

**The Mediating Role of Team Potency on the Relationship between Shared Leadership and  
Performance**

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### **Abstract**

In today's competitive organizational environment, understanding and leveraging the mechanisms that can enhance a company's performance is crucial for its survival. This study examines the relationship between shared leadership and performance, with a particular emphasis on the mediating effect of team potency. The majority of previous studies indicate a positive impact of shared leadership on performance by fostering effective coordination and collaboration. Contradictory, recent studies indicate a negative impact of shared leadership on performance. This study addresses this discrepancy, proposing team potency as a potential mediator, arguing that team potency is a prerequisite for fostering effective coordination and collaboration. This research utilized a multi-sourced cross-sectional field study, collecting data from Dutch companies via questionnaires, forming a sample of 90 leader-employee dyads. The findings reveal that while shared leadership positively affects team potency and team potency on its turn positively influences performance, shared leadership itself shows no positive effects on performance. Moreover, the findings indicate that team potency only fully mediates the relationship between shared leadership and performance, when controlling for the positive effects of experience and education on performance. This study expands our understanding of how shared leadership affects organizational performance, emphasizing the importance of fostering high team potency beliefs. These insights are vital for designing interventions to increase organizational performance by sharing leadership. Future research is needed to further investigate the influence of experience and education on the complex leader-employee dynamics.

*Keywords:* shared leadership, performance, team potency, dyadic approach

## **The Mediating Role of Team Potency on the Relationship between Shared Leadership and Performance**

The Standard & Poor's 500 list tracks the stock performance of the 500 largest companies listed on stock exchanges in the United States. Of the 500 companies listed in 1957 only 74 remained on the list in 1998 (Burke, 2017), thus companies are competing for survival. Team outcomes such as team performance play a significant role in a company's survival (Shih & Putri, 2016). Consequently, companies constantly strive to improve their performance. Leadership can be seen as an input that directly affects and increases such performance (Day et al., 2004). Shared leadership, a leadership style increasingly adopted in today's organizations, appears to be beneficial for performance (Drescher et al., 2014). Considering the growing popularity of shared leadership, it is crucial to study how it affects performance and understand the mechanisms through which shared leadership leverages its potential benefits.

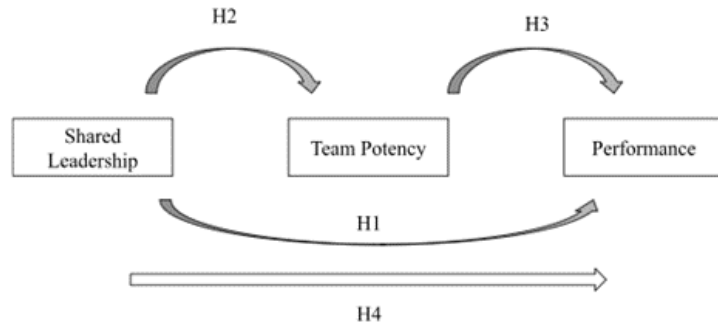
Moreover, the findings regarding shared leadership and performance appear contradictory (Wu et al., 2020). A substantial body of research suggests a positive relationship between shared leadership and performance (D'Innocenzo et al., 2021; Fu et al., 2020; Gupta et al., 2010; Klasmeier & Rowold, 2020). Conversely, other studies suggest a negative relationship between shared leadership and performance (Chen & Zhang, 2023; Evans et al., 2021; Robert, 2013). Previous studies have explained this discrepancy using the Input-Mediator-Output-Input (IMIO) framework (Ilgen et al., 2005) and the learning process model (Knapp, 2010). The core argument is that team beliefs are essential in transforming contextual input or team structure into team learning behavior, which, in turn, increases team performance (Chen et al., 2022). This explanation accounts for the contradictory findings in the relationship between shared leadership

and performance due to the presence of mediating variables. Prior research has identified mediation by team beliefs such as trust (Chen et al., 2022; Drescher et al., 2014; Wang et al., 2014), reflexivity (Liu, 2017 as cited in (Chen & Zhang, 2023) and team learning behavior itself (Chen et al., 2022). Despite team potency being mentioned as a team belief variable by Chen et al. (2022), there is a lack of research examining team potency as a mediating variable in the IMIO and team learning process models.

