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Trajectories and Associations of Perceived Servant Leadership and Teacher Exhaustion During the First Months of a Crisis

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Abstract

Organizational crises carry a high risk of reducing well-being and health among employees, such as increased exhaustion. Teachers are particularly vulnerable to exhaustion; thus, it is important to explore how exhaustion can be reduced among them in a crisis context. In this paper, we regard servant leadership as a resource-providing leadership style to mitigate the adverse impacts of a crisis situation on teachers' exhaustion. We surveyed 129 teachers working at several schools in a German private school association at four measurement points between March and November 2020, beginning with the first measures taken in response to the spread of COVID-19. Using latent growth curve modeling, we investigated the trajectories of perceived servant leadership and employees' exhaustion and their associations. For both teacher exhaustion and servant leadership, growth models with unspecified growth patterns showed the best fit. Perceived servant leadership decreased over time before increasing slightly again during the last measurement period. We did not find a general increase in teacher exhaustion. Consistent with our hypotheses, the results indicated a negative interindividual and intraindividual association between servant leadership and teacher exhaustion. Teachers who perceived higher levels of servant leadership reported lower levels of exhaustion, and the stronger servant leadership decreased, the stronger exhaustion increased over time. Our study extends previous research by providing a dynamic, longitudinal view of servant leadership and exhaustion in a crisis context.

Keywords Servant leadership · Exhaustion · Crisis · Conservation of resources theory · Latent growth curve modeling · COVID-19

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Exhaustion, a key component of burnout (Demerouti et al., 2001; Maslach & Jackson, 1981), affects individuals' health and numerous work-related variables, such as job performance and turnover (Wright & Cropanzano, 1998). According to conservation of resources (COR) theory (Hobfoll, 1989), stress and exhaustion can emerge when individuals experience actual or potential resource loss. When individuals are exhausted, the probability that they cannot compensate or prevent further resource depletion increases, resulting in the risk of loss spirals (Hobfoll et al., 2018; Trougakos et al., 2015). In addition to these primarily individual consequences, individuals' exhaustion may seriously impact others around them, for instance, by increasing the likelihood of abusive behavior towards subordinates (Lam et al., 2017) or higher potential for conflicts between teachers and students (Whitaker et al., 2015). Crisis contexts are particularly critical regarding exhaustion as they provide additional risk factors that harm individuals' well-being (LeNoble et al., 2023; Sonnentag et al., 2023).

Given the negative consequences of exhaustion (e.g., Jonsdottir et al., 2017; Salvagioni et al., 2017; Wright & Cropanzano, 1998), it is crucial to understand how the construct develops over time in crisis contexts to intervene and alleviate the risk of exhaustion. However, most research on exhaustion thus far has been cross-sectional, treating it as a static construct and making it impossible to draw conclusions about potentially complex intraindividual changes in exhaustion over time (Inceoglu et al., 2018). We address this gap in the literature by employing latent growth curve modeling (LGCM) with four measurement points in the first eight months of a crisis to investigate the trajectory of exhaustion among teachers, who are particularly susceptible to experiencing exhaustion due to the demanding nature of their work (Madigan et al., 2023).

According to COR theory, the prevention or reduction of exhaustion is contingent on the provision of resources that help individuals build new resources, maintain existing ones, and compensate for losses (Hobfoll et al., 2018). Leadership has been identified as a key factor that influences the health and well-being of followers (Inceoglu et al., 2018; Kuoppala et al., 2008; Sonnentag et al., 2023), and its significance is even amplified during crises (Riggio & Newstead, 2023; Rudolph et al., 2021; Waldman et al., 2001). Particularly servant leadership is a promising leadership construct for enhancing follower well-being, as servant leaders prioritize and care for their individual followers (Eva et al., 2019). Servant leaders can provide valuable resources, such as supervisor support, which help prevent or alleviate exhaustion (cf. Tang et al., 2016; H. Wu et al., 2020).

Despite its high relevance, only few studies have investigated the trajectories of and relationship between servant leadership and exhaustion in stable contexts (Peng et al., 2023; Zhang et al., 2021), and even fewer in crisis situations. This scarcity of research in crisis contexts can be attributed to the predominant focus on how leaders can sustain organizational survival, rather than addressing the well-being of individual followers (Gray et al., 2023). Furthermore, the servant

leadership construct, like many other commonly studied leadership theories, was primarily developed for stable environments (Riggio & Newstead, 2023). Thus, considering the likelihood that most organizational leaders will face crises during their careers (Reid, 2022; Riggio & Newstead, 2023), it is imperative to determine whether servant leadership is also effective in crisis situations and whether it can alleviate follower exhaustion, in order to be prepared for potential future crises.

Additionally, prior research has mostly failed to consider the relationship between leadership and well-being as a process (Inceoglu et al., 2018), also because leadership has mostly been treated as a static between-person phenomenon, although it has been originally formulated as a within-person theory (Eva et al., 2019; McClean et al., 2019). To address these important but understudied issues, we follow previous claims and take a dynamic perspective on leadership (McClean et al., 2019), follower well-being, and their associations over time (Inceoglu et al., 2018), particularly in the context of crises. Our LGCM approach enables us to examine the trajectories of the constructs and potential differences in within- and between-person associations between servant leadership and follower exhaustion.

Our study makes several important contributions to current research. First, by collecting data at four measurement points over the first eight months of the COVID-19 crisis, we shed light on the shape of the intraindividual trajectories of both servant leadership perceptions and teacher exhaustion in a crisis context. Second, our study examines the dynamic association between these constructs, considering their inter- and intraindividual relationships. This approach allows for a more comprehensive understanding of the evolving nature of the association over time. Third, we focus on the distinct context of teaching during the COVID-19 crisis. Although schools, like other organizations, are affected by crises (Thornton, 2021), there has been little research on what constitutes successful leadership in disruptive times in such contexts (Harris & Jones, 2020). Due to the unique characteristics of different organizational contexts, the effects of leadership may vary. Our study's specific focus captures the unique challenges and dynamics among school teachers during a crisis, providing insights that are distinct from other studies using more varied samples and contexts. Finally, we apply COR theory in a longitudinal framework and use the theory to explain the trajectories and associations at both the within- and between-person levels.

Theoretical Background

The Crisis Context

A crisis can be described as an unforeseen event that has high salience and the potential to disrupt organizations and their members (Y. L. Wu et al., 2021). One such crisis was the COVID-19 crisis (Collins et al., 2023). In March 2020, Germany implemented measures such as curfews and social distancing rules to curb the spread of COVID-19, resulting in significant alterations to working conditions (Zacher & Rudolph, 2022). As part of this, all German schools were closed, forcing

teachers and students to transition from face-to-face instruction to remote learning. As schools were not prepared for such changes, there was mostly no digital infrastructure, and educational materials were delivered through a variety of means including online platforms, email, and mail. The frequency of interaction between teachers and students varied depending on the teachers' familiarity with using information and communication technology for educational purposes (König et al., 2020). In April, some schools resumed in-classroom instructions for students who were graduating and those whose parents held essential jobs, with a reduced number of students per group and a focus on core subjects. However, the majority of teaching still took place remotely due to the strict hygiene regulations that were in place. During the subsequent weeks, instruction was provided through shared classes, distance teaching, or in-person teaching, always while adhering to strict hygiene guidelines. In addition, there was no obligation for teachers to attend classes in person, and the classrooms were partly not large enough to adhere to social distancing guidelines, meaning that not all students were able to return to in-person instruction. Some schools reopened in June without social distancing measures in place. After the summer break, tests were administered, and there were guidelines for the threshold values at which classes had to be placed in quarantine or entire schools had to be closed. From October onwards, there were again temporary school closures throughout the country. From November, hybrid or alternating forms of teaching took place, whereby classes were divided and groups alternated between on-site and remote instruction. In December, teachers were also allowed to conduct coronavirus testing. The measures taken varied regionally and institutionally, as the education system is managed by the 16 German federal states. Due to the decisions being dependent on the current situation, there was a high degree of uncertainty for teachers throughout the year (Hilger et al., 2021), which contributed to a high risk of exhaustion.

