, 66 (27.5%) answered "yes" to the binary question,

suggesting that over one fourth of them recognized the variability of their leaders' servant behavior. They indicated a low-to-medium level on a 7-point item of servant leadership behavior variability (M = 2.81, SD = 1.51). We also conducted one-sample t-test to and found that their variability level was significantly different from the lowest point (1 out of 7), t(239) = 18.62, Cohen's d = 1.20, p < 0.001. Furthermore, employees indicated a medium level on the leader-follower differentiation of variability (M = 3.53, SD = 1.58).

Discussion

Across two samples, we found preliminary evidence that leaders and followers somewhat experienced the phenomenon of servant leadership behavior variability, though the extent of variability is at around the low-to-medium level. We also found that followers (Study 1b) reported a lower level of servant leadership behavior variability compared to leaders (Study 1a). This might be because leaders are more aware of the temporal trajectory their behaviors whereas followers may rely more on their overall impression on leaders (Schowalter & Volmer, 2023).

Study 2

Participants and Procedure

We contacted one manufacturing organization in North China and obtained their consent to participate in our study. With the assistance and support of the senior HR manager, we invited 111 working adults paired with their direct managers. All participations were voluntary, and participants were compensated. Before data collection, we promoted the benefit of data collection for target participants to potentially increase their compliance during the daily survey stage. Among 111 invited leader-follower dyads, 86 agreed to participate in our diary study. Particularly, each leader-follower dyad is unique, with no manager embedded in multiple dyads.

Consistent with the best methodological recommendations in practice (Fisher & To, 2012; Gabriel et al., 2019), this study contains two phases. First, all participants were invited to complete an entry survey for control variables. Second, one week later, we started our daily data collection with two daily surveys (i.e., morning and evening) per day for fifteen consecutive weekdays in three weeks. The morning survey (servant leadership behavior) was sent around lunchtime (12.00), and the evening survey (work engagement) was sent after work (19.00) to assess the overall experience on that day.

After all data were collected, we matched the data of the entry survey and daily surveys. Following Gabriel et al. (2019), we retained data of participants who completed at least three complete days of surveys to ensure sufficient data on participants' within-person variation. Our final data included 85 leaderfollower dyads of which 39 followers and 42 leaders are females. Regarding the followers, the average age is 42.72 years (SD = 9.15), the average organizational tenure is 6.75 years (SD = 5.72), and the tenure with their current leader is 4.19 years (SD = 3.74). Regarding the leaders, the average age is 46.43 years (SD = 8.39), the average organizational tenure is 10.97 years (SD = 6.49), and the average tenure in leadership position is 7.82 years (SD =6.61). To enhance the compliance rate, we sent reminders twice per day (i.e., one hour and two hours) after sending daily surveys. Out of 1275 potential daily observations (85 employees × 15 days), 1248 valid observations were eventually reported by 85 employees and their leaders, with a compliance rate of 97.88%. After controlling for the prior day as the baseline value (and thus the observations from the first day were controlled), the final sample had 1163 observations (i.e., 1248 – 85) on 14 days.

Measures

Daily Servant Leadership Behavior. We measured daily servant leadership behavior using 5 items from Liao et al. (2021). We adopted leaders' self-ratings of their daily servant leadership behavior on a 7-point Likert scale. Particularly, to ensure this measure captures the behavior in the matched dyads rather than in other leader-follower relationships, we asked each leader to evaluate their servant leadership behavior toward the matched follower who was in the according leader-follower dyad in our study. A sample item is "Today, I put this employee's best interests ahead of my own". In Study 2 and 3, we calculated the multilevel reliability of each variable following the guidance by Geldhof et al. (2014). $\omega_{\text{between-person}}$ was 0.94 and $\omega_{\text{within-person}}$ was 0.82.

Daily Work Engagement. We measured daily work engagement using 3 items from Wang et al.'s (2020) adapted daily scale originally from Schaufeli et al. (2002). We asked followers to rate their work engagement on a 7-point Likert scale. A sample item is "Today, I was enthusiastic about my work". $\omega_{\text{between-person}}$ was 0.99 and $\omega_{\text{within-person}}$ was 0.90.

Servant Leadership Behavior Variability. Following research on variability (Matta et al., 2017, 2020; Scott et al., 2012; Tewfik et al., 2024), we calculated servant leadership behavior variability as a between-person variable using the

standard deviation in daily servant leadership behavior across all daily measures. The mean of servant leadership behavior variability is 0.80 (SD=0.48).

Control Variables. We controlled demographics, average level of daily servant leadership behavior to better examine the cross-level interaction of daily servant leadership behavior and servant leadership behavior variability. In addition, we controlled between-person transformational leadership as the baseline influence of positive leadership styles (Eva et al., 2024). We used followers' rating in the entry survey, which was measured using 7 items from Carless et al. (2000). A sample item is "My leader communicates a clear and positive vision of the future." α was 0.90.

