The Mediating Role of Self-Efficacy in the Relationship Between Shared Leadership and Employee Performance

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Abstract

The influence and consequences of shared leadership on employee performance are still under scrutiny by scholars. The purpose of this study was to investigate the relationship between shared leadership and employee performance, hypothesising a partial mediation of self-efficacy in this association. We conducted a multi-sourced cross-sectional field study by means of convenience sampling and analysed 27 Dutch-speaking leader-employee dyads utilising two tailored survey questionnaires. Data sets were matched accordingly by means of a coding system to obtain a multi-source data set. The results indicate that shared leadership has a significant positive link to self-efficacy. However, no significant findings were obtained regarding the shared leadership and employee performance association and no evidence was found for the association between self-efficacy and employee performance. Overall, no support was found for self-efficacy as a (partial) mediator in the relationship between shared leadership and employee performance. By studying leader-employee dyads within Dutch organisations and studying self-efficacy in a real-life organisational context our results yield a valuable contribution to the field and provide several opportunities for future research.

Keywords: shared leadership, employee performance, self-efficacy, team dynamics

The Mediating Role of Self-Efficacy in the Relationship Between Shared Leadership and Employee Performance

Team dynamics play a role in most organisational processes: in the interaction among employees, in the interactions between an organisation and its clients, et cetera, and are often described as critical to key organisational outcomes. For example, team dynamics affect employee performance, and, more broadly, organisational success (e.g., Edmondson, 2012). Research suggests that team dynamics can be effectively viewed as cumulative expressions of interactions between team members (Humphrey & Aimed, 2014). One important aspect of team dynamics in organisations is the interaction between a leader and their subordinate employee. Whilst this dyadic level of analysis seems poorly understood and barely examined until today (Kim et al., 2020), studying this interaction seems especially fruitful in enhancing our understanding of team dynamics. Therefore, the present study will address this gap and examine the interaction between leaders and their subordinate employees as dyads.

One concept related to the relationship between leaders and subordinate employees, receiving increasing attention, is shared leadership. The present paper conceptualizes shared leadership as a dynamic team phenomenon whereby leadership roles and influence are distributed between the formal leader and the subordinate employee in the dyads (Dinopenton et al., 2016). It is leadership behaviour which can be enacted by more than one group member. Those who possess the most suitable skill set and experience to complete a certain task will take the lead (Contractor et al., 2012; Michalke, 2013).

The effectiveness and general outcomes of teams engaging in shared leadership behaviour are ongoingly debated. For example, Han et al. (2017) have argued that shared leadership fosters knowledge-sharing, open communication, and employee participation, which, on the group level of analysis, positively affect team performance. Similarly, Ensley et al. (2006) and Pearce and Sims (2002) have found evidence for a positive association between

shared leadership and team performance. However, other scholars have failed to find significant associations between shared leadership and employee performance (e.g., Mehra et al., 2006). Again, other researchers have emphasized the negative aspects and have associated shared leadership with power struggles (Ji, 2018), or role stress (Wang & Peng, 2022), which may negatively affect employee performance. In conclusion, the current body of literature hints towards contradicting findings on the relationship between shared leadership and employee performance. Therefore, it remains an open question of which factors may explain the duality of findings. The present study aims to address this research gap by theoretically re-addressing the association between shared leadership and employee performance and introducing self-efficacy as a possible factor explaining the contradicting findings (e.g., Özek & Büyükgöze, 2023; Wang et al, 2014).

Self-efficacy is defined as "an individual's belief in his or her capacity to execute behaviours that are necessary to produce specific performance attainments" (Bandura, 1977). Empirical evidence indicates that self-efficacy beliefs in employees are increased once they feel empowered and perceive leadership as being shared with them (Katz & Kahn, 1978). These self-efficacy beliefs in employees seem to be related to improved employee job performance (e.g., Peterson & Byron, 2008; Parker et al., 2006). The findings confirming those relationships are relatively consistent, however, it is still unclear to what extent these self-efficacy beliefs could explain the relationship between shared leadership and employee performance in a dyadic context. Moreover, field research on self-efficacy in the organisational context is scarce, as most research has been conducted in the laboratory context (Carter et al., 2016). This gap will be addressed by the present study as well.

Thus, this study will examine the association between shared leadership and employee performance with self-efficacy as a mediating variable. This will tackle previously raised criticism of self-efficacy being mostly studied in students and laboratory contexts, rather than

applied to actual organisational contexts in the business world (e.g., Pajares, 1997, as seen in Carter et al., 2016). Moreover, it will constitute the first step in researching the team perspectives of shared leadership and team performance and may be the most informative as we aim to understand organisational team dynamics. This research can contribute to a better understanding of the effects of shared leadership on subordinate employees in dyads and extend the current body of literature by relying on dyadic data and examining both perspectives, i.e., employees will rate the extent of shared leadership behaviour carried out by their formal leader, and rate their own self-efficacy, whilst formal leaders rate their subordinate employees′ job performance. Moreover, studying this mediation model represents a novel approach to examining the effects of self-efficacy in real-life contexts in relation to shared leadership and employee performance in dyads. Thereby it can add contextual explanations for the duality of currently contradicting findings on the relationship between shared leadership and employee performance. It could potentially confirm previous research indicating that shared leadership has a positive effect on employee performance (Fausing et al., 2015) and extend these findings by adding the mediating effect of self-efficacy and thereby empirically confirming previous research stating the positive effects of self-efficacy beliefs on performance outcomes (e.g., Carter et al., 2016).