Exhaustion During Crisis

Exhaustion is “a consequence of intensive physical, affective and cognitive strain, that is, as a long-term consequence of prolonged exposure to certain job demands” (Demerouti et al., 2010, p. 210). As an aspect of followers' well-being, it is important to consider exhaustion in its own right “as an end goal rather than merely as a means to higher performance” (Inceoglu et al., 2018, p. 189). It can be detrimental not only to the individual (e.g., in the form of lower job satisfaction; Skaalvik & Skaalvik, 2011), but also to others (e.g., followers). For instance, daily exhaustion is related to lower interpersonal citizenship behaviors (Troughakos et al., 2015), and teacher exhaustion is associated with more conflict in teacher–children relationships (Whitaker et al., 2015). Even under non-crisis circumstances, teachers are exposed to a particularly large number of stressors inherent in their profession (e.g., student misbehavior, excessive workload, or limited resources and support), with a high potential to lead to stress and exhaustion (S. Johnson et al., 2005; Skaalvik & Skaalvik, 2016). A crisis context entails additional risk factors that can enhance the likelihood of experiencing exhaustion, such as insecurity, anxiety, and loneliness (Bäuerle et al., 2020; Gilmer et al., 2023; Kunzler et al., 2021; LeNoble et al., 2023).

For instance, during the COVID-19 crisis, there was continuous uncertainty about how working conditions would change in the following weeks, such as how teaching would have to be conducted (in the classroom, remotely, or hybrid). The associations between these risk factors and individuals' exhaustion can be explained by COR theory. The theory suggests that people strive to acquire, protect, and maintain resources that help them achieve their goals (Hobfoll, 1989). An actual or potential loss of resources can cause stress and initiate a loss spiral, as the ability to maintain or gain resources decreases when fewer resources are available to counteract the loss or replace lost resources. The increased resource depletion during a crisis can thus result in exhaustion (Halbesleben et al., 2014). As the latter is a strain that can lead to further resource depletion (Hobfoll et al., 2018), it is likely that exhaustion rises during the initial phase of a crisis. In line with this reasoning, meta-analyses have found a positive association between a lack of job resources and high demands and exhaustion (Crawford et al., 2010; Lesener et al., 2019). Further meta-analytic evidence indicates reciprocal relationships between exhaustion and job stressors, with strain having a stronger effect on job stressors than vice versa (Guthier et al., 2020). This finding of mutual aggravation is consistent with the loss cycle proposed in COR theory. The increase in exhaustion can also be derived from other theories. In terms of effort–recovery processes (Meijman & Mulder, 1998), the longer the crisis lasts, the greater the burden may be because individuals are unable to recover from, among others, constant uncertainty, leading to accumulating stress, fewer resources, and eventually increasing exhaustion. Additionally, teachers are likely to have chosen their jobs based on certain characteristics that have changed as a result of the crisis. The teachers may feel that they cannot meet their students' needs, so perceived person–job fit may decline, leading to increased exhaustion (cf. Mulki et al., 2006). In line with this reasoning, first empirical evidence in the crisis context shows that the COVID-19 crisis was associated with increased exhaustion among followers, also specifically among teachers (Sokal et al., 2020). However, most research on exhaustion in the crisis context thus far has been conducted cross-sectionally (e.g., Gilmer et al., 2023; LeNoble et al., 2023; Oksanen et al., 2022; Pöysä et al., 2021). Other studies compared exhaustion before and after the beginning of the crisis (Oksanen et al., 2021) or investigated only linear change (Freeman et al., 2021; Sokal et al., 2020), not allowing for the investigation of dynamic trajectories.

However, COR theory also posits that individuals can adapt to stressors over time so that resources can be optimally invested (Hobfoll et al., 2018). Consequently, teachers could adapt to the regulations over time and learn to cope with the situation, helping them protect and optimally allocate their resources. Furthermore, the crisis not only conveyed negative aspects; remote teaching could have also led to certain areas of relief for teachers (Hilger et al., 2021). For instance, some work demands may have been reduced or removed, such as the requirement to continuously regulate one's emotions in the presence of students (Sutton et al., 2009) or managing misbehavior among students (Aldrup et al., 2018). Additionally, teachers may have gained more flexibility in how and when to communicate with their students (Hilger et al., 2021). Thus, it is possible that exhaustion does not simply increase but rather that a more complex trajectory exists. Therefore, our study contributes to the limited body of research on the trajectory of exhaustion during crises by applying LGCM

over four measurement times during the first eight months of the COVID-19 crisis, investigating the following research question:

Research Question 1. How does teachers' exhaustion develop during the first eight months of the crisis?

Servant Leadership During Crisis

Servant leaders can be described as dedicated to serving others and prioritizing the needs of their followers. These leaders recognize their followers' individuality and take responsibility for their well-being. Furthermore, servant leaders prioritize the welfare of others in the organization and beyond above their own interests (Eva et al., 2019). In contrast to transformational leadership and other conventional leadership models, servant leaders not only focus on task completion and goal attainment but also on the needs and well-being of their employees and other stakeholders (Schwalter & Volmer, 2023).

Leader behavior is not static but can be influenced by environmental changes (McClellan et al., 2019), especially in crisis contexts. In times of crisis, leaders are often required to take on additional tasks and make quick decisions, which can lead to increased pressure and workload, making it more difficult for leaders to adequately care for their followers (Upadyaya et al., 2021). During the COVID-19 crisis, the implementation of servant leadership may additionally have been hindered by the reduced and primarily remote contact with teachers, as well as other challenges faced by leaders, such as anxiety and fear about the spread of the virus (Reid, 2022; Upadyaya et al., 2021). In line with COR theory, it is more difficult for leaders to care adequately for their followers in the face of threatened or exhausted resources and increased stress (Harms et al., 2017; Lam et al., 2017; Sherf et al., 2019), such as during a crisis. Thus, followers' perceptions of servant leadership are likely to decrease during the first months of a crisis. This theoretical consideration is corroborated by meta-analytic evidence showing that stress and depleted executive resources are associated with lower levels of positive leadership (Harms et al., 2017).

Over time, however, leaders may have adapted to the circumstances and found ways to overcome communication obstacles (Thornton, 2021). Occasionally, regulations were relaxed, allowing for face-to-face contact again. Furthermore, principals may have made preparations over the summer break that facilitated work in the new school year. Additionally, the needs for leadership behavior may have changed during the crisis; for instance, calm and decisive communication may have been particularly important at the beginning of the crisis, whereas the importance of reminding followers of the schools' visions and values increased as the crisis progressed (Mutch, 2015). Consequently, it may well be that the trajectory of servant leadership perceptions does not follow a linear pattern but rather exhibits a more complex one, such as an initial decline and then an increase again. Because it is still unclear how servant leadership perceptions change during a crisis, we explored the following research question:

Research Question 2. How do servant leadership perceptions develop during the first eight months of the crisis?