This study developed a model (Figure 1) based on the social cognitive theory (Bandura, 1986, 2000), which explains that sociostructural factors and environmental input indirectly influence behavior through psychological processes of the self-system. Additionally, the study of Chent el al. (2022) highlights the role of different team belief variables as mediators and the lack of research on team potency as such a mediator. Considering that team potency is related to both shared leadership (Carson et al., 2007) and performance (Gevers et al., 2020), we propose a model (Figure 1) where team potency mediates the association between shared leadership and performance. We posit that shared leadership enhances performance through increased perceptions of high team potency. Furthermore, the model suggests a direct relationship between shared leadership and performance, indicating that improvements in shared leadership are expected to correlate with enhanced performance. In this model, performance is the dependent variable, shared leadership is the independent variable, and team potency functions as the mediator. This study aims to investigate the role of team potency in the relationship between shared leadership and performance by taking a dyadic approach to examine the complex leader-employee dynamic.

## **Figure 1**

### *Research Model*



### Theory Development and Hypotheses

#### Shared Leadership and Performance

The study of Pearce and Conger (2003) offers a widely accepted definition of shared leadership as a dynamic and interactive influence process among peers within a team, contrasting with traditional vertical leadership styles. In shared leadership, leadership tasks are distributed across team members rather than concentrated in a single individual (Carson et al., 2007). Moreover, the influence process in shared leadership can flow horizontally, downward, and upward, unlike the exclusively downward influence in traditional vertical leadership (Wang et al., 2014). Furthermore, within shared leadership employees gain more control and influence within decision making (Chen et al., 2022), which increases the employee's agency (Bandura, 2000). Distributing leadership among peers might therefore increase the cognitive resources within the group (Burke et al., 2003; Day et al., 2004) and enhance the ability to utilize its expertise (Aime et al., 2014; Burke et al., 2003), thereby facilitating effective coordination of group efforts, ultimately benefiting the performance (Drescher et al., 2014). We delineate and assess performance based on efficiency, quality, productivity, mission fulfillment, and overall achievement (Van Der Vegt & Bunderson, 2005).

Various empirical studies have consistently demonstrated the positive relationship between shared leadership and team performance at the group level (Drescher et al., 2014;

Ensley et al., 2006; Klasmeier & Rowold, 2020; Pearce & Sims, 2002; Sivasubramaniam et al., 2002), which Drescher et al. (2014) attributes to the increased effective coordination of group efforts. This positive relationship between shared leadership and performance might also be present at the dyadic level, since the increase in cognitive resources, utilization of expertise and the effective coordination might be beneficial for an employee's performance as well. Based on these insights, we hypothesize a positive association between shared leadership and performance on a dyadic level.

**Hypothesis 1.** Shared leadership is positively associated with performance.

### **Shared Leadership and Team Potency**

Team Potency is conceptualized as the belief in a team's collective efficacy and its confidence in the execution of specific tasks (Bandura, 1982; Campion et al., 1993; Collins & Parker, 2010; Guzzo et al., 1993). Furthermore, unlike self-efficacy, potency encompasses a broader, more generalized belief (Guzzo et al., 1993). Yammarino et al. (2012) argue that shared leadership functions as a team process that influences other team dynamics. They illustrate that sharing leadership involves team members working towards a common goal and guiding each other's behavior, which fosters trust among them (Mathieu et al., 2000; Wang et al., 2014). This aligns with social cognitive theory (Bandura, 1986), which suggests that sociostructural factors like shared leadership can enhance team emergent states such as the shared confidence in a team (i.e., team potency).

Various empirical studies support the positive relationship between shared leadership and team potency at the group level (Castellano et al., 2021; Gu et al., 2022; Sivasubramaniam et al., 2002; Somboonpakorn & Kantabutra, 2014), arguing that shared leadership provides team members with more opportunities to influence the overall functioning of the team (Hoch, 2013)

and to direct their influence when and where it is most effective, thereby increasing the collective confidence in the team's general ability to execute tasks (Gu et al., 2022). This positive relationship between shared leadership and team potency might also be present at the dyadic level, since the increased possibilities to influence a team's overall functioning and the ability to direct influence to when and where it is most needed, might be beneficial to an employee's confidence in the team's general ability to execute tasks as well. Consequently, this study predicts that shared leadership is positively associated with team potency.