Theoretical Development

Shared Leadership and Employee Self-efficacy

Originally coined by Bandura (1977), self-efficacy was theorised to be stimulated by four main factors: performance accomplishments, vicarious experience, verbal persuasion, and emotional arousal. Self-efficacy was argued to positively affect general behaviour and performance. Conger and Kanungu (1988) applied the concept of self-efficacy to the work context and identified empowerment as the main process through which self-efficacy beliefs are stimulated in employees. Building upon their relational approach to empowerment,

employees report enhanced self-efficacy and feel empowered if a leader shares their power and resources with the follower. Leadership practices that stimulate self-efficacy through empowerment, according to Conger and Kanungu (1988), are: follower involvement in decision-making processes, setting inspirational goals, and expressing confidence in the follower's task-fulfilling abilities. These practices are also described as part of shared leadership (e.g., Wu & Cormican, 2021). The flexible shift of power and leadership roles depending on context and competencies regularly elicits a greater information flow, knowledge and information sharing, and greater decision-participation of the follower (Carson et al., 2007; Katz & Kahn, 1978, as seen in Unterrainer et al., 2017). This prompts us to believe that perceptions of shared leadership in the dyads have the capacity to increase self-efficacy beliefs in employees.

Empirically, the association between shared leadership and self-efficacy was tested by George et al. (2002). Nurses who took part in a shared leadership program reported higher levels of self-confidence and perceived efficiency in fulfilling their duties, two feelings closely related to the concept of self-efficacy (George et al., 2002). Similar positive links between shared leadership behaviour and self-efficacy have been concluded elsewhere too (e.g., Özek & Buyukgoze, 2023). We aim to confirm these findings and extend them by adding onto previous literature through providing evidence for this association at a dyadic level. These previously discussed findings prompt us to expect that employees who rate the extent to which the lead is shared with them through their leader as high, also report greater levels of self-efficacy, compared to employees who perceive their leaders as less engaged in shared leadership practices. Accordingly, we hypothesise:

H1: Shared leadership is positively associated with self-efficacy.

Shared Leadership and Employee Performance

Shared leadership has been positively linked to employee performance. For example, Jakobsen et al. (2021) found that hospital staff's perception of being involved in shared leadership was positively associated with self-rated performance in public service organisations. On the group level, Aime et al. (2014) have conducted qualitative team research focusing on hierarchies and found that shifts of power expressions, as often visible in teams that engage in shared leadership, can be valuable to team performance. However, power shifts must be seen as legitimate by the teams to produce favourable outcomes. Supporting this notion, Fausing et al. (2015) found the emergence of shared leadership to be positively related to team performance as rated by leaders. Along similar lines, but with a different approach to measuring team performance, Carson et al. (2007) found shared leadership in teams to be a strong positive predictor for team performance as rated by product end-users. We want to confirm and extend these previous findings by establishing this association in the dyadic context in which shared leadership ratings of employees regarding their leaders is positively associated with the employees' self-reported self-efficacy. Thus, we hypothesise,

H2: Shared leadership is positively associated with employee performance.

Employee Self-Efficacy and Employee Performance

Generally, self-efficacy is frequently linked to motivational aspects and performance outcomes in the organisational context. Theoretically, building upon Bandura (1977), employee-perceived self-efficacy and performance could be seen as mutually reinforcing: personal mastery experiences can increase employee-perceived self-efficacy, which in turn increases confidence and further job performance. Similar findings have been concluded by other researchers: Individuals high in self-efficacy seem to exert greater task-related effort (Chen et al., 2001) and show more persistence in pursuing their goals compared to individuals that report lower self-efficacy (Stajkovic & Luthans, 1998). Similarly, Judge et al. (1998)

findings suggest that employees who hold positive self-concepts, which include high levels of perceived self-efficacy, were linked to better job performance, mainly because they were more motivated to excel.

Along similar lines, Tian et al. (2019) found employee self-efficacy to be positively associated with job performance, with a partial mediation of work engagement in this relationship. Thus, they argue, employees high in self-efficacy perform better at their job, partly because they assert greater work engagement. This is in line with findings from the educational sector by Tindowen (2019). Their results suggest self-efficacy as a strong predictor for teachers' professional commitment, organisational commitment, and incremental job involvement that goes beyond the job description – behavioural and cognitive outcomes that are regularly linked to employee performance (Tindowen, 2019). Lastly, in a longitudinal field study in the Australian financial sector, Carter et al. (2016) noted employees' self-efficacy beliefs to be related to their scheduled customer appointments, and ultimately, sales performance in those appointments.

We aim to confirm these findings in our study and extend them by establishing this association in a dyadic context by means of a multi-sourced design which draws upon both perspectives: the perspective of the supervisor and the perspective of the subordinate employee. Thus, in the present study, we expect similar findings and expect that employees' self-reported self-efficacy beliefs to be related to the leader's rating of employee performance. Hence, we expect the leaders of the sampled dyads to rate employee performance more favourably for employees who report greater levels of self-efficacy, compared to employees who report lower levels of self-efficacy. Thus, we hypothesise,

H3: Employee self-efficacy is positively associated with employee performance as rated by the leaders.