The Association Between Servant Leadership and Exhaustion

COR theory suggests that individuals with limited resources are more susceptible to resource loss and less likely to acquire new resources. Therefore, the provision of resources becomes particularly crucial in contexts with high potential for resource loss, such as during a crisis (Hobfoll et al., 2018). This notion is consistent with prior research emphasizing the critical role of leadership in crisis situations (Rowley et al., 2021; Rudolph et al., 2021; Waldman et al., 2001; Wee & Fehr, 2021). The literature highlights several aspects of successful crisis leadership, such as effective communication and sensemaking (Collins et al., 2023) and providing tangible and psychological resources to aid their followers in coping with uncertainties during the crisis (Kniffin et al., 2021). Servant leaders focus on their employees first so that they can provide important resources such as helpful support (Sheng et al., 2024), which aids followers in maintaining their well-being during crises. Another recent review of crisis leadership (Riggio & Newstead, 2023) delineates five key competencies for successful crisis management: sensemaking, decision-making, coordinating teamwork, facilitating learning, and communicating. Servant leaders have strong conceptual and sensemaking skills (Liden et al., 2015; van Dierendonck & Sousa, 2016), and consider the perspectives of various stakeholders (Eva et al., 2019). Through their humility and authenticity, they are able to seek advice and analyze situations from multiple angles (van Dierendonck & Nuijten, 2011). Additionally, they act in a socially responsible manner and make decisions to serve the common good (Lee et al., 2020). Servant leaders should also be effective communicators, as they listen to their followers and other stakeholders, provide direction, and empower their employees (Gau & van Dierendonck, 2011; Sousa & van Dierendonck, 2014; van Dierendonck & Nuijten, 2011). These abilities and behaviors also help them coordinate and facilitate teamwork and reframing challenges during crises as opportunities for continuous learning, development, and improvement. The motivation to serve and focus on their followers first, before organizational tasks and goals, distinguishes servant leadership from other leadership styles such as transformational and charismatic leadership, as well as authentic, ethical, or empowering leadership (Eva et al., 2019; Lee et al., 2020; Lemoine et al., 2019; Schowalter & Volmer, 2023; van Dierendonck, 2011; van Dierendonck & Nuijten, 2011). As servant leaders' primary goal is to serve their followers, they have "an unconditional concern for [their followers'] well-being" (Stone et al., 2004, p. 355). This focus on followers' well-being makes servant leadership particularly relevant in the context of individual exhaustion during a crisis. Also meta-analytically, servant leadership was found to be associated with positive work-related constructs over and above other leadership constructs, such as transformational, authentic, and ethical leadership (e.g., Eva et al., 2019; Hoch et al., 2018; Lee et al., 2020; Parris & Peachey, 2013). Thus, we assume that servant leadership is an appropriate leadership style in a crisis context.

Drawing on COR theory, servant leaders can promote employee well-being by reducing unnecessary stress during a crisis through the removal of obstacles (e.g., by the rapid provision of communication tools during a lockdown) or by directly providing resources (e.g., emotional support) to compensate for acute resource losses or offer resources to gain new ones. In addition, they can create conditions that support resource acquisition, such as facilitating exchanges between team members. These measures may also prevent employees from resource loss spirals, which can increase in magnitude if employees lack the resources to counteract them. Furthermore, the provision of resources can also initiate gain circles in the long term (Hobfoll et al., 2018). In this way, servant leaders can also help their followers gain stable resources, such as resilience (Cai et al., 2023), in the long term, which protect them from resource loss and support recovery from resource depletion.

Between-Person Relationship Between Servant Leadership and Exhaustion

According to COR theory, supporting individuals in acquiring resources and removing factors that deplete resources can result in lower stress and strain levels, which, in turn, fosters followers' well-being and effectiveness (Hobfoll et al., 2018; Inceoglu et al., 2018). Thus, followers with a servant leader should be better equipped to deal with crisis contexts and experience less exhaustion than employees with less servant leaders. Corroborating our theoretical considerations, first studies in the non-crisis context have found negative associations between servant leadership perceptions and employee exhaustion (Rivkin et al., 2014; Tang et al., 2016; Upadyaya & Salmela-Aro, 2020), including a meta-analysis of four studies ($\bar{r} = -0.23$, Zhang et al., 2021).

In a crisis context, also several studies have examined the between-person relationship between servant leadership and burnout or exhaustion and found negative associations. One cross-sectional study investigated the association between servant leadership and exhaustion among employees of the Turkish governmental disaster management agency in the wake of an earthquake in Turkey in 2023 (Yikilmaz et al., 2024). Other studies were conducted in the context of COVID-19. One cross-sectional study among Greek employees in various occupations explored the association between servant leadership and burnout (Lamprinou et al., 2021). Another study among Pakistani nurses with three measurement points within 20 days (collecting each of the three measured constructs at only one measurement point) also found a negative association between servant leadership and burnout (Ma et al., 2021). Two cross-sectional studies investigated the association between servant leadership and exhaustion among nurses (Du et al., 2024) and employees in the catering, hotel, and tourism industries in China (Cai et al., 2023). A cross-sectional study among Chinese healthcare workers found a buffering effect of servant leadership on the association between hindrance stressors and exhaustion (H. Wang et al., 2022). Replicating these between-person findings in the crisis context among German teachers, with a more rigorous design and over a longer time period, we state:

Hypothesis 1. The interindividual levels of servant leadership perceptions and exhaustion are negatively associated.

Within-Person Relationship Between Servant Leadership and Exhaustion

Like any other leadership style, servant leadership and perceptions thereof are not constant but can fluctuate (McClellan et al., 2019) depending on various aspects, such as the leaders' or followers' workload or level of pressure, as well as the frequency of their interactions. As a result, followers may not consistently receive the same level of support that helps them counteract threatening or actual resource losses. For instance, a follower may experience varying degrees of support and resource provision from their leader at different points in time. When the leader exhibits heightened levels of servant leadership, the follower is likely to experience reduced stress and lower levels of exhaustion. Conversely, during periods when the leader's support is less pronounced, the follower may face higher levels of stress and increased exhaustion. Thus, variations in servant leadership should be associated with parallel changes in exhaustion levels.

Although most studies explain within-person associations, in which processes are theorized as unfolding over time and reflecting changes (cf. Gabriel et al., 2019), we could identify only one study in which these dynamics have actually been tested with within-person methodology. The study (Kaltiainen & Hakanen, 2020) was conducted in the organizational change context and found a negative within-person association between changes in servant leadership perceptions and changes in employee burnout among Finnish employees in the public sector at two measurement points separated by 18 months. We extend this research by examining the intraindividual relationship between the trajectories of servant leadership perceptions and exhaustion among teachers in the crisis context using four measurement points within the first eight months of a crisis. Our design allows us to understand the temporal dynamics of this relationship more deeply (Gabriel et al., 2019; McCormick et al., 2020).

Hypothesis 2. The intraindividual trajectories of servant leadership perceptions and employee exhaustion are related over the first eight months of a crisis, such that a stronger decrease (increase) in servant leadership is associated with a stronger increase (decrease) in exhaustion.