Results

Analytical Strategies. First of all, we conducted a series of null models to determine the portion of variance at the within and between level of our key variables. Following the recommendations for ESM (Gabriel et al., 2019), we then group-mean centered the within-person predictors and grand-mean centered the between-person predictors before analysis (Enders & Tofighi, 2007; Hofmann & Gavin, 1998). After that, we used the multilevel path analysis in *Mplus* 8.3 to test our hypothesized relationships (Muthén & Muthén, 1998–2017). Finally, we calculated the percentage of variance explained for the outcomes by using the formula of Bryk & Raudenbush (1992; variance explained = $[(\sigma^2_{null} - \sigma^2_{predicted})/\sigma^2_{null}]$).

CFA and Variance Components. Before testing the hypotheses, we conducted multilevel confirmatory factor analyses to examine the factor distinctiveness of our variables. The full measurement model (daily work engagement and daily servant leadership behavior as both level 1 and level 2 variables, and baseline transformational leadership behavior as a level 2 variable) adequately fit the data, $\chi^2 = 255.54$, df = 106, CFI = 0.95, TLI = 0.94, RMSEA = 0.04, SRMR within = 0.03, SRMR between = 0.06. The results of our null models showed that the daily, within-person level accounted for significant variance for work engagement (41%) and servant leadership behavior (38%), and it was appropriate to examine our daily hypotheses.

Hypothesis Testing. Table 1 shows the descriptive statistics and correlations of the focal variables and Table 2 presents the results of our multilevel path analysis. Figure 2 presents the cross-level moderating effect of servant leadership behavior variability. Hypothesis 1 posited that servant leadership

Table 1. Descriptive Statistics and Correlations in Study 2.

		Mean	SD	_	2	3	5	4	9	7
_	Work engagement	6.03	80·I		0.01					
7	SLB	4.62	1.48	0.1						
m	SLB variability	0.80	0.48	-0.01	-0.25^{*}					
4	TL (baseline)	6.32	0.85	0.31**	0.15	0.23^{*}				
2	Gender	1.55	0.50	0.11	0.09	0.27^{*}	0.31**			
9	Age	42.67	9.14	0.30^{**}	0.09	0.15	% ** 14.0	0.17		
/	Organizational tenure	6.65	5.55	-0.03	90.0	-0.13	-0.03	-0.12	0.1	
œ	Dyadic tenure	4.15	3.66	-0.04	0.13	-0.22^{*}	-0.14	-0.13	-0.04	0.54**

Note. N=1163 at level 1; N=85 at level 2. SLB = Servant Leadership Behavior. TLB = Transformational Leadership. Within-person correlations are above the diagonal, and between-person correlations are below. *p < .05. **p < .01., two-tailed.

12.50%

Pseudo-R2

	Work engagement		
	γ	SE	
Intercept	6.02**	0.09	
Within-level			
Work engagement (prior day)	0.28**	0.07	
Servant leadership behavior (SLB)	0.06*	0.03	
Cross-level interaction			
SLB × SLB variability	-0.09^{*}	0.04	
Between-level			
SLB mean across days	0.02	0.07	
SLB variability	-0.20	0.16	
Transformational leadership behavior (baseline)	0.24	0.13	
Gender	0.03	0.19	
Age	0.02	0.01	
Organizational tenure	-0.01	0.02	
Dyadic tenure	0.00	0.02	

Table 2. Multilevel Path Model Results in Study 2.

Note. N = 1163 at level 1; N = 85 at level 2. Level 1 and level 2 predictors were centered at each person's mean and grand mean, respectively. We used Snijders & Bosker's (1999) formulas to calculate pseudo- R^2 . *p < .05. **p < .01., two-tailed.

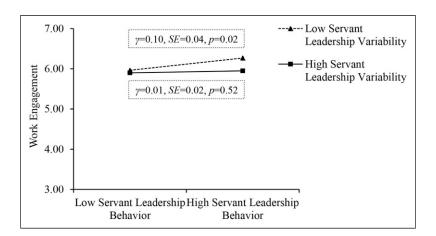


Figure 2. Cross-level moderating effect of servant leadership behavior variability on the relationship between daily servant leadership behavior and daily work engagement in study 2.

behavior variability would moderate the relationship between daily servant leadership behavior and daily engagement. Results indicated that the cross-level interaction term of daily servant leadership behavior and servant leadership behavior variability was significantly negative related to daily work engagement ($\gamma = -0.09$, SE = 0.04, p < 0.05). As shown in Figure 2, simple slope analyses presented that the effect of daily servant leadership behavior on daily work engagement was stronger when servant leadership behavior variability was lower (-1 SD; $\gamma = 0.10$, SE = 0.04, p < 0.05) than higher (+1 SD; $\gamma = 0.01$, SE = 0.02, p = 0.52). The difference between the slopes was significant (difference = -0.09, SE = 0.04, p < 0.05). Thus, Hypothesis 1 was supported. In addition, the robust check found that our results remained the same regardless of control variables (see online supplement S3).

Discussion

This study provided evidence for supporting our main proposition, but it did not examine the mediating mechanism of basic need satisfaction. Importantly, this study did not eliminate the impact of other leadership behaviors at the daily level. Additionally, the self-report of servant leadership behavior may be affected by leader's self-serving bias and social desirability. To address these issues, we conducted another diary study.