The Mediation Role of Employee-perceived Self-efficacy

Conceptually, shared leadership behaviours are likely to empower employees to participate in crucial decision-making processes and share their knowledge and information. Moreover, it encourages employees to participate in problem-solving processes. This is especially facilitated by the wide extent to which employees are involved in organisational processes, enabling them to detect organisational situations in which they can employ their strengths more easily (Pearce et al., 2008). This allows them to take the lead in situations in which they feel confident to fulfil the task in question. All these aspects are likely to increase employees' self-efficacy perceptions. And because self-efficacy beliefs are inherently motivational, as, for example, described in expectancy theory (Vroom, 1964, as seen in Kim & Beehr, 2017), and consistently linked to increased effort (Ayupp & Kong, 2010), career commitment (Niu, 2010), and enhanced job performance (Çetin & Celik, 2018), we expect self-efficacy to partially mediate the relationship between shared leadership and employees' job performance in the sampled dyads.

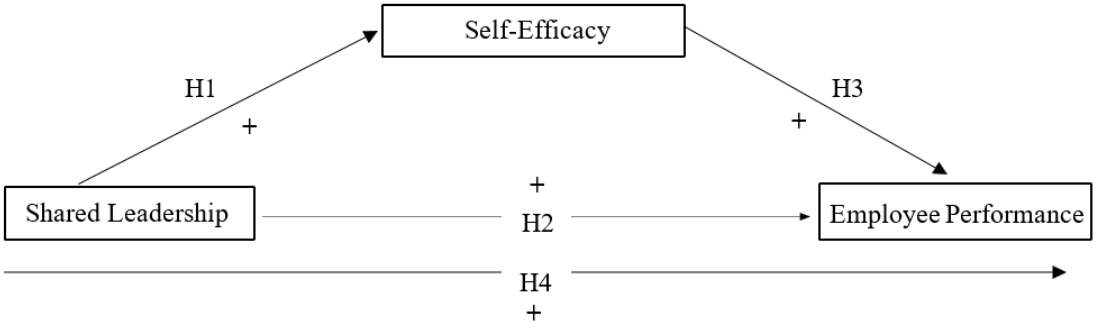
Considering self-efficacy as a mediator in the association between leadership behaviour and employee performance, Kim and Beehr (2017) conducted a meta-analysis and found empirical evidence stating that leadership behaviour that stimulates involvement and participation of the employee, two core practices of shared leadership, can increase the employee’s self-efficacy, which in turn favourable affects employee in-role performance. Similarly, Slutter (2019) suggested that high leader-member exchange, similarly defined as what shared leadership is supposed to entail, led to higher employee engagement, which is likely to positively affect employee performance. This relationship was partially mediated by employee self-reported self-efficacy. Building upon these research findings, the present study aims to confirm and expand this previous research by examining dyadic relationships between leaders and subordinate employees, aiming to show that high levels of shared leadership are

associated with greater perceptions of self-efficacy in the employees, which in turn is associated with positive ratings of employee performance through the leader within the dyads. In accordance, we set up our fourth hypothesis,

H4. Self-efficacy partially mediates the association between shared leadership and employee performance.

Figure 1.

The Hypothesised Mediation Model



Note. + = positive association is hypothesised

Method

Participants

The participants of this study were recruited by the students at the University of Groningen as part of their Bachelor theses in Semester Two of the academic year 2022/2023. Therefore, participants were sampled from each student's social network. Inclusion criteria included working at least 20 hours a week, language proficiency in Dutch, and being above the age of 18 years at the time of our study. Initially, the sample consisted of 87 respondents for the leader survey and 79 respondents for the employee survey. Out of all respondents, 30 dyads could be matched by identical coding. Out of these 30 dyads, one matching code has been found once within the leader data set but twice within the employee data set: code

MANSOO, however, one employee data set was complete and the other one was not; therefore, we solely incorporated the completed survey data of MANSOO. Two other sets of dyads (N = 4 participants) were removed due to incomplete survey entries. Therefore, 27 complete dyads were examined for the present analysis. Therefore, the final sample consisted of 27 dyads (N = 54). 37 % of the employees were male (*N = 10)* and 63% were female *(N = 17).* The mean age of employees was 32.67, with a Standard Deviation of 10.98 *(Min = 19; Max = 57).* 59.7% of the leader respondents were male (N = 16), while 40.7% (N = 11) were female. The mean age of the leaders was 42.89 with a Standard Deviation of 13.343 (*Min* = 22; *Max* = 65). The industries the respondents were working in were rather diverse. Most participants were working in the education and university sector (14.8%; N = 8) and the catering industry (14.5%; N = 8). Other sectors covered in the present research were agriculture, horticulture, fishing, food (3.7%; N = 2), post and telecommunication (3.7%; N = 2), transportation and freight transport (3.7%, N = 2), healthcare (3.7%; N = 2), and government (3.7%; N =2).

Design & Procedure

The present research is a cross-sectional multi-sourced field study. That means data is collected at one point in time from workers in organisations by means of two distinct survey questionnaires. One questionnaire is filled out by leaders, and one is filled out by subordinate employees within the organisation. Data is derived through convenience sampling/selective sampling, as each student of the research group sent the questionnaire to people in their social network. Prior to approaching potential participants, the present study was approved by the Ethics Committee of the Faculty of Behavioural and Social Sciences at the University of Groningen. Emails and social media messages including the QR code and a link to the survey questionnaire were sent out by all students in the research group within their social network. Furthermore, efforts were made to acquire participants by approaching fellow students, co-

workers, and other acquaintances. Before participants completed the actual survey, they were presented with an information letter on the purpose of the study and an informed consent, which was signed. It included the note that study participation is voluntary, anonymous, and confidential, and termination is possible at any time point.