Method

Sample and Procedure

Our longitudinal study was conducted from March 2020 (directly after the first lockdown had started) to November 2020 in a German private school association comprising 118 schools. The study was part of a larger data collection effort and involved surveying teachers at four measurement points. The approximately two-month interval between the measurement points ensured that changes in the investigated constructs could occur. In addition, the intervals were chosen so that the survey periods were as evenly spaced as possible between vacations, while covering the regular school routine and avoiding particularly quiet periods (e.g., just before the summer break) or particularly busy periods (e.g., during the preparation of school

reports or at the start of school immediately after the summer break). Two of these measurement points were conducted before the summer break, while the other two were conducted afterwards. Given that school vacations vary across the federal states, we adjusted the survey periods accordingly. In March 2020, the secretary general of the school association sent an e-mail invitation to the school principals. Additionally, letters with posters and flyers were mailed to each school. Twenty-five principals enrolled their schools to be part of the study. Once registered, the principals were sent an e-mail invitation with a link to share with their staff. Teachers were asked to register using their e-mail addresses, and were then contacted individually to complete the surveys. Participation was voluntary and e-mail addresses were kept separate from the survey data to maintain anonymity. At the end of the final survey, all participants had the opportunity to participate in a raffle of approximately 70 prizes donated by various companies, including books and board games. In addition, principals were offered feedback on the results upon completion of the final survey if at least 10 teachers (to maintain anonymity) at their school had participated. For schools with fewer than 10 teachers, teacher consent was required to receive feedback. Informed consent to participate was obtained from all individuals included in the study.

Teachers who participated in at least one of the four surveys were included in the final sample, excluding one school that underwent a change of the principal, and three teachers who reported that their direct leader had changed. In total, data from 129 teachers from 22 schools (average of 9.60 teachers per school, $MIN=1$, $MAX=17$, $SD=4.49$) were used. Five teachers asked to register for participation after the first measurement time (T1), meaning that these individuals were not yet included in the sample at T1.¹ The resulting sample sizes were thus $n=124$ at T1, $n=81$ at Time 2 (T2; 65.3% response rate compared to T1), $n=69$ at Time 3 (T3; 55.6% response rate compared to T1), and $n=65$ at Time 4 (T4; 52.4% response rate compared to T1). Comparable response rates have been reported in previous longitudinal field studies (Goodman & Blum, 1996; Gustavson et al., 2012). The average number of teachers working at the schools was 27.61 ($SD=20.76$). To check for systematic drop-out effects, we compared the main characteristics of respondents and non-respondents at T2, T3, and T4, respectively. They did not differ significantly in terms of age, gender, tenure at school, duration of collaboration with the leader, experience as a teacher, teaching load per week, frequency of contact with the leader, school size or type, servant leadership, or exhaustion. Therefore, participant attrition did not appear to be influenced by participants' demographics or substantive variables of the study.

The final sample consisted of participants with an average age of 43.73 years ($SD=10.23$). The gender distribution was 28.7% female and 18.6% male (52.7% did

¹ We also conducted all analyses with the smaller sample size of 124 participants and obtained the same inferences as with the full sample. Estimating missing values is generally recommended as a more effective approach to dealing with missing data than listwise deletion, as it results in less biased estimates (for further discussion, see Enders, 2022). Additionally, a larger sample size increases the statistical power of model estimation. Therefore, we included all 129 participants in our study.

not indicate gender). The average tenure teachers had worked at their school was 9.08 years ($SD=6.55$) and the average duration of collaboration with their leader was 6.00 years ($SD=4.71$).

Measures

We collected data on perceived servant leadership and exhaustion at all measurement points and all measures were answered by the teachers.

Servant Leadership

Servant leadership was measured using the 18-item short version of the Servant Leadership Scale (van Dierendonck et al., 2017), translated into German and validated by Pircher Verdorfer and Peus (2014). The items were rated on a 5-point Likert scale (1 = *strongly disagree* to 5 = *strongly agree*). An example item is “My manager encourages me to use my talents”. The internal consistency of the scale ranged from Cronbach’s $\alpha=0.84$ to $\alpha=0.87$.

Exhaustion

Exhaustion was measured using the corresponding eight-item subscale of the Oldenburg Burnout Inventory (OLBI; Bakker et al., 2004; Demerouti et al., 2003). The Likert scale ranged from 1 = *totally disagree* to 4 = *totally agree*; an example item is “After my work, I usually felt worn out and weary”. The internal consistency of the scale ranged from $\alpha=0.88$ to $\alpha=0.89$.

Demographic Variables

At each measurement time, participants were asked to report the frequency of contact with their direct leader on a 6-point Likert scale (1 = *more rarely*, 2 = *up to several times a month*, 3 = *up to once a week*, 4 = *up to several times a week*, 5 = *up to once a day*, 6 = *several times a day*). Additionally, they were asked for their weekly teaching load at T2 and T3, as well as their age, gender, tenure at school, and experience as a teacher at T3 (to keep the workload lower at T1 and T2). We also recorded whether the teachers worked at a secondary school, and the number of teachers working at the schools.

Analyses

To examine the growth trajectories, we calculated latent growth curve models (LGCM) using Mplus Version 8.8 (Muthén & Muthén, 1998–2017). Missing values were estimated using full information maximum likelihood (FIML). To account for non-normality in the data, we used maximum likelihood estimation with robust standard errors (MLR; Shi et al., 2021). First, we calculated univariate LGCMs for exhaustion and perceived servant leadership to explore our two research questions.

To this end, we compared different models (i.e., intercept-only, linear, quadratic, and one with an unspecified growth pattern) and compared their fit indices to determine the best model. The intercept-only model includes only an intercept factor and no slope factor; in other words, it assumes no change. To represent the intervals between the measurement points as accurately as possible (they were not exactly of the same length because of vacation periods), we set the time scores for the slope factor in the linear model to 0, 2, 4.5, and 6. The first value was set to zero to define the intercept growth factor as the initial status factor. The quadratic growth model included the intercept and slope factor of the linear model, and a quadratic slope factor (squared time scores of the linear slope factor). In the model with an unspecified growth pattern, the first and second scores were fixed at 0 and 2, respectively, whereas the remaining two scores were estimated freely. The slope factor mean in this model thus represents the average rate of change per scale point between T1 and T2 (Geiser, 2021). To assess model fit, we used the chi-square statistic (χ^2), root mean square error of approximation (RMSEA), comparative fit index (CFI), Tucker-Lewis index (TLI), and standardized root mean residual (SRMR; e.g., Hu & Bentler, 1999). The models were compared based on the Akaike information criterion (AIC), Bayesian information criterion (BIC), and sample size adjusted BIC (SSABIC), for which smaller values indicate better fit.

Subsequently, we estimated bivariate growth curves (Preacher et al., 2008) to evaluate whether the intercepts and trajectories of servant leadership and exhaustion were associated. We regressed the intercept of exhaustion on the intercept of servant leadership (to test Hypothesis 1), and the slope of exhaustion on the slope of servant leadership (to test Hypothesis 2). The intercept and slope of exhaustion as well as of servant leadership were allowed to correlate, respectively.

Results

Descriptives

The means, standard deviations, and correlations among the variables are shown in Table 1. The mean of servant leadership perceptions was 3.99 ($SD=0.50$) at T1, 3.91 ($SD=0.51$) at T2, 3.80 ($SD=0.49$) at T3, and 3.85 ($SD=0.49$) at T4. In contrast, the mean of exhaustion was 2.21 ($SD=0.60$) at T1, 2.23 ($SD=0.61$) at T2, 2.37 ($SD=0.57$) at T3, and 2.34 ($SD=0.52$) at T4. Servant leadership perceptions measured at T1 were significantly negatively correlated with exhaustion at all four time points. The correlations between servant leadership perceptions and exhaustion at T1 ($r=-.22$) and T2 ($r=-.25$) were small (Cohen, 1992), whereas they were medium for exhaustion at T3 ($r=-.36$) and T4 ($r=-.32$). Similarly, servant leadership perceptions at T2 and exhaustion at T2 ($r=-.24$), T3 ($r=-.28$), and T4 ($r=-.27$) showed significant and small negative correlations. The correlations between servant leadership and exhaustion at T3 and T4 were not significant.