Study 3

Participants and Procedure

We sent the invitation of study participation (including compensation, duration, purpose, and consent information) to full-time employees through social networks of an MBA program at a public university in southern China. Each MBA student assisted us in contacting and inviting numerous potential participants. Each invited participant must have a direct manager to whom they report and daily in-person interactions with this manager. Eventually, we successfully invited 137 full-time employees to participate in our diary study. This study contains one entry survey and a pack of daily surveys for 10 workdays in two consecutive weeks. The entry survey included the demographics and between-person measures. The daily surveys were sent to participated employees twice a day, with the first part around lunch time (11.00-14.00) and the second part after work (20.00-). Different from Study 2 using a sample of leader-follower dyads, Study 3 only recruited employees and the surveys only contained employees' rating. The first daily survey (at

noon) measured daily servant leadership behavior and other daily leadership behaviors.

After excluding employees who failed to complete at least daily surveys of three days, we eventually obtained a final sample of 131 employees. Among them, 73 were females (55.73%). The average age was 30.81 years (SD = 6.69). The average work tenure was 5.42 years (SD = 6.19). The average tenure with their current leaders was 3.16 years (SD = 3.64). Out of 1310 potential daily observations (131 employees × 10 days), 1164 valid observations were eventually reported by 131 employees, leaving a compliance rate of 88.86%. After controlling for the prior day as the baseline value for the day after (and thus the observations from the first day were controlled for), the final sample analyzed was 1033 observations.

Measures

Daily Servant Leadership Behavior. In this study, we measured daily servant leadership behavior using five items⁴ adapted from the six-item scale developed by Sendjaya et al. (2019). We used different items between Study 2 and 3 mainly because raters were different in two studies (Study 2: leader rating; Study 3: follower rating) and we intended to replicate our findings in Study 3 using a measure with a broader range of focuses. We removed one item because we were told to shorten the questionnaire length to obtain a high compliance rate of sampled employees. Since long questionnaire may induce participants' fatigue and negative emotions, we eventually decided to exclude one item, resulting in a 5-item scale. Specifically, the removed item was "my leader gives me the right to question his or her actions and decisions" due to its lowest factor loadings in Sendjaya et al.'s (2019) original article. We asked employees to assess daily servant leadership behaviors exhibited by their leaders on a 7-point Likert scale. $\omega_{\text{between-person}}$ was 0.96 and $\omega_{\text{within-person}}$ was 0.81.

Servant Leadership Behavior Variability. Like in Study 2, we calculated servant leadership behavior variability using the standard deviation. The mean is 0.78 (SD = 0.8).

Daily Basic Need Satisfaction. We measured followers' daily basic need satisfaction using three items on a 7-point Likert scale from Foulk et al. (2019). A sample item is "Today, I felt respected and cared about". $\omega_{\text{between-person}}$ was 0.92 and $\omega_{\text{within-person}}$ was 0.73.

Daily Work Engagement. We used the same three items in Study 2. $\omega_{\text{between-person}}$ was 0.97 and $\omega_{\text{within-person}}$ was 0.85.

Control Variables. We controlled demographics measured in the entry survey. In addition, to eliminate the potential influence of other leadership styles, we also controlled daily leadership behaviors and leadership variability of ethical, authentic, and transformational leadership. Each of these daily leadership behaviors was measured using shortened scales to reduce the potential fatigue of employees. Daily ethical leadership behavior was measured using three items from Bormann (2017) (ω between-person was 0.93 and ω within-person was 0.76). A sample item is "Today, my leader made fair and balanced decisions". Daily transformational leadership behavior was measured using three items from Breevaart & Bakker (2018) (ω between-person was 0.96 and ω within-person was 0.78). A sample item is "Today, my leader stimulated me to rethink the way I do things". Daily authentic leadership behavior was measured using four items selected for four dimensions from Neider and Schriesheim (2011) ($\omega_{\text{between-person}}$ was 0.90 and $\omega_{\text{within-person}}$ was 0.71). A sample item is "Today, my leader openly shared information with others". Variabilities of these leadership behaviors were also calculated using standard deviations.

Results

Analytical Strategies. We followed the same analytical approach as in Study 2. Furthermore, to test the conditional multilevel mediation, we conducted a Monte Carlo bootstrap simulation with 20,000 replications to build 95% bias-corrected confidence intervals (CIs) for conditional indirect effects in R (Preacher et al., 2010; Selig & Preacher, 2008).

CFA and Variance Components. The results of our multilevel confirmatory factor analyses supported the distinctiveness of measured variables. The full measurement model (including: need satisfaction, work engagement, servant leadership behavior, ethical leadership behavior, authentic leadership behavior, transformational leadership behavior as both level 1 and level 2 variables) provided an adequately fit to the data, $\chi^2 = 913.67$, df = 348, CFI = 0.91, TLI = 0.89, RMSEA = 0.04, SRMR within = 0.04, SRMR between = 0.08. A null model revealed that there was a considerable amount of variance at the within-person level for all daily variables (need satisfaction = 47%, work engagement = 41%, servant leadership behavior = 32%, ethical leadership behavior = 35%, authentic leadership behavior = 32%, and transformational leadership behavior = 39%), supporting the use of multilevel modeling.