**Hypothesis 2.** Shared leadership is positively associated with team potency.

### **Team Potency and Performance**

While a group's potency is certainly relevant to performance on a specific task, the concept is intended to capture a shared belief in overall effectiveness across various tasks encountered by groups in complex environments (Guzzo et al., 1993). The belief within a team that it can complete a certain task encourages the team to take action and determines the amount of effort a team will put forth (Stajkovic et al., 2009). Moreover, teams that cultivate a heightened sense of confidence in their own capabilities (i.e., team potency) tend to invest more effort in their collaboration and coordination. Therefore, teams marked by a robust team potency are generally effective in their tasks through their increased coordination and collaborative efforts (Gully et al., 2002). This is in line with the social cognitive theory (Bandura, 1997), which suggests that perceptions of capability within the self-system influence how individuals utilize their expertise, thereby affecting attainment outcomes.

Several empirical studies indicate a positive relationship between team potency and performance at the group level (Campion et al., 1996; Duffy & Shaw, 2000; Gully et al., 2002; Guzzo et al., 1993), suggesting that a higher sense of team potency fosters effortful collaboration



and coordination, which is beneficial to the team's performance. This positive relationship between team potency and performance might also be present at the dyadic level, since the increased effortful collaboration and coordination might be beneficial to an employee's performance as well. As a result we propose that team potency is positively associated with performance.

**Hypothesis 3.** Team potency is positively associated with performance

### **The Mediating Role of Team Potency**

Thus far, we have good reason to believe that team potency explains the positive relationship between shared leadership and performance, because shared leadership enhances performance through more effective coordination of group efforts (Gully et al., 2002), and team potency is considered a key mechanism that fosters this coordination (Stajkovic et al., 2009). Furthermore, earlier studies partly support this argument by showing that shared leadership involves team members distributing leadership tasks, thereby allowing them to exert influence when and where it is needed to achieve common goals, therefore influencing the team's overall functioning (Hoch, 2013). The increase of a team member's influence on the overall team functioning fosters team potency (Gu et al., 2022), which in turn, results in greater coordination of group efforts and stimulates higher levels of effort within the group's collaboration (Drescher et al., 2014; Stajkovic et al., 2009). This aligns with social cognitive theory (Bandura, 2000), which posits that environmental structures, or sociostructural factors, affect behavior and attainment outcomes by interacting with the psychological processes of the self-system.

By enhancing a team's cognitive resources and utilizing its expertise, potency beliefs strengthen a team's ability to effectively coordinate their efforts towards achieving common goals (Aime et al., 2014; C. S. Burke et al., 2003; Gully et al., 2002). Through the increased

coordination and effort in collaboration team potency might increase the team's performance (Bandura, 1997; Gully et al., 2002; Guzzo et al., 1993; Stajkovic et al., 2009). This is consistent with social cognitive theory (Bandura, 2000), which suggests that sociostructural factors indirectly influence behavior and attainment outcomes through psychological dynamics within the self-system. We expect the underlying dynamics resulting in the aforementioned positive group level relationships between shared leadership, team potency and team performance to have the same effects on a dyadic level. Consequently, this study argues that shared leadership enhances a team member's influence on overall team functioning, which fosters team potency beliefs. This, in turn, leads to greater coordination and effort in cooperation, ultimately increasing the employee's performance. Based on this, we hypothesize that team potency mediates the positive relationship between shared leadership and performance.

**Hypothesis 4:** Team potency mediates the positive relationship between shared leadership and performance.

## **Method**

### **Participants**

A total of 180 Dutch speaking leaders and employees working at Dutch companies were recruited. Thus, the sample contained 90 employees and 90 leaders, forming a total of 90 dyads. This resulted in a sample size of 90 after exclusion of 135 invalid pairs. Participants were excluded when they could not form a pair with their leader/employee because of non-completion, no matching codes or no consent (see Appendix A for further clarification). Furthermore, only participants that worked 17 or more hours per week at their company were included.