Table 1 Descriptives and Correlations Between the Study Variables

Variable	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
1. Servant leadership (T1)	3.99	0.50	.80***	.69***	.77***	-.22*	-.25*	-.36**	-.32**	.09	-.04	-.05	-.09	-.01	-.03	.02	.13	-.08	-.09	.02	-.02	.03		
2. Servant leadership (T2)	3.91	0.51	.77***	.84***	-.20*	-.24*	-.28*	-.27*	.01	-.01	-.11	-.21	-.10	-.23*	-.14	.07	-.08	-.03	.12	.01	.07			
3. Servant leadership (T3)	3.80	0.49	.84***	.84***	-.10	.00	-.07	-.03	.13	-.16	-.16	-.13	-.11	-.19	-.13	.05	.02	.09	.18	.01	.01			
4. Servant leadership (T4)	3.85	0.49	.84***	.84***	-.13	-.13	-.17	-.17	.10	-.05	-.10	-.13	-.05	-.22*	-.10	.12	.02	.07	.21	.07	.21	-.07	-.06	
5. Exhaustion (T1)	2.21	0.60	.65***	.42***	.59***	-.13	-.07	.03	.05	.01	.11	.04	.02	.15	.06	.05	.05	-.07	-.03					
6. Exhaustion (T2)	2.23	0.61	.52***	.69***	.69***	.02	-.19	.09	.15	-.12	.03	-.06	-.02	.08	-.07	-.14	-.12	-.12	-.15					
7. Exhaustion (T3)	2.37	0.57	.75***	.75***	.05	-.16	-.19	-.06	-.20	-.08	-.08	-.09	-.05	-.15	.05	-.07	-.30**	-.11						
8. Exhaustion (T4)	2.34	0.52	.75***	.75***	.05	-.16	-.19	-.06	-.20	-.08	-.08	-.09	-.05	-.15	.05	-.07	-.30**	-.11						
9. Gender ^a	0.61	0.49	.15	.13	.05	.24	-.35**	-.31*	-.01	-.21	-.08	.16	-.25	-.39***										
10. Age	43.73	10.23	.46***	.30*	.74***	-.10	-.11	-.00	-.13	-.07	-.08	.08	.01	-.08										

Table 1 (continued)

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
11. Tenure at school	9.08	6.55												.60**	.75***	.09	.04	-.21*	.02	-.19	-.19	.07	-.18
12. Collaboration with leader	6.00	4.71													.46***	.16	.09	.04	-.12	-.14	-.11	.30**	.04
13. Experience as a teacher	12.33	7.27														.05	.00	-.08	.02	.06	-.04	.11	-.19
14. Teaching load (T2) ^b	20.21	6.59															.95***	.05	.03	.08	-.11	.03	.03
15. Teaching load (T3) ^b	20.78	7.19															.03	.04	.04	.04	.00	.05	.09
16. Contact with leader (T1)	4.01	1.17																.15	.36***	.23*	-.17	-.21	
17. Contact with leader (T2)	3.93	1.52																		.40**	.32*	-.07	-.01

Table 1 (continued)

Variable	<i>M</i>	<i>SD</i>	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
18. Contact with leader (T3)	4.80	1.09																		.64***	-.14	-.06
19. Contact with leader (T4)	4.39	1.26																			-.23	-.07
20. <i>N</i> teachers at school ^c	27.61	20.76																				.54***
21. Secondary school ^d	0.61	0.49																				

N = 129, *n*_{T1} = 124, *n*_{T2} = 81, *n*_{T3} = 69, *n*_{T4} = 65. Correlation coefficients are based on full information maximum likelihood estimation in Mplus. T1 = Measurement Time 1. T2 = Measurement Time 2. T3 = Measurement Time 3. T4 = Measurement Time 4. Contact with leader = frequency of contact between participants and their leaders (1 = more rarely, 2 = up to several times a month, 3 = up to once a week, 4 = up to several times a week, 5 = up to once a day, 6 = several times a day).

^a 0 = male, 1 = female. ^b In lessons (45 min) per week. ^c Number of teachers working at the school. ^d 0 = not working at a secondary school, 1 = working at a secondary school.

* *p* < .05. ** *p* < .01. *** *p* < .001.

Table 2 Univariate Latent Growth Curve Models for Exhaustion

	Intercept-only	Linear ^a	Quadratic ^b	Unspecified growth pattern
AIC	439.365	449.239	–	436.046
BIC	456.140	466.014	–	466.800
SSABIC	437.170	447.044	–	432.022
χ^2 (<i>df</i>)	14.639 [†] (8)	24.429 ^{**} (8)	–	0.992 (3)
RMSEA	0.083	0.130	–	0
CFI	0.943	0.858	–	1
TLI	0.957	0.894	–	1
SRMR	0.106	0.173	–	0.047
Intercept mean (<i>SE</i>)	2.276 ^{***} (0.047)	2.222 ^{***} (0.053)	–	2.219 ^{***} (0.053)
Slope mean (<i>SE</i>)	–	0.019 (0.010)	–	0.021 (0.022)
Intercept variance (<i>SE</i>)	0.202 ^{***} (0.036)	0.241 ^{***} (0.045)	–	0.251 ^{***} (0.052)
Slope variance (<i>SE</i>)	–	0.002 (0.002)	–	0.005 (0.013)

Note. $N=121$. AIC= Akaike information criterion; BIC= Bayesian information criterion; SSABIC= sample size adjusted BIC; RMSEA= root mean square error of approximation; SRMR= standardized root mean square residual; TLI= Tucker-Lewis index.

^a The residuals were restricted to zero due to a non-positive definite residual covariance matrix. ^b Could not be calculated as the residual and the latent variable covariance matrices were not positive definite.

[†] $p < .10$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Univariate Growth Curves

Exhaustion

To answer Research Question 1, we modeled univariate growth curves. As Table 2 shows, the model with an unspecified growth pattern fit the data well ($\chi^2(3)=0.992$, $p=.803$, RMSEA=0, CFI=1, TLI=1, SRMR=0.047) and the AIC, BIC, and SSABIC values were smallest for this model compared to the other models, so we selected the model with an unspecified growth pattern. The mean intercept of this model and its variance were significant (intercept=2.219, $p=.000$; var=0.251, $p=.000$), meaning that there were significant between-person differences in the level of exhaustion. The mean slope and its variance were not significant (slope=0.021, $p=.229$; var=0.005, $p=.608$), indicating that exhaustion did not change, on average, over time. The correlation between the mean intercept and slope was significant ($r=-.466$, $p=.010$), indicating that individuals with a higher initial level of exhaustion had a smaller increase in exhaustion.² The slope factors were not

² The mean of exhaustion ranged from 2.21 to 2.37 (standard deviations between .52 and .61) at the four measurement points, the median ranged between 2.25 and 2.38, and the mode between 2.00 and 2.38. Thus, the values did not correspond to the extreme value, and only a small percentage of participants selected the highest score (ranging from 0.0% to 19.4%), which was lower than the recommended 20% (L. Wang et al., 2008). Therefore, we do not assume a ceiling effect.

significant, with $\text{slope}_1=0$ (fixed), $\text{slope}_2=2$ (fixed), $\text{slope}_3=6.311$, $p=.237$, and $\text{slope}_4=4.187$, $p=.116$.

Perceived Servant Leadership

Regarding the trajectory of perceived servant leadership, again, the model with an unspecified growth pattern fit the data well ($\chi^2(3)=1.903$, $p=.593$, $\text{RMSEA}=0$, $\text{CFI}=1$, $\text{TLI}=1$, $\text{SRMR}=0.096$; see Table 3). We acknowledge that the BIC favored the linear model compared to the model with an unspecified growth pattern, but both the AIC and SSABIC favored the model with an unspecified growth pattern; therefore, we selected this model.