The study consisted of an online survey administered through the online platform Qualtrics and took approximately 10-15 minutes to complete. It contained measures of shared leadership, self-efficacy, employee performance, and socio-demographic information. The present study is embedded in a larger project; therefore, also other variables were included in the questionnaire which are not relevant to the present study. The data collection began on 04.05.2023 and ended on 28.05.2023.

Materials

Occupational work self-efficacy

To measure self-efficacy, the present study will make use of the short version of the occupational self-efficacy scale developed by Rigotti (2008). Originally, it is a five-point Likert scale, however, for the purpose of the current study, we expanded the scale to a seven-point Likert scale. The scale has 6 items and measures employees' perception of self-efficacy in the workplace. Participating employees fill out this questionnaire, e.g., "Whatever comes my way in my job, I can usually handle it." on a seven-point Likert scale ranging from 1 (totally disagree) to 7 (totally agree). The research group has translated the scale into Dutch by a native speaker, including proofreading procedures by a second native speaker. Values are averaged to compute one score of self-efficacy, high values reflect greater perceived self-efficacy by the employees. Scale reliability was calculated for our sample and the present study (α =.879, see Appendix A.1.). Therefore, high instrument reliability can be concluded.

Shared leadership

To measure shared leadership behaviours in the dyads, the shared leadership scale developed by Hoch (2013) will be used. It has 18 items distributed among 4 subscales: transformational leadership, individual empowering leadership, team empowering leadership, and participative leadership. Items include, for example, “My colleagues encourage me to learn new things.” from the subscale “Individual empowering leadership”. Employees fill out this scale on a 7-point Likert scale ranging from 1 (totally disagree) to 7 (totally agree) to indicate the extent to which they perceive their leader to share the lead with them. The translation to Dutch has been conducted previously. The items were slightly adapted to reflect the leader-employee relationship (i.e., “my supervisor urges me to assume responsibility on my own.”). For each participant, values are averaged to get one average score of shared leadership, in which high values correspond to a greater extent to which employees perceive leadership as shared. Scale reliability was assessed and was concluded as high, therefore, high internal consistency was concluded (α =.769, See Appendix A.2.).

Employee performance

We measured in-role job performance using the Performance scale developed by Van Der Vegt and Bunderson (2005). The scale has 6 items and is a 7-point Likert scale which ranges from 1 (totally disagree) and 7 (totally agree). The formal leader indicated to what extent they agree with the item statements with regards to the employee in their dyad. The items were slightly adapted to reflect that the performance assessment should be done with regard to the respective subordinate employee. Example items include “How does this employee score on achieving deadlines?”. Dutch native speakers of the research group have translated the scale, and the translation was approved by another native speaker. Values of the subscale are averaged for each participant to get one average employee performance rating for each dyad, with lower values corresponding to lower ratings of employee job performance as

rated by their supervisor. Scale reliability was assessed, and a high instrument reliability was concluded ($\alpha = .940$, see Appendix A.3.)

Statistical Analysis

SPSS version 28 was utilised to statistically analyse the data set. Two continuous independent variables, namely shared leadership and self-efficacy, whose relationship with one continuous dependent variable, employee performance, were examined. Afterwards, descriptive statistics and correlations were computed. Further on, we checked the assumptions for our mediation regression analysis: linearity, normality, homoscedasticity, independence of observations and residuals, and multicollinearity. Ultimately, for the main analysis, we conducted a Mediation analysis with regression utilising Hayes' PROCESS v4.2 tool in SPSS. It draws upon bias-corrected bootstrap statistics from 5000 samples. All four hypotheses were tested using Hayes' PROCESS model 4 (Hayes, 2013). The scale scores were entered as followed: the independent variable was shared leadership (X), the dependent variable was employee performance (Y), and the mediating variable was self-efficacy (M). Partial Mediation is added to the relationship between X and Y (MacKinnon, Fairchild, & Fritz, 2007). A 95% confidence level was utilised to determine significance. If only confidence intervals were shown, the lower limit and upper limit confidence intervals were employed to determine significance. No zero between the lower limit and upper limit confidence intervals indicates a significant association.

Results

Descriptive Statistics

Values across all items for the core variables of the model were averaged to receive one global value for each variable (shared leadership, self-efficacy, and employee performance) for each respondent. As Table 1. reveals, our data shows the mean score on shared leadership as rated by the employees to be relatively high ($M = 5.44$, $SD = .577$, *Min*

=5, *Max* = 7) on a scale from 1 (totally disagree) to 7 (totally agree). Similarly, the employees' self-reported occupational self-efficacy was rather high (*M* = 5.81, *SD* = .834, *Min* = 4, *Max* = 7) measured on a scale from 1 (totally disagree) to 7 (totally agree). Lastly, the leaders' rating of their employee's in-role job performance was relatively high as well (*M* = 5.85, *SD* = 1.027, *Min* = 3, *Max* = 7) with only one respondent rating their subordinate employees' performance with a 3, and only two respondents rating their employees' performance with a 4 on a scale from 1 (totally disagree) to 7 (totally agree).