In the leader sample population 64% was male and 36% female, the mean age was 41,90 ( $SD = 12.59$ ) and the mean of working hours was 37,3 hours per week ( $SD = 7.54$ ). Additionally

the average score on education level was 5.68 ( $SD = 1.27$ ) which is between MBO or likewise (5) and HBO or likewise (6) and the average experience level was 6.86 ( $SD = 1.22$ ) which is between 1 to 2 years (6) and 2 to 5 years (7). On average a leader was in charge of 16.63 employees ( $SD = 18.91$ ). In the employee sample population 43% was male and 57% female. The mean age was 33.69 ( $SD = 12.28$ ) and the employees worked 31.99 hours per week on average ( $SD = 7.32$ ). In addition, the average score on education was 5.47 ( $SD = 1.33$ ) which is between MBO or likewise (5) and HBO or likewise (6) and the mean experience level was 6.47 ( $SD = 1.20$ ) which is between 1 to 2 years (6) and 2 to 5 years (7). On average the score on organizational size was 1.91 ( $SD = 0.88$ ) for both samples which is between less than 50 employees (1) and 50 to 250 employees (2).

### **Design and Procedure**

This study was a multi-source cross-sectional field study. Prior to recruiting participants, approval was obtained from the Ethics Committee of the University of Groningen. The participants were recruited by three bachelor groups, all consisting of six students from the University of Groningen. All participants were recruited between February and April 2024, this collected data was combined with previous collected data of 2023. Participants were approached via personal connections or via door-to-door recruitment or email, to fill in a questionnaire on the Qualtrics platform via an anonymous link or QR-code. Participation was voluntary, no compensation was offered and participants were free to exit the questionnaire at any time. There were two different surveys, one for the leaders and one for the employees. At the start of the survey participants were asked to give informed consent and to create a unique code with the last two letters of the last names of the leader and employee, in order to match pairs (see Appendix A for further clarification). Both questionnaires took approximately 15 minutes to complete.

In total 14 different variables were measured with our surveys. The variables trust, psychological safety, reflexivity, task interdependence and coordination problems were measured in both surveys. The variables shared leadership, legitimacy, destructive leadership, despotic leadership, job satisfaction and team potency were only measured in the survey for the employees. The variables creativity and performance were only measured in the survey for the leaders. At the end of both surveys the following demographics were measured: age, sex, working hours, industry, education level, organizational size, experience, time knowing each other, frequency of meeting each other. Only in the leader questionnaire participants were asked about how many employees they were in charge of and if they were under supervision themselves. The employees were specifically asked how many team members they cooperate with. After completion of the questionnaire participants were debriefed and provided the option to ask questions or contact the principal investigator.

## **Measures**

It should be noted that for the measures in this study, all derived scales were originally in English but have been translated into Dutch (see Appendix B for further clarification), since the study aims to investigate leader and employee working dynamics in Dutch organizations. Furthermore, the derived scales were adapted to fit the dyadic setup of this study, therefore questions that did not follow this dyadic approach were adjusted in order to measure the leader employee working dynamics. For the shared leadership scale, within the items “My colleagues” was changed to “My supervisor” to fit the dyadic setup (see Appendix B for further clarification). The original team potency scale was transformed from a 5-point scale to a 7-point Likert scale in this study (see Appendix B for further clarification).

### ***Shared Leadership (Independent Variable)***

Shared Leadership was measured in the employee questionnaire with 18 different items. For the measurement of shared leadership we derived 3 subscales from the work of Hoch (2013). The scale included items about transformational leadership, individual empowering leadership and participative leadership. An example of an item measuring the subscale transformational leadership is: “My supervisor encourages me to do more than what is expected of me (e.g., extra effort).”. The subscale team empowering leadership was measured with items such as “My supervisor insists on working together as a team with others who are part of the team.”. An example of an item measuring the subscale participative leadership is: “My supervisor and I work together to decide what my performance goals should be.”. Participants responded to the items, using a 7-point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). Thus, higher scores indicate more perceived shared leadership. The scale was reliable with a Cornbach’s alpha value of .75.

### ***Performance (Dependent Variable)***

Performance was measured in the leader questionnaire with 6 different items. The measured scale of performance was derived from Van Der Vegt and Bunderson (2005). All questions of this scale started with “How does your employee score on...:” and were followed by; “productivity?”, “the achievement of goals?” or “the quality of the work?” for example. The leaders were asked to rate their employees on these items on a 7-point scale ranging from 1 (*really bad performance*) to 7 (*really good performance*). Higher scores therefore indicate a higher perceived performance of the employee by their leader. The subscale was reliable with a Cornbach’s alpha value of .93.