Table 3. Descriptive Statistics and Correlations in Study 3.

		Mean	SD	-	1 2 3 4 5	٣	4	2	9	2 9	œ	6	0	10 11 12	12	13	4
l –	Need satisfaction	5.14	1.20	(0.82)	0.37**	0.12**	0.12**	0.12**	0.02								
7	Work engagement	4.79	1.55	**69.0	(0.92)	0.13**	90.0	0.09**	90.0								
٣	SLB	3.87	19.1	0.48**	0.47**	(0.90)	0.30**	0.31**	0.32**								
4	ELB	4.31	1.52	0.58**	0.57**	0.88	(0.87)	0.48**	0.37**								
2	ALB	4.54	48	**09.0	0.50	0.83	*16:0	(0.89)	0.39**								
9	TFLB	4.22	1.5	0.37**	0.38**	0.82**	0.74***	0.72**	(0.78)								
7	SLB variability	0.78	0.48	0.19**	90.0	-0.06	0.12	%I.0	0.00								
ω	ELB variability	92.0	0.49	-0.10	-0.10	-0.28**	-0.11	-0.06	-0.08	0.43**							
6	ALB variability	0.70	0.46	-0.02	0.03	-0.39	-0.24**	-0.21**	-0.21**	0.42**	0.75						
2	TFLB variability	0.77	0.54	0.0	90:0	-0.27**	-0.03	0.02	-0.08	0.53**	**69.0	0.72**					
=	Gender	- 4 4	0.50	0.11	-0.05	8 8 1.0	91.0	0.1	0.10	-0.10	-0.20^{*}	-0.12	-0.17				
12	Age	30.81	69.9	0.10	0.24**	0.28**	0.27**	0.23**	0.25**	0.00	-0.12	_0.18 _	-0.10	-0.03			
<u>~</u>	Organizational tenure	5.42	6.19	0.17	0.29**	0.25**	0.22^{*}	0.20^{*}	0.21	-0.07	-0.03	-0.05	-0.04	-0.02	0.59	1	
4	Dyadic tenure	3.16	3.64	0.04	0.20	*8I 0	0.17	0.1	0.1	-0.15	-0.16	-0.16	-0.12	0.08	0.53	09.0	
15	Education	2.13	0.57	-0.15	-0.22^{*}	90.0	0.03	0.04	0.11	0.01	-0.04	-0.20^*	-0.10	-0.03	-0.08		-0.35

Note. N = 1033 at level 1; N = 131 at level 2. SLB = Servant leadership behavior. ELB = Ethical leadership behavior. ALB = Authentic leadership behavior. TLFB = Transformational leadership behavior. Within-person correlations are above the diagonal, and between-person correlations are below. Averaged Cronbach's α s across daily measurements are reported along the diagonal. * β < .05. ** β < .01., two-tailed.

Table 4. Multilevel Path Model Results in Study 3.

	Wor engager		Nee satisfac	_	Wor engagen	
	γ	SE	γ	SE	γ	SE
Intercept	4.77**	0.08	5.12**	0.06	4.77**	0.08
Within-level						
Servant leadership behavior (SLB)	0.17*	0.08	0.16**	0.05	0.10	0.07
Ethical leadership behavior (ELB)	-0.01	0.06	0.07	0.04	-0.04	0.06
Authentic leadership behavior (ALB)	0.06	0.10	0.06	0.06	0.04	0.08
Transformational leadership behavior (TFLB)	0.00	0.08	-0.06	0.05	0.03	0.06
Need satisfaction (prior day)			0.02	0.07		
Work engagement (prior day)	-0.03	0.06			-0.04	0.05
Need satisfaction					0.43**	0.06
Cross-level interaction						
SLB × SLB variability	-0.07	0.05	-0.14**	0.04	-0.01	0.05
Between-level						
SLB mean across days	-0.01	0.17	-0.01	0.13	0.00	0.17
ELB mean across days	0.51**	0.18	0.15	0.17	0.51**	0.18
ALB mean across days	0.12	0.19	0.39**	0.13	0.11	0.19
TFLB mean across days	-0.03	0.16	-0.08	0.11	-0.03	0.16
SLB variability	-0.17	0.22	0.17	0.15	-0.17	0.22
ELB variability	-0.85^{*}	0.36	-0.56**	0.21	-0.85^{*}	0.36
ALB variability	0.89*	0.40	0.52	0.29	0.88^{*}	0.40
TFLB variability	0.14	0.31	-0.06	0.23	0.15	0.31
Gender	-0.43**	0.16	0.02	0.12	-0.43**	0.16
Age	0.01	0.03	-0.01	0.02	0.01	0.03
Organizational tenure	0.02	0.02	0.02	0.01	0.02	0.02
Dyadic tenure	-0.02	0.02	-0.04^{*}	0.02	-0.02	0.02
Education	-0.38*	0.17	-0.22^{*}	0.11	-0.38*	0.17
Pseudo-R2	30.75%		29.30%		35.95%	

Note. N = 1033 at level 1; N = 131 at level 2. Level 1 and level 2 predictors were centered at each person's mean and grand mean, respectively. We used Snijders & Bosker's (1999) formulas to calculate pseudo- R^2 . *p < .05. **p < .01., two-tailed.