Respective correlations between all three variables were calculated as well. Self-efficacy was moderately positively and significantly correlated to shared leadership (*r* = .497, *p* =.008). Further, shared leadership was weakly and not significantly correlated with employee performance (*r* = .375, *p* =.054). Lastly, employee performance and self-efficacy were weakly positively and not significantly correlated (*r* = .191, *p* =.339).

Table 1.

Means, Standard Deviations, and Correlations Between Core Study Variables

Variable	**Mean**	***SD***	**1.**	**2.**	**3.**
1. Shared leadership[a]	5.44	.577	–	–	–
2. Self-efficacy[a]	5.81	.834	.497**	–	–
3. Employee performance[b]	5.85	1.027	.375	.191	–

Note. *N* = 27 dyads composed of 27 leaders and 27 employees.

[a] Rated by employees

[b] Rated by leaders

** correlation is significant at the $p < .01$ level (2-tailed)

Assumption Check

Prior to the regression analysis, the respective regression assumptions were checked. To check for linearity**,** we plotted the data through a residual plot and a normal probability plot (see Appendix B and C, respectively). No distinct patterns or skewness could have been observed; thus, the assumption of linearity is met. To check for the normality of residuals, the data was plotted using a Histogram (see Appendix D) and a Normal Probability plot (see Appendix B). The plots indicated that the assumption of normality was met. Moreover, all Cooks' distance values have been below 1, suggesting that the assumption of normally distributed residuals was met, too (see Appendix E). To assess multicollinearity, we examined the VIF values of 1.32 for both independent variables (shared leadership and self-efficacy), thus < 4.0, suggesting that multicollinearity is low, and the assumption is met (see Appendix F). To check for the assumption of homoscedasticity of our observations, we plotted our data by means of an error plot and examined the scatterplot which indicated that the assumption is met (see Appendix B). Lastly, to test the independence of observations and residuals, we conducted a Durbin-Watson Test, which resulted in a value of 2.447, allowing us to conclude that the assumption of independence of observations and residuals was met (see Appendix G). To detect potential outliers, a case wise diagnostic has been conducted with the standard criterion of |residuals| > 3 SD. No table has been produced by SPSS; therefore, it is concluded that no outliers are present in the data set.

Hypotheses Testing

Examining H1: Shared leadership is positively associated with employees' self-efficacy, shared leadership explained 24.7% change in self-efficacy (R^2 = 0.247, F(1,25) = 8.208, b = .718, CI (.202; 1.234), p = .008). Therefore, the association between shared leadership and self-efficacy was significant and shared leadership significantly and positively predicts the sense of self-efficacy in employees.

Considering H2: Shared leadership is positively associated with employee performance, the *direct effect* of shared leadership on employee performance was not significant ($F(2,24) = 1.963$, $p = .101$, $b = .661$, CI (-.140; 1.461)). Therefore, shared leadership as rated by the employees did not significantly predict the leaders rating of their employee's performance and no evidence was found for this hypothesis.

Furthermore, considering Hypothesis 3: employee self-efficacy is positively associated with employee performance, no statistical evidence was found in the data ($F(2,24) = 1.963$, $p = .976$, $b = .008$, CI (-.546; .562)). Therefore, employees' ratings of their perception of feeling self-efficacy did not significantly predict the leader's rating of employee job performance.

Lastly, Hypothesis H4: the relationship between shared leadership and employee performance is partially mediated by the employees' self-efficacy, was examined. The SPSS output reveals a not significant *indirect effect* of shared leadership on employee performance through self-efficacy (CI(-.396;.387), $b = .006$). Considering the *total effect* for the complete hypothesised mediation model, the results reveal no statistical significance either ($b = .667$, $p = .054$, CI(-.012; 1.346)). In conclusion, the statistical analysis reveals a no-effect non-mediation. For a visualisation of the results, see Table 2. and Figure 2.

Table 2.

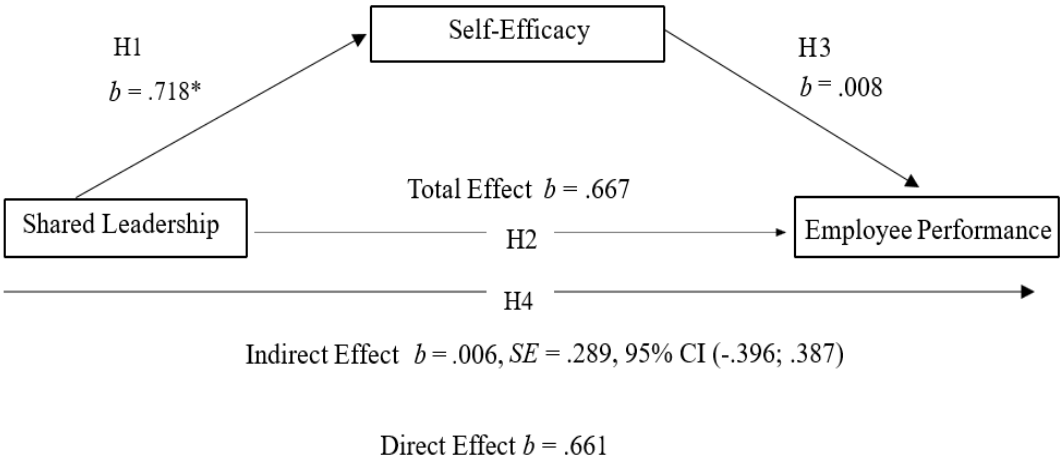
Results of PROCESS Mediation on Employee performance.