The mean intercept and its variance were significant (intercept = 3.979, $p=.000$; var = 0.226, $p=.000$), as was the mean slope (slope = -0.044, $p=.014$) but not the slope variance (var = 0.007, $p=.478$). Thus, the participants differed significantly in their level of perceived servant leadership. Perceived servant leadership decreased, on average, across the four measurement points, and the participants did not differ in their slope factors. The intercept and slope means were not significantly correlated ($r=-.344$, $p=.145$), meaning that the level of perceived servant leadership was not associated with change in the construct over time. Both freely estimated slope factors were significant (slope₁=0 (fixed); slope₂=2 (fixed); slope₃=3.498, $p=.014$; slope₄=2.810, $p=.001$). The slope factors indicated that between T1 and T3 and between T1 and T4, the decrease in servant leadership was lower than that

Table 3 Univariate Latent Growth Curve Models for Servant Leadership

	Intercept-only	Linear	Quadratic ^a	Unspecified growth pattern
AIC	276.722	267.705	–	264.741
BIC	293.881	293.443	–	296.199
SSABIC	274.905	264.979	–	261.410
χ^2 (<i>df</i>)	24.661** (8)	9.659 (5)	–	1.903 (3)
RMSEA	0.127	0.085	–	0
CFI	0.932	0.981	–	1
TLI	0.949	0.977	–	1
SRMR	0.220	0.141	–	0.096
Intercept mean (<i>SE</i>)	3.907*** (0.043)	3.960*** (0.043)	–	3.979*** (0.045)
Slope mean (<i>SE</i>)	–	-0.019** (0.006)	–	-0.044* (0.018)
Intercept variance (<i>SE</i>)	0.196*** (0.030)	0.196*** (0.039)	–	0.226*** (0.058)
Slope variance (<i>SE</i>)	–	0.001 (0.001)	–	0.007 (0.009)

$N=129$. AIC = Akaike information criterion; BIC = Bayesian information criterion; SSABIC = sample size adjusted BIC; RMSEA = root mean square error of approximation; SRMR = standardized root mean square residual; TLI = Tucker-Lewis index.

^a Could not be calculated as the residual and the latent variable covariance matrices were not positive definite.

* $p < .05$. ** $p < .01$. *** $p < .001$.

implied by a linear model with the model's slope mean. Using the estimated means (T1–T4: 3.979, 3.891, 3.825, 3.855) and the time intervals reflecting the measurement times (i.e., 0, 2, 4.5, 6), we also computed the mean slope factors between T2 and T3 (slope = -0.026) and between T3 and T4 (slope = 0.020). Thus, in response to Research Question 2, we found that after a weakening decrease from T1 to T3, servant leadership perceptions increased again between T3 and T4.

Bivariate Growth Curve

Subsequently, we investigated the associations between servant leadership and exhaustion using bivariate LGCMs. The bivariate LGCM fit the data well ($\chi^2(20) = 9.260$, $p = .980$), RMSEA = 0, CFI = 1, SRMR = 0.081). The intercept of servant leadership was negatively and significantly associated with the intercept of exhaustion ($\beta = -0.258$, $SE = 0.086$, $p = .003$), suggesting that interindividually, higher servant leadership was associated with lower exhaustion, which supported Hypothesis 1. The slope of servant leadership was also significantly related to that of exhaustion ($\beta = 0.500$, $SE = 0.198$, $p = .012$). Given that the mean slope for servant leadership was negative and the mean slope (intercept) for exhaustion was positive, this result indicates that the greater the decrease in servant leadership, the greater the increase in exhaustion. This significant within-person relationship between servant leadership and exhaustion supported Hypothesis 2 (see Fig. 1).

Additional Analyses

We conducted the analyses again using the complex command in Mplus to account for potential misspecifications due to school affiliation.³ The univariate models as well as the bivariate one yielded the same inferences as those without the complex command. Thus, we report only the conventional standard errors (cf. Antonakis et al., 2021).

Discussion

Crisis situations can be very challenging and lead to resource depletion, which can result in increased stress and eventually exhaustion. The latter can have a negative impact not only on oneself (e.g., Jonsdottir et al., 2017; Salvagioni et al., 2017) but also on others (e.g., Trougakos et al., 2015). Given the high probability that leaders and followers will face crises during their careers (Riggio & Newstead, 2023), it is important to investigate the development of follower exhaustion and how it can be kept low or reduced in crisis situations. Leadership has already been linked with employee well-being (Inceoglu et al., 2018), and has been found to be even more essential during crises than in non-crisis contexts (Rudolph et al., 2021). Therefore,

³ We did not use multilevel modeling because we were not interested in differences between the schools, and the number of clusters ($n = 22$) was rather small (McNeish et al., 2017).

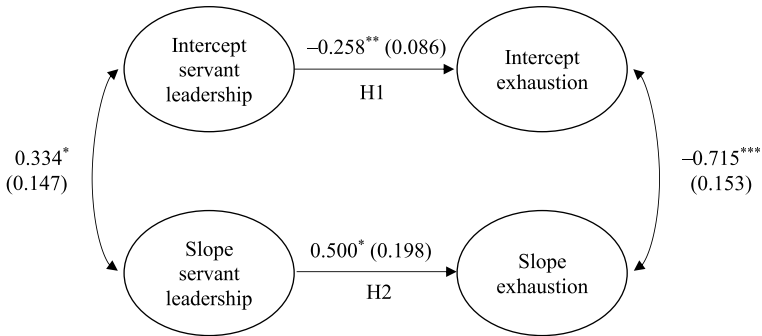


Fig. 1 Standardized Results of the Bivariate Model. *Note.* $N=129$. H1=Hypothesis 1; H2=Hypothesis 2. Values in parentheses are standard errors of the estimates. * $p < .05$. ** $p < .01$. *** $p < .001$

we explored the trajectories of perceptions of servant leadership as a resource-providing leadership style and exhaustion among teachers (a particularly vulnerable professional group; Madigan et al., 2023) during a crisis as well as the association between the two constructs. A particular strength of our study is that we conducted a real-time longitudinal investigation with four measurement points during the first eight months of the COVID-19 crisis, instead of relying on retrospective data. In this way, we make an important contribution to the still very limited body of research on the dynamics of leadership behavior (McClellan et al., 2019), as well as the association between leadership and employee well-being (Inceoglu et al., 2018), especially in the crisis context. Additionally, by studying a specific sample of teachers in the context of the COVID-19 crisis, we followed previous calls to incorporate context into research (Johns, 2006, 2024). Despite the potential of context to influence the occurrence and effects of variables and the relationships between them, it is often disregarded in research (Johns, 2024; Liden & Antonakis, 2009; Oc, 2018). Rather than treating context as an artifact (e.g., by controlling for contextual variables when estimating effects; Oc, 2018), explicitly studying specific contexts, as in our study, helps correctly interpret research findings, derive practice-oriented and relevant implications, and also integrate seemingly heterogeneous research findings, for example, in reviews and meta-analyses (Johns, 2018).

Regarding the univariate trajectories of the constructs, servant leadership perceptions decreased over the study period. However, the decrease was not linear, but slowed from T1 to T3 before servant leadership perceptions increased again between T3 and T4. For teachers' exhaustion also, a non-linear trajectory fit best, but the construct did not increase or decrease on average during the first eight months of the crisis. Consistent with our hypotheses, we found a negative inter- and intraindividual association between servant leadership and exhaustion. Specifically, teachers who perceived higher levels of servant leadership reported lower levels of exhaustion, and a greater decrease (increase) in servant leadership perceptions was related to a greater increase (decrease) in exhaustion.