Hypothesis Testing. Table 3 shows the descriptive statistics and correlations of the focal variables and Table 4 presents the results of multilevel path analysis. Figure 3 presents the cross-level moderating effect of servant leadership behavior variability. As shown in Table 4, the interaction between daily servant leadership behavior and servant leadership behavior variability was

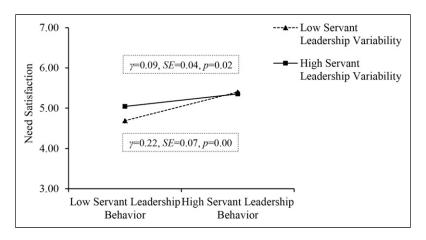


Figure 3. Cross-level moderating effect of servant leadership behavior variability on the relationship between daily servant leadership behavior and daily need satisfaction in study 3.

not significant ($\gamma = -0.07$, SE = 0.05, p = 0.16). Thus, Hypothesis 1 was not supported.

Hypothesis 2 predicted that need satisfaction would mediate the interactive effect of servant leadership behavior and servant leadership behavior variability on work engagement, on a daily basis. The multilevel path analysis results indicated that the cross-level interaction term of daily servant leadership behavior and servant leadership behavior variability in predicting daily need satisfaction was significantly negative ($\gamma = -0.14$, SE = 0.04, p < 0.01). We then teased out the interaction effect by plotting it at two levels of the moderators (+1 SD and -1 SD; see Figure 3). An examination of the simple slopes revealed that the relationship between servant leadership behavior and work engagement on the daily basis was weaker when servant leadership behavior variability was at higher ($\gamma = 0.09$, SE = 0.04, p < 0.05) as opposed to lower ($\gamma = 0.22$, SE = 0.07, p < 0.01) levels and the difference between the slopes was significant (difference = -0.13, SE = 0.04, p < 0.01). The Monte Carlo bootstrapping test results indicated that the conditional indirect effect of daily servant leadership behavior on daily work engagement via daily need satisfaction was significantly weaker at higher levels of servant leadership behavior variability (*indirect effect* = 0.04, SE = 0.02, 95%CI = [0.01, 0.08]), compared to at lower levels (indirect effect = 0.10, SE = 0.03, 95%CI = [0.04, 0.16]), and the difference between these indirect effects was significant as well, difference = -0.06, SE = 0.02, 95%CI = [-0.09, -0.02]. Together, these

results offer support for Hypothesis 2. In addition, the robustness check found that our results remained the same regardless of control variables (see online supplement S3).

Discussion

Although we did not find the evidence for the moderation effect on the direct path, Study 3 provided evidence supporting the mediated moderation model that the cross-level interaction effect can be explained via daily need satisfaction. Combining with previous studies, we obtained sufficient correlational evidence but failed to address the causality. Thus, we designed an experiment to examine whether the interaction between servant leadership behavior and its variability would influence need satisfaction and work engagement.

Study 4

To establish the causality, we conducted a pre-registered⁵ vignette-based experiment.

Participants

Prior to data collection, we conducted a power analysis using *GPower* V3.1 by setting an anticipated effect size (f = 0.25), a significant level ($\alpha = 0.05$) and a statistical power ($1-\beta = 0.95$). This calculation indicated a minimal sample size of 210. Following the best practical recommendations by Aguinis et al. (2021), we recruited 250 participants ($M_{\rm age} = 37.69$, $M_{\rm tenure} = 15.33$, 50.4% females) from Prolific Academic.

Experimental Manipulation

Because it is difficult to simulate the within-person dynamics across different days in a short-term experimental setting, we have to simplify the variability cases within one manipulation material. In this case, we manipulated variability by presenting multiple examples of servant leadership behaviors that vary across conditions. We adopted a 2 (overall servant leadership behavior: high vs. low) × 2 (servant leadership behavior variability: high vs. low) between-person design. Each participant was randomly assigned to one of four conditions. We adapted the manipulation texts used in previous studies that manipulated servant leadership in a vignette-based experimental context (e.g., Liao et al., 2024; Wu et al., 2021). Specifically, the texts for manipulating overall servant leadership were identical to Wu et al. (2021)'s texts.

To manipulate variability, we reversed the valence of two behavioral components in texts (five components in total). For high variability conditions, the valence of two components were different from three others. For low variability conditions, the valence of five components remained consistent, which were identical to the original material from Wu et al. (2021). An example of one component change across conditions is presented as: "Fortunately (vs Unfortunately), your supervisor Pat allowed (vs did not allow) you to work some flexible hours during that time, while putting greater effort to coordinate teamwork and make sure that everyone is cooperative of your new work schedule (vs synchronizing on the same work schedule)." In addition, we also added the ending remarks to conclude the servant leadership behavior and its variability. Participants were first required to imagine that they were working in a team supervised by the leader Pat. After reading the materials, participants were asked to fill out a survey including our measures. All materials and measures are uploaded in the online supplementary materials.