Effect	Estimate	SE	t	95% CI		p
				LL	UL	
Total Effect	.667	.10	2.022	-.012	1.346	.054
Direct Effect	.661	. 09	1.704	-.140	1.461	.101
Indirect Effect	.006	.189	-	-.396	.387	-

Note. $N = 54$ (27 dyads), CI = confidence interval, LL = lower limit, UL = upper limit.

Figure 2.

Visualisation of the PROCESS Mediation Results



Note. N = 54, * p < .05

In Figure 2., this research's mediation model, hypotheses, and findings are visualised. The unstandardised mediation coefficients and the total, direct and indirect effect of the bootstrapping mediation analysis are summarised.

Discussion

With the present study, we sought to understand the effect of shared leadership and self-efficacy on employee performance in the context of leader employee dyads as part of teams within Dutch organisations. We hypothesised: H1: shared leadership is positively associated with employee self-efficacy, in a way that high levels of shared leadership behaviour, as rated by employees, would lead to higher levels of self-efficacy in employees. Moreover, we hypothesised H2: shared leadership is positively associated with employee performance, in a way that higher levels of shared leadership are associated with higher

ratings of employee performance. Furthermore, we expected self-efficacy to be positively associated with higher levels of employee performance, rated by the supervisors (H3). And lastly, we hypothesised H4: the relationship between shared leadership and employee performance is partially mediated by employee self-efficacy.

Overall, Hypothesis 1 was confirmed by our data in a way that shared leadership was significantly positively associated with employee self-efficacy in the sampled dyads. Therefore, we could confirm the previous research line arguing in favour of this association. For example, Geijsel et al. (2009) have found that teachers who are being included in leadership were more inclined to internalize the institutional goals as their own, experienced more positive emotions, and reported increased self-efficacy. Similarly, Özek & Buyukgoze (2023) found a positive effect of distributed leadership behaviour in school principles on teachers' self-efficacy. Next to confirming these findings, we were able to extend them by providing evidence for the association between shared leadership behaviour and self-efficacy at a dyadic level. Employees who perceive their leaders as engaging in shared leadership to a greater extent were reporting higher levels of occupational self-efficacy, compared to employees who perceive their supervisors as less engaging in shared leadership.

However, Hypothesis 2, Hypothesis 3, and Hypothesis 4 could not be confirmed. Therefore, we conclude a no-effect no mediation.

Theoretical and Methodological Explanations for null findings

Against our expectations and previous research (e.g., Hoch, 2013; Bergman et al., 2012; D'Innocenzo et al., 2016), Hypothesis 2 could not be confirmed. Considering the contradictory and inconclusive findings regarding the association between shared leadership and employee performance, our findings support the notion of no significant association among these variables (e.g., Mehra et al., 2016). However, it could be that certain

assumptions and pre-conditions were not met, so the hypothesised effects could not be observed in the sampled dyads. For example, Nicolaides et al. (2014) found evidence in their meta-analysis that team tenure, as it increases, negatively impacts the association between shared leadership and performance outcomes. Considering the demographics of the sampled dyads, 37% ($N = 10$) of the employees have worked with their supervisor for 5 or more years, and 18.5% ($N = 5$) have worked with their supervisor 2 to 5 years. Therefore, team tenure may partially account for the not significant association between shared leadership and employee performance in the present study.

Hypothesis 3 was not confirmed either. Whilst research on real-life contexts about self-efficacy is scarce, nevertheless, considerable empirical research argues in favour of a positive effect of employee self-efficacy on employee performance (e.g., Carter et al., 2016; Tian et al., 2019). For example, Tian et al. (2019) proposed work engagement as a crucial factor related to both, self-efficacy, and employee performance. Therefore, they argue, improved self-efficacy positively affects work engagement and, partly therefore, enhances employee job performance. However, our findings do not fit this line of argumentation. It may be that in the relationship between self-efficacy and job performance outcomes, other variables play a role which have not been considered in the present study. For example, Judge et al. (2007) have found evidence that self-efficacy solely predicts task performance in low complexity work environments and does not for tasks of medium or higher complexity. Therefore, considering the sampled industries (e.g., education and university sector, healthcare, government, etc.) and the notable high educational level in our sample (77.7% of the leaders completed a WO or HBO degree, 74% of the employees completed a WO or HBO degree), which may be an indicator for complex work surroundings, it may be that self-efficacy did not affect job performance because the work complexity was rather high in the sampled dyads.

Lastly, we failed to confirm Hypothesis 4 as well. This is surprising because similar research (e.g., Slutter, 2019) was able to find support for a rather similar mediation model. This prompts us to conclude that the core concepts of the present study may underly more complex dynamics and that the assumed similar concepts of high leader-follower exchange and employee engagement, may not be as similar to shared leadership behaviour and employee performance, respectively, as we assumed previously in the theoretical development of the present study.

Considering that only H1 could be confirmed, we further assume that the present model may not reflect reality adequately. Because only the association between shared leadership and self-efficacy could be confirmed and has depicted the only statistically significant correlation of the proposed model, it could be that shared leadership enhances employee self-efficacy, as our findings suggest, and employee self-efficacy mostly affects employee performance through motivation as a mediator, as proposed by Ambarita et al. (2022). On the other hand, other researchers have pointed out that self-efficacy in its very specific nature may be more likely to predict specific task performance, rather than overall in-role job performance (Judge et al., 2007). Therefore, our selected measurement for employee job performance may not be suitable when attempting to establish a relationship between self-efficacy and performance outcomes.