Theoretical Implications

Our findings provide evidence that COR theory can be a fruitful approach to make predictions about the trajectories of servant leadership and employee exhaustion as well as their inter- and intraindividual relationships in longitudinal settings, which we explain in the following. On average, servant leadership perceptions decreased during the study period. More detailed analyses showed that the decrease in servant leadership perceptions weakened over the course of the crisis and finally increased again. Reasons for the initial decrease in servant leadership perceptions may be that the leaders were very busy at the beginning of the crisis, adjusting themselves and their schools to the new situation, for example, by creating the necessary technical conditions for teaching. In line with COR theory, the leaders' resources may have been exhausted by the higher workload and other challenges during the COVID-19 crisis, such as anxiety and fear concerning the spread of COVID-19 (Reid, 2022; Upadaya et al., 2021), reducing their capacity to show positive leadership (Harms et al., 2017). Additionally, the COVID-19 measures, such as reduced and mainly remote contact, may have limited leaders' possibilities to show servant leadership. Over time, the situation may have eased, as key requirements were increasingly met to continue workflows in the best possible way despite the adverse conditions, and, as predicted by COR theory (Hobfoll et al., 2018), leaders may have learned to adapt in order to best invest their resources. Consequently, the leaders may have been gradually able to restore their resources and return to a stronger focus on their followers, so that the decline in servant leadership perceptions slowed and eventually began to reverse. Our finding sheds light on the trajectory of servant leadership over the course of a crisis and supports previous claims that leadership should not only be considered static (McClellan et al., 2019)—indicating the crucial importance of longitudinal studies in leadership research.

The on average stable level of employee exhaustion in our study is somewhat surprising, as several studies have indicated that the COVID-19 crisis involved numerous risk factors (Gilmer et al., 2023; LeNoble et al., 2023) and was associated with increased exhaustion (Freeman et al., 2021; Sokal et al., 2020). Like the hypothesized increase in exhaustion during the first months of a crisis, the nonexistent growth in our study can be explained by COR theory, as Hobfoll et al. (2018) suggested that individuals may adapt to stressors over time, utilizing their resources more efficiently. Thus, individuals may learn how to implement and handle changes (e.g., remote teaching) so that the exhaustion that exists at the beginning of a crisis does not increase further. This adaptation process could offset resource-draining factors. Future studies should identify the conditions under which these two predictions are more pronounced, respectively. It is plausible, that the relative weights of the two mechanisms change over time. For example, the habituation effect may become increasingly salient as a crisis persists. Another reason for exhaustion remaining constant could be the relatively high level of servant leadership found at the beginning of the crisis (the estimated mean at T1 was 3.979 on a 5-point Likert scale): This could indicate that servant leadership had already been high before the crisis and that the employees had acquired numerous resources and set resource gain spirals in motion before the crisis started, protecting them against resource losses. Such

acquired resources could include peer support and the exchange of teaching materials as well as personal resources such as resilience.

An interesting counterintuitive aspect is that individuals with higher initial levels of exhaustion had lower increases in exhaustion. This finding contradicts COR theory, which states that with fewer resources, the likelihood of resource loss increases, which can reinforce loss spirals (Hobfoll et al., 2018). There are several possible explanations for this finding that merit further investigation. Individuals who were already more exhausted may have received more support, leading to a smaller increase in exhaustion over time. This aligns with the fact that servant leaders respond to and care for their employees individually. Additionally, it could be that less exhausted individuals were more engaged in ensuring that the schools were able to manage crisis-related changes effectively, resulting in a greater increase in exhaustion.

Not only did we replicate the interindividual negative relationship between servant leadership and follower exhaustion in the teaching and crisis context, but we also found that increases (decreases) in servant leadership are associated with decreases (increases) in exhaustion intraindividually. To date, this has only been examined in one study in a change context, with only two measurement points and over a longer period of time (18 months), although most researchers base their rationale on within-person theory (Gabriel et al., 2019). Thus, following previous calls (Inceoglu et al., 2018), we extended these findings with a more dynamic view of the associations between servant leadership and follower exhaustion within a shorter time frame and in the teaching context. Our results support our explanation from the COR perspective that servant leaders can provide resources, such as exchange of teaching materials or social support, that help protect or gain resources or compensate for resource loss. This notion is also consistent with a previous suggestion that servant leadership may be particularly suited to providing meaningful social support (Gray et al., 2023). The results also indicated that the associations did not differ at the within-person and between-person levels, demonstrating homology (Gabriel et al., 2019; McCormick et al., 2020). Future research should investigate whether the same mechanisms are at work on the between- and within-person level (McCormick et al., 2020).

Descriptively, only servant leadership at T1 and T2 was found to be correlated with exhaustion at all measurement points. This finding suggests that servant leadership perceptions may have been particularly relevant at the beginning of the crisis, indicating that adequate preparation in advance of the crisis is crucial. During the crisis, teachers may have adapted better (in line with COR theory) and perhaps organized themselves more effectively, leading to leadership perceptions no longer having strong immediate effects on their well-being. Future research could employ latent change score models to determine leading and lagged relationships and their changes over time (McArdle, 2009). Additionally, investigating how long servant leadership takes to produce effects and exploring the potential negative effects of servant leadership on followers' well-being (cf. Peng et al., 2023) would be valuable. For instance, at the beginning of the crisis, supportive behavior might have been more prominent, but later on, the focus might have shifted to serving others, potentially leading to more pressure on teachers to care for their students. Future

studies could examine the emphases and interactions of the different servant leadership dimensions as well as possible changes in the mediating mechanisms over time.

Future Research

One avenue for future research is to delve deeper into the trajectory of servant leadership perceptions and examine potential antecedents that help explain the decrease in servant leadership perceptions in the first months of a crisis, as well as factors that help initiate the recovery process in servant leadership perceptions. In this way, aspects, such as specific resources to support leaders (e.g., initiating opportunities for exchange between leaders, fostering mutual support among them), can be worked out that can mitigate the decline of servant leadership perceptions in the first months of a crisis. Additionally, the size of the correlations between servant leadership and exhaustion suggests that further predictors and moderators, such as other leadership styles or personal characteristics of teachers (e.g., resilience), should be investigated, which could contribute to the explanation of variance in changes in exhaustion.

Second, following previous claims that the link between leadership and well-being is still under-researched (Inceoglu et al., 2018), mediating and moderating factors in the association between servant leadership and exhaustion could be explored. For example, it would be insightful to determine whether the relationships between servant leadership and follower exhaustion during a crisis are also present when followers have a low tolerance for uncertainty, or whether servant leadership may even be particularly beneficial in such situations.