Measures

Servant leadership was measured by 7 items ($\alpha = 0.94$) from Liden et al. (2015). Need satisfaction was measured by 18 items ($\alpha = 0.86$) from van den Broeck et al. (2010). Work engagement was measured by 14 items ($\alpha = 0.93$) from Schaufeli et al. (2002). To measure servant leadership behavior variability, we first provided a definition and features of servant leadership behaviors and then used three items ($\alpha = 0.86$): (a) "Pat's servant leadership behaviors change from time to time"; (b) "Pat's servant leadership behaviors are not stable"; and (c) "Pat does not constantly show servant leadership behaviors". In addition, we measured scenario realism using 3 items ($\alpha = 0.90$) from Chen et al. (2011).

Results

Manipulation Check. An independent sample *t*-test on servant leadership behavior showed a significant mean difference, t(249) = 14.05, p < 0.001, Cohen's d = 1.78, $M_{\text{high}} = 5.20$, $M_{\text{low}} = 2.96$. Another independent sample *t*-test on servant leadership behavior variability showed a significant mean difference, t(249) = 6.03, p < 0.001, Cohen's d = 0.76, $M_{\text{high}} = 4.77$, $M_{\text{low}} = 3.70$. Hence, our manipulation on both factors was effective.

Hypothesis Testing. We examined our hypotheses using PROCESS macro in SPSS 28.0 (Hayes, 2022). As Figure 4 showed, the interaction between

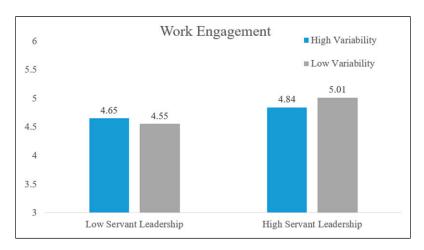


Figure 4. The moderating effect of servant leadership behavior variability on the relationship between servant leadership behavior and work engagement in study 4.

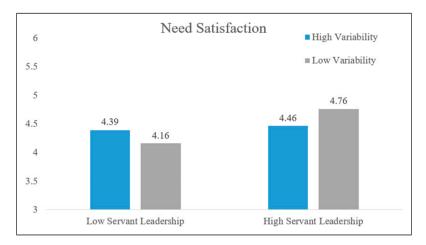


Figure 5. The Moderating Effect of Servant leadership behavior variability on the Relationship Between Servant Leadership Behavior and Need Satisfaction in Study 4.

average servant leadership and servant leadership behavior variability did not have a significant effect on work engagement (b = -0.27, SE = 0.27, p = 0.32), not supporting H1. However, the interaction effect on need satisfaction was significant (b = -0.53, SE = 0.18, p = 0.004). We plotted the interaction

pattern in Figure 5. For high variability conditions, need satisfaction was not significantly different ($\Delta M = 0.07$, SE = 0.13, p = 0.58) when servant leadership was in low condition (M = 4.39, SE = 0.09) rather than in high condition (M = 4.46, SE = 0.09). For low variability conditions, need satisfaction was significantly lower ($\Delta M = 0.61$, SE = 0.13, p < 0.001) when servant leadership was in low condition (M = 4.16, SE = 0.09) than in high condition (M = 4.76, SE = 0.09).

Furthermore, the indirect effect of overall servant leadership behavior on work engagement via need satisfaction was significantly moderated by servant leadership behavior variability. Bootstrapping results (N = 5000) showed that the difference between indirect effects (high vs. low) was significant ($\Delta Estimate = -0.58$, SE = 0.20, 95%CI = [-0.99, -0.18]), supporting H2. Specifically, the indirect effect was significant (Estimate = 0.66, SE = 0.16, 95%CI = [0.36, 0.98]) for low variability condition, whereas the indirect effect was not significant (Estimate = 0.08, SE = 0.14, 95%CI = [-0.18, 0.36]) for high variability condition. Hence, the results above suggested that the positive effect of overall servant leadership behavior on work engagement via need satisfaction was buffered by servant leadership behavior variability.

General Discussion

Literature has a longstanding assumption that servant leadership behavior remains relatively stable as well as induces constantly positive effect on followers (Eva et al., 2019). Our research shifted this assumption by identifying servant leadership behavior variability and examining its influence in the relationship between servant leadership behavior, follower need satisfaction, and follower work engagement. Study 1-3 provided solid real-world evidence that servant leadership behavior has variability among different leaders, supporting our conceptualization. Study 2–3 in diary contexts found that the daily relationships between servant leadership behavior and follower outcomes were weakened by servant leadership behavior variability. For leaders who had an unstable pattern in servant leadership, followers had lower daily need satisfaction (Study 3) and daily work engagement (Study 2) even when leaders showed daily servant leadership behaviors. Our experiment (Study 4), though did not adopt a within-person repeated approach, found a general picture verifying our proposition. Specifically, manipulated servant leadership behavior variability undermined participants' positive reactions toward the overall high level of servant leadership behaviors. Unfortunately, we did not find support for H1 in Study 3-4. This might be because follower work engagement is a relatively distal outcome to servant leadership and thus requires underlying mechanisms (e.g., need satisfaction) to indirectly explain

the interaction effect. Overall, our studies concluded that servant leadership behavior may not always be positive when it is combined with high variability.