Additionally, our sample size was very small ($N = 27$ dyads, 54 participants) which results in low statistical power and therefore makes it questionable if the present findings are generalizable and representative across different settings and organisations. To examine this issue, a post-hoc power analysis was conducted through the MARlab Webtool (Schoemann et al., 2017) which enables us to estimate the statistical power for the present model and sample size. MARlab Webtool employs the Monte Carlo power analysis for indirect effects. A one mediator model was selected. Providing the respective standardized coefficients (H1 $\beta = .497$,

H2 β = .372, H3 β = .007) and the sample size (N = 54), the results indicate a power of .04 for the parameter ab (i.e., the indirect effect of shared leadership on employee performance through employee self-efficacy. Therefore, it is likely that the small sample size and the resulting low statistical power (at least partially) accounts for the no-effect no mediation result. Closely connected to that issue, it is worthwhile to mention that past research has mainly examined the core concepts by studying several people from each organisation to ensure rating reliability (e.g., Carter et al., 2016). We failed in recruiting more than one dyad from each organisation which may have led to low rating reliability and points at questions of generalisability.

Strengths

Regardless, the present research contributes to the current literature with certain unique aspects. The dyadic nature of our study with its multi-source design allowed us to assess the core concepts from two different perspectives: those of the leaders and those of the employees. Therefore, we were able to gain valuable insights into several perspectives and retrieve measurements accordingly. Moreover, this also prevents the influence of typical biases that come with self-assessment of one's own performance, for example self-serving biases which would skew the results and incline one to rate their own performance more favourably compared to more objective performance measurements.

Moreover, the present field-based study adds to the sparse empirical evidence on the concept of self-efficacy. Our findings of a positive significant link between employees' ratings of shared leadership behaviour exhibited by their leader and self-reported employee self-efficacy could provide a basis for future research and prove this association as worthwhile to examine further. For example, it would be interesting to examine a model of shared leadership as an antecedent for self-efficacy, which in turn may positively affect organisational citizenship. For example, Ullah et al. (2021) have found that inclusive

leadership, defined with a great overlap to what the present paper conceptualized as shared leadership, was significantly associated with organisational citizenship behaviour, and this relationship was mediated by employee self-efficacy.

Limitations

As mentioned earlier, our sample has several problems which could be associated to the present research findings. First, due to our selective sampling strategy and convenience sampling method, and our inclusion criteria (speaking Dutch) we expect our sample to be WEIRD (White, Educated, Industrialised, Rich, and Democratic). For example, 48.1% (N = 13) of the leaders completed a research university education (WO) and 29.6% (N = 8) have completed another higher education type (HBO). Similarly, 44.4% (N = 12) of the employees have completed a research university education (WO) and 29.6% (N = 8) employees have completed an HBO degree. This is certainly a limitation that should be tackled in the future by conducting research revolving around the core concepts of shared leadership, self-efficacy, and employee performance in a cross-cultural setting. Previous evidence on cross-cultural differences hints that culture (collectivistic vs. individualistic) indeed affects the magnitude of the relationship between self-efficacy and employee outcomes, such as organisational commitment, with individualistic cultures showing a stronger effect than collectivistic cultures (Luthans et al., 2006)

In addition, our data is cross-sectional and purely correlational, this prevents us from drawing causal inferences from the data set we obtained. This is inherently problematic and should be tackled by testing the model by relying on an experimental study design, potentially with manipulations of shared leadership to test for causality.

Future research

Given the mostly non-significant results, future research should tackle the discussed limitations by examining the core concepts of the present study within a broader, more diverse, and bigger sample size. Perhaps underlying mechanisms have not been accounted for in the present study and may explain the not significant findings. Especially within the concept of shared leadership, there are several distinct types of shared leadership, examining these types more specifically (i.e., shared directive leadership, shared transformational leadership etc.) in a field study could prove fruitful in an attempt to disentangle the contradictory findings on the effect of shared leadership on employee performance outcomes.

Additionally, previously discussed literature pinpoints towards task complexity as an important factor in the association between self-efficacy and performance outcomes (Judge et al., 2007). Other scholars argue that self-efficacy is more likely to affect specific task performance rather than overall job performance (Judge et al., 2007). Again, other research has pointed out the importance of feedback for the association between self-efficacy and performance outcomes at the workplace (Beatti et al., 2016). Future research should consider these aspects and assess task complexity and task-performance in association to shared leadership behaviour and self-efficacy in employees. For example, it could prove fruitful to examine a mediation model with shared leadership as an independent variable, self-efficacy as a mediator, and task performance as a dependent variable, with task complexity moderating the association between shared leadership and task performance, incorporating the findings of Judge et al. (2007). Considering the discussed aspect of team tenure, longitudinal research could be conducted starting at the onboarding of several new employees in an organisation to assess the potential time effect of team tenure on the association between shared leadership and performance outcomes. Lastly, the academic community should increase efforts and pay attention to conceptualisation issues which may play into the broader replication crises in the field of (organisational) psychology.

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Appendices

Appendix A.1.

Reliability for the Occupational Self-Efficacy scale by Rigotti et al. (2008)

Reliability Statistics

Cronbach's Alpha	N of Items
.879	6

Appendix A.2.