Third, with four measurement points separated by time lags of approximately two months, our study contributes to a better understanding of the temporal dynamics of servant leadership and exhaustion. However, future research with varying timeframes is required to develop a solid comprehension of these dynamics and their implications (Guthier et al., 2020). In addition to the overall questions of how stable servant leadership is and over what time period variation occurs (Ellis et al., 2019; Kelemen et al., 2020; McClean et al., 2019), there are further avenues for exploration in the realm of temporal dynamics. One such area of interest is the evaluation of servant leadership. Servant leadership encompasses a range of characteristics, such as the general motivation to lead and authenticity (van Dierendonck & Nuijten, 2011), which cannot be assessed through individual situations or behaviors but rather represent a more comprehensive evaluation. As a result, it is possible that high variability in leader behavior may not lead to high variability in ratings of servant leadership, but rather to low ratings of servant leadership. Future research should therefore investigate which aspects of servant leadership are more stable and which are more prone to fluctuation (cf. Gabriel et al., 2019) and how these aspects influence overall ratings of servant leadership. The second field concerns the effects of variability in servant leadership behavior. Given a high variability in servant leadership behaviors, employees may not be able to predict their leaders' behavior, which may be perceived as a demand or threat. Accordingly, there is evidence that followers usually prefer stable leader behavior (R. E. Johnson et al., 2012; Matta et al., 2017; Volmer et al., 2023; Winkler et al., 2015). Future research could thus

use growth mixture modeling (Wickrama et al., 2022) or continuous time modeling (Rauvola et al., 2021) to examine whether different trajectories of servant leadership, such as high variability or stability at different levels, are differentially related to changes in exhaustion.

Fourth, it would be valuable to explore servant leadership perceptions and the levels of exhaustion experienced by participants also prior to a crisis. This would allow us to determine whether servant leadership was particularly high at the outset of the crisis, for instance, because leaders addressed their teachers' concerns to a particularly high extent, so that perceptions initially increased at the beginning of the crisis and only returned to their initial level as the crisis progressed. Conversely, it could also be the case that the contact restrictions initially made effective leadership behavior more challenging, resulting in servant leadership being lower at the first measurement point than before the crisis.

Lastly, some criticism of leadership research suggests that positive leadership behaviors always result in positive outcomes (Alvesson, 2020; Fischer & Sitkin, 2023). However, the different correlations between the constructs at different measurement times in our study do not support the view that the findings are merely the result of a combination of a positive leadership style and a negative outcome. In addition, meta-analyses have shown that servant leadership can explain variance in follower behavior and experiences beyond other leadership styles (e.g., Hoch et al., 2018). Nevertheless, the conceptualization of servant leadership (as well as other common leadership constructs) needs improvement to avoid spurious effects that are based solely on the positivity of the construct. For instance, the conceptualization and instruments should be revised to avoid conflating behavioral descriptions with raters' evaluations (Fischer & Dietz, 2020; Fischer & Sitkin, 2023). Additionally, future research should also consider other leadership constructs (e.g., transformational or empowering leadership) to determine if servant leadership has a unique contribution to explaining variance in exhaustion.

Limitations

There are some limitations that should be mentioned before deriving practical implications. First, our survey was conducted among teachers from a private school association in Germany during the COVID-19 crisis. Consequently, the generalizability of our findings to other contexts might be constrained. Thus, our findings should be validated using different samples. Second, as we were interested in teachers' experiences during the crisis, we employed only their evaluations, resulting in potential biases (Podsakoff et al., 2012). However, self-reports are sometimes the most suitable approach for investigating specific research questions (Gabriel et al., 2019). In the case of exhaustion, the teachers were the most knowledgeable source for assessing their own well-being. Additionally, the impact of leadership behavior on follower outcomes largely depends on how employees perceive it (Bono et al., 2012).

Third, despite employing a longitudinal design, we cannot exclude the existence of omitted variables that potentially affected the associations between the constructs and led to endogeneity (e.g., leadership needs or negative affectivity; Sajons, 2020).

To rule out endogeneity, all potential third variables would have to be identified and included in the model. As this is practically not feasible, corrective actions would be necessary, such as instrumental variable estimation using experimentally randomized instrumental variables (Schowalter & Volmer, 2023). However, by definition, the studied crisis context occurred unexpectedly, affected *all* participants, and required many resources from the teachers. Therefore, it was not possible to implement a (quasi-)experimental design (e.g. with randomized assignment to servant leadership training) to apply corrective approaches. Thus, our findings cannot be interpreted causally and should be further examined using experimental or instrumental variable approaches to establish robust causal inferences (Schowalter & Volmer, 2023). Fourth, owing to the crisis and associated workload, our sample size was limited. Although the sample size was generally large enough for our analyses (Curran et al., 2010), it is still possible that the power was too low to detect an average course of exhaustion. Therefore, it is useful to replicate our study in different crisis contexts using larger samples. In addition, it is not uncommon for participants to drop out over the course of longitudinal studies (Goodman & Blum, 1996). In our study, we did not observe systematic drop-out effects and used FIML to handle missing data. This method allows the use of all available data, resulting in more reliable and valid results than traditional methods that discard incomplete cases (Newman, 2003). However, limited data at later time points may affect the certainty of the growth trajectory estimates. Future research should aim to collect more complete data at later time points to validate the trajectories identified in our study.

Practical Implications

Our study indicates that servant leadership is negatively associated with employee exhaustion during crises. The finding that changes in servant leadership perceptions are related to changes in exhaustion implies that it is not enough to be perceived as a servant leader in principle, but that this perception is subject to fluctuations that are related to exhaustion. Consequently, leaders should continually prioritize the needs of their followers over organizational goals and demonstrate servant behavior during crises. This involves taking responsibility for their followers' well-being, providing resources (such as helpful support), removing obstacles (such as communication barriers during a lockdown), listening carefully, communicating effectively, and providing direction, despite the additional tasks and increased pressure that leaders may experience during crises.

Organizations should therefore select their leaders on the basis of their servant leadership behavior and provide them with the necessary training to be prepared for future crises (cf. McCormick et al., 2020). This is particularly recommended because servant leadership has been shown to have positive effects also in non-crisis contexts (Eva et al., 2019). Through servant leadership training, leaders can be equipped to set the course already before and during the first months of a crisis. These first few months can be critical, as they often have the highest potential for resource loss (in the case of COVID-19, e.g., due to a sudden transition to remote work and reduced contact with colleagues). Therefore, it is essential that leaders support employees

in acquiring new resources before and during a crisis (especially during the first months; e.g., by facilitating the exchange of teaching materials between team members), which helps protect against and compensate for resource loss.

Furthermore, it is important that organizations support their leaders so that their resources are not depleted, but that they can uphold their servant leadership behaviors in the crisis context. One possibility is to build up leaders' social capital, for instance, by connecting school leaders from different schools and fostering mutual support as well as improving collaboration with school associations or districts (Beausaert et al., 2023; Reid, 2022). Additionally, demands can be reduced and tasks restructured, for example, by sharing job responsibilities in an administrative team (Beausaert et al., 2016). Finally, leaders' personal resources can be fostered using coaching and mentoring (Upadyaya et al., 2021) or training focusing on self-care and mental health (Reid, 2022).

The absence of increased exhaustion among teachers during the crisis may suggest that they not only faced a threat of resource depletion but that the circumstances, such as remote teaching, also had resource-strengthening effects, such as the reduced need to manage their emotions in front of students (Hilger et al., 2021). Effective leadership and coaching can help direct teachers' focus on these resources, which can facilitate their ability to cope with the crisis and reduce exhaustion.

Conclusion

Because leaders and followers in all professional fields are likely to face crises during their careers, it is critical to understand how to minimize the negative impact of such crises on well-being. We conducted a real-time, four-wave study that provides a dynamic perspective on servant leadership and teacher exhaustion, revealing that the trajectories of and associations between the constructs are more complex than linear models can capture. Our findings suggest that servant leadership is appropriate for reducing the negative effects of crises on teacher exhaustion. Thus, given the multiple positive effects that servant leadership can have in both crisis and non-crisis contexts, it is advisable to train and support leaders to use this leadership style to be prepared for future crises.

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Data Availability Data is available from the authors upon request.

Declarations

Competing Interest The authors have no relevant financial or non-financial interests to disclose.

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