Theoretical Contribution

The present research makes four contributions to the literature. First, we introduce and conceptualize the notion of servant leadership behavior variability as a distinct and meaningful construct in leadership research. While prior studies have acknowledged the dynamic nature of servant leadership (Kuonath et al., 2021; Liao et al., 2021; Rodríguez-Carvajal et al., 2019), our research explicitly differentiates between the level and variability of servant leadership behavior. By theorizing and empirically demonstrating that some leaders exhibit fluctuations in their servant behaviors, we provide a more refined perspective on how servant leadership behavior is enacted over time. This distinction deepens our understanding of the complexities of servant leadership and offers a framework for future research to explore its antecedents, mechanisms, and consequences. Importantly, our findings suggest that recognizing the variability of servant leadership is essential for assessing its true impact on followers, as the fluctuation pattern in servant leadership behavior may alter the way followers interpret and respond to leadership efforts.

Second, we extend the research on servant leadership by identifying its dynamism. Research on servant leadership largely assumed its stability but neglected its dynamics (Eva et al., 2019; McClean et al., 2019). Since serving others inevitably consumes psychological resources of leaders, it is reasonable that servant behaviors may not manifest everyday (Liao et al., 2021). Specifically, recent studies gradually turned to the dynamic approach to servant leadership and revealed to its variant nature (Kuonath et al., 2021; Liao et al., 2021; Rodríguez-Carvajal et al., 2019). Following this trend, we advance the current focus of stable perspective on servant leadership and move it to the dynamic nature of variability. Specifically, our conceptualization of servant leadership behavior variability emphasizes that leaders differ in their stability of servant leadership behavior. Our empirical evidence also suggested that some leaders, though could show a high level of servant leadership behavior, also showed an unstable pattern.

Third, we challenge the traditional assumption that a high level of servant leadership is always beneficial. Abundant evidence supported the conclusion that higher servant leadership benefits employees, teams and organizations in all aspects (Eva et al., 2019; Hoch et al., 2018; Lemoine et al., 2019). Nonetheless, this conclusion is based on the assumption that a high level of servant leadership is stable over time. Our research indicates that a high level

of servant leadership behavior may not benefit followers too much if a leader shows a highly unstable pattern. Our research thus reveals an important boundary condition of the beneficial impact of servant leadership that helps elucidate when servant leadership in the long term benefits or harms followers.

Fourth, we contribute to the broad focus of leadership research by clarifying how variability in leader behavior affects follower work outcomes. Despite predominant focus on the stable side of leadership, emerging research found that leader behaviors can be dynamic and vary over time (Johnson et al., 2014; Liao et al., 2021; Lin et al., 2016; Qin et al., 2018). Moreover, management scholars gradually adopted variability approach to many organization phenomena, such as justice (Matta et al., 2017, 2020), identity (Tripathi et al., 2020), engagement (Tewfik et al., 2024), and emotional labor (Scott et al., 2012). Sun et al. (2022) further applied variability to leader affects. Recent studies also explored variability of authentic leadership behavior (Macamo & Klasmeier, 2024). By emphasizing the variability rather than between-day variances (e.g., Kuonath et al., 2021; Liao et al., 2021; Rodríguez-Carvajal et al., 2019), our research also advances this research stream in the leadership domain with a more nuanced view. Specifically, our research not only reveals the magnitude of dynamism of leadership but also establishes a novel approach to capturing how dynamic the leadership behaviors can be.

Practical Implications

This research also offers important implications for management practices. First, leaders should not only show servant leadership behaviors but also constantly show them to followers. As Greenleaf (1970, p. 12) emphasized, "The servant always accepts and empathizes, never rejects". If a leader chooses to show servant leadership behavior occasionally, it may not work well as expected. Instead, providing a constant support to followers can make them feel fully supported and hold a reliable expectation of leaders. However, as Liao et al. (2021) found, servant leadership behaviors may not always be the case for some leaders (e.g., those who are low in perspective taking). In this case, organizations should train the servant leadership mindset rather than merely behavior because the change of behaviors would largely undermine the desirable effect. Second, our research highlights that followers' need satisfaction serves as the key mechanism that can also be fulfilled by other practices. If a leader cannot show servant leadership behaviors on some days, other kinds of support may supplement the lack of servant leadership, such as support from organization-level (e.g., administrative staffs) and coworkers. To reach a stable system that can make up the similar benefit of servant leadership

behavior, organizations can establish a specific supporting system (e.g., supportive HR practices, mentorship).

Limitations

We admit that our research contains some limitations. First, though we measured ratings of servant leadership behavior from both leaders (Study 2) and followers (Study 3), we measured them in separate samples. This raised a concern that each measurement cannot fully address the disadvantage of each other. Leaders' rating is vulnerable to their self-enhancement bias and social desirability because servant leadership is positive in its valence (Lee & Carpenter, 2018). Employees' rating may be influenced by their overall perception of leadership, resulting in a 'halo effect'. In this case, we encourage future studies to measure both ratings in one dyadic sample to examine whether the leader-follower agreement matters.