Reliability for the Shared Leadership scale by Hoch (2013)

Reliability Statistics

Cronbach's Alpha	N of Items
.769	18

Appendix A.3.

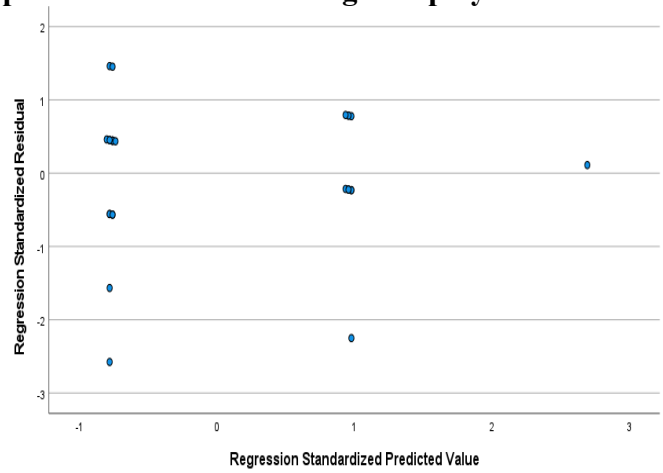
Reliability for the Performance scale by Van Der Vegt and Bunderson (2005)

Reliability Statistics

Cronbach's Alpha	N of Items
.940	6

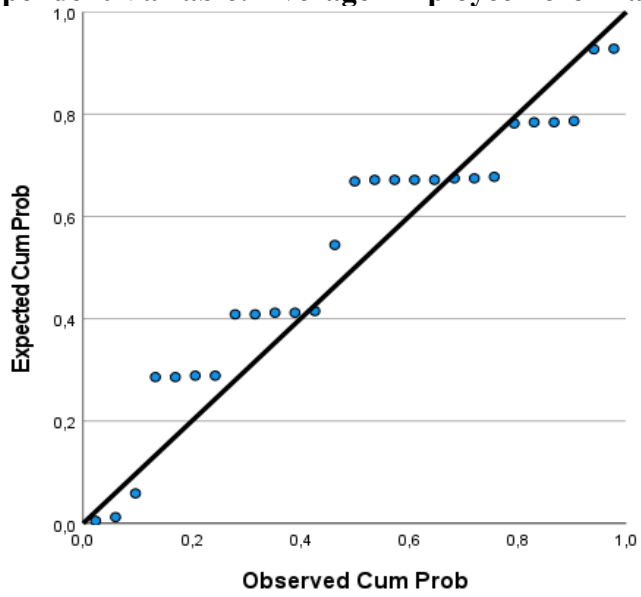
Appendix B

Residual Plot
Dependent Variable: Average Employee Performance



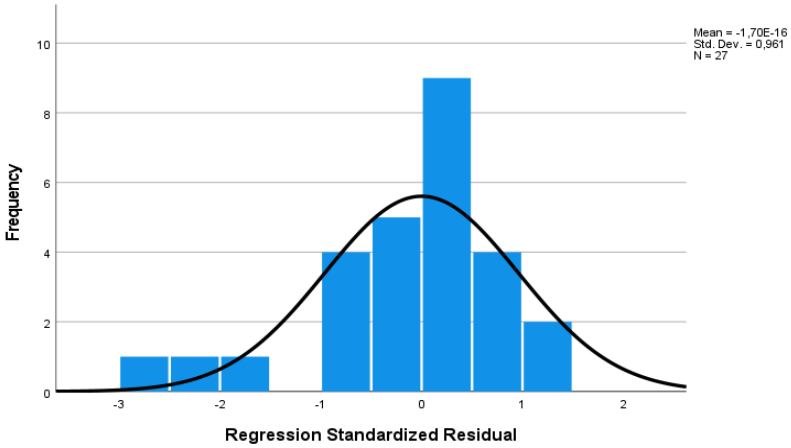
Appendix C

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Average Employee Perormance



Appendix D

Histogram
Dependent variable: Average Employee performance



Appendix E

Residuals Statistics[a]

	Minimum	Maximum	Mean	Std. Deviation	N
Predicted Value	5.54	6.89	5.85	.385	27
Std. Predicted Value	-.801	2.695	.000	1.000	27
Standard Error of Predicted Value	.273	.557	.321	.078	27
Adjusted Predicted Value	5.41	6.84	5,84	.401	27
Residual	-2.552	1.448	.000	.952	27
Std. Residual	-2.576	1.462	.000	.961	27
Stud. Residual	-2.682	1.523	.004	1.009	27
Deleted Residual	-2.767	1.571	.008	1.051	27
Stud. Deleted Residual	-3.138	1.568	-.024	1.091	27
Mahal. Distance	1.013	7.268	1.926	1.598	27
Cook's Distance	.001	.256	.034	.061	27
Centered Leverage Value	.039	.280	.074	.061	27

a. Dependent Variable: Employee performance

Appendix F

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	2.207	1.912		1.154	.260		
	Self-Efficacy	.008	.269	.007	.030	.976	.753	1.328
	Shared Leadership	.661	.388	.372	1.704	.101	.753	1.328

a. Dependent Variable: Employee performance

Appendix G

Model Summary[b]

Model	*R*	R^2	*Adj.* R^2	*Std. Error of the Estiamte*	*Durbin-Watson*
1	.375[a]	.141	.069	.991	2.447

[a]Predictors: (constant), Shared Leadership, Self-Efficacy

[b]Dependent variable: Employee Performance