Second, although we examined within-person variation in diary studies, our experiment was designed in a between-person approach. The vignette-based manipulation may be problematic in accurately capturing the variability, mainly because it depicts a static case in which a leader shows variation of different behaviors instead of the fluctuation of same behavior. Thus, we look forward to future research that can display continuous dynamics of servant leadership behaviors, thereby manifesting its variability with high validity. Leadership scholars also called for field experiments that can show the real leadership settings rather than simulated and imaginary contexts (Banks et al., 2023).

Third, we did not consider followers' personal factors that may strengthen or mitigate their mental reactions. Psychology research has demonstrated that individuals differ in their reactions to stable and dynamic stimuli (Tobin et al., 2000). Accordingly, we assume that personality may determine followers' responses to varying levels of servant leadership behaviors. For instance, followers low in emotional stability may be more sensitive to the nuanced fluctuation in servant leadership behaviors, thereby experiencing lower need satisfaction when the leader occasionally serves them (Judge & Bono, 2001).

Fourth, one methodological limitation concerns the adaptation of the servant leadership behavior measure across studies. Specifically, we used different items between Study 2 and Study 3 to account for differences in rating sources (leaders vs. followers) and to ensure a broader representation of servant leadership behaviors. Additionally, we removed one item from the original scale to reduce participant burden and improve response compliance. While these decisions were made with careful consideration, we acknowledge that modifying established measures can affect scale validity and comparability. Future research should validate servant leadership measures in daily contexts and assess the

impact of item modifications on reliability and construct validity (Heggestad et al., 2019). Researchers should also consider trade-offs between scale length and measurement robustness when designing multiple daily diary studies, ensuring that adaptations align with theoretical and empirical justifications.

Future Research Directions

Because we introduce a novel concept, servant leadership behavior variability, we thus call for future research to advance this promising direction. First, future research can explore what causes the variability of servant leadership *behavior*. Research on servant leadership assumes that servant leadership *style* is driven by leader's mindset and motivation for constantly prioritizing followers' and stakeholders' interest (Eva et al., 2019; Liden et al., 2015). Nonetheless, servant leadership behavior may be driven by factors beyond this. Research on leader-member social exchange suggests that a leader may serve followers based on social exchange quality (Bernerth et al., 2007). This points out a possibility that enacting servant leadership behavior (vs. servant leadership style) may make a leader temporarily act like a servant. Hence, it is important to dig deeper into contextual factors that potentially make every leader to be a servant (even if it would not last forever).

Second, a same level of servant leadership behavior variability may entail different specific fluctuation trajectories (McClean et al., 2019). Our focus on variability only indicates the magnitude of fluctuations of servant leadership behavior, whereas other parameters of such fluctuations are not captured. The behavioral fluctuations can also be reflected by different temporal frameworks (e.g., lag, duration, trajectory, trend, cyclicality) (McClean et al., 2019). Magnitude indicators can only reflect the overall stability, but cannot imply the frequency or valence of potential changes of a given period. Future studies can use an intensive sampling method to check the influence of other dynamic indicators.

Third, servant leadership behavior variability may show further variance across different followers, resulting in a differentiated pattern of variability. For instance, based on leader-member exchange (LMX) literature (Liden et al., 1997), a leader can show constant servant behavior toward followers with deeper bonds, whereas the leader may occasionally show servant behavior toward those in low quality of exchange. While we acknowledge the average high level of servant leadership generally reduces the LMX differentiation within a team, we feel open to the possibility that the differentiation of servant leadership behavior variability may exist. We look forward to future research in verifying this possibility.

Declaration of Conflicting Interests

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Ethical Statement

Ethical Approval

All data collection procedures performed in studies were in accordance with the ethical standards of the institutional and national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. Participants were informed about the research and its content and were voluntarily of participation prior to their consent in participating our studies.

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Supplemental Material

Supplemental material for this article is available online.

Notes

- 1. In the theorizing of Macamo and Klasmeier (2024) and Schilling et al. (2023), they used the term 'inconsistent leadership' to indicate the change of leader behaviors. Their work especially emphasizes that the inconsistency of leader's ethical and authentic behaviors would induce followers' confusion that contradicts their sense making of the standard of ethics and authenticity. However, while inconsistency and variability have overlaps in the change of leadership behaviors, variability also indicates the 'ebbs and flows' whereas inconsistency fails to capture this feature. In the present research, we specifically focus on variability instead of inconsistency.
- 2. Although we provide possible reasons here, we admit two limitations. First, these reasons are not developed under one overarching framework. Second, why servant leadership behavior can vary across time has not yet to be systematically examined. Future research can continue to explore why leaders differ in their fluctuation patterns of servant leadership behaviors.

- 3. We admit that the term in this scaling point is inaccurate, suggested by one reviewer. In addition to representing the fluctuations of a certain behavior, "dynamic" may also indicate a leader's adaptive and flexible reactions to various situations. Hence, we recommend the scaling points of "consistent inconsistent" or "stable unstable".
- 4. We admit two limitations, suggested by one reviewer. On the one hand, Sendjaya et al.'s (2019) scale has not been validated in the daily context. On the other hand, removing one item may undermine the validity of this scale in our study.
- 5. Pre-registration link: https://aspredicted.org/qz8s-nsyw.pdf.

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