### ***Team Potency (Mediator)***

The variable team potency was measured in the employee questionnaire with 8 different

items. All 8 items were derived from the scale of team potency established by Guzzo et al. (1993). Examples of the items measuring team potency are: “My team believes that it can become exceptionally good at delivering high-quality work.”, “My team believes that it can be very productive.” and “My team expects to have a lot of influence.”. Participants were asked to respond to these items using a 7-point Likert scale ranging from 1 (*totally disagree*) to 7 (*totally agree*). Accordingly, higher scores indicate more perceived team potency. The scale was reliable with a Cornbach’s alpha value of .91.

## Results

### Descriptive statistics

The means as well as the standard deviations of all three variables do not seem to differentiate much (Table 1). All three variables have a mean above 5.00 which is above average for a 1 to 7 points scale. Furthermore, table 1 shows that only three variables significantly correlate and that shared leadership provides the strongest correlation with team potency ( $r = .37, p < .001$ ). Most surprisingly, shared leadership shows a nonsignificant negative correlation with performance ( $r = -.01, p = .93$ ). Further investigation included the covariates education level (from 1 (*elementary school*) to 7 (*WO*)) and experience practicing current function (from 4 (*< 6 months*) to 8 (*5 years or longer*)). Both covariates seem to be the only variables that significantly correlate with performance.

**Table 1**

#### *Descriptives Statistics*

Variable	Mean	SD	1.	2.	3.	4.	5.
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1. Shared Leadership	5.50	.75	–				
2. Team Potency	5.38	.95	.37***	–			
3. Performance	5.84	1.01	-.01	.20	–		
4. Education Level	5.56	1.01	.05	-.18	.24*	–	
5. Experience Level	6.67	.89	-.14	.08	.23*	.03	–

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Note.  $N = 90$ . \*\*\*  $p < .001$ . \*\*  $p < .01$ . \*  $p < .05$ .

### Regression Assumptions

A linear regression analysis was conducted in order to test the effects of shared leadership and team potency on performance. The 5 most important linear regression assumptions were checked before interpreting the outcome of the analysis. The first assumption we check is the assumption of linearity. The graphs in Figure 2 (Appendix C) indicate a linear relationship between shared leadership and team potency, and between team potency and performance. The linear relationship between shared leadership and performance seems to be weak, but not problematic, therefore continuing with our analysis is acceptable. The second assumption we check is the assumption of normality. In Figure 3 (Appendix C) we can observe that, although slightly left-skewed, the residuals are normally distributed. We further investigate the normality assumption by conducting a Shapiro-Wilk test. For team potency the  $p$ -value was nonsignificant ( $p = .023$ ). For both shared leadership ( $p < .001$ ) and performance ( $p < .001$ ) we find a significant  $p$ -value, indicating a violation of normal distribution. In spite of these small violations of normality it is acceptable to proceed with our analysis.

Looking at the scatterplot (Figure 3, Appendix C) shows that the residuals appear to be more narrowly distributed at higher predicted values, but overall the assumption of homoscedasticity is not violated. A Durbin-Watson test was used to check for the assumption of homogeneity of the standard deviations. This shows that the uncorrelatedness of the residuals is acceptable (Durbin-Watson = 1.78). Finally, we checked for multicollinearity between the variables. Looking at the variance inflation factors shows that for both shared leadership ( $VIF = 1.16$ ) and team potency ( $VIF = 1.16$ ) multicollinearity is not present. Despite some small violations, we conclude that the assumptions are met to a satisfactory degree and therefore continue our linear regression analysis.

### **Model Hypotheses Testing**

In order to test all hypotheses a Hayes Process Macro Model 4 analysis for simple mediation was conducted. Overall the model explains roughly 5% of the total variance in performance ( $F(2,87) = 2.08, p = .13, R^2 = .05$ ). When adjusted for the number of predictors in the model, the overall explained variance is roughly 2% ( $R^2_{adj} = .02$ ). The first hypothesis states that there is a positive relationship between shared leadership and performance. Looking at the direct effect between shared leadership and performance shows that there is a nonsignificant and negative relationship, because the confidence interval contains zero and the estimated regression coefficient is negative (Table 2). In the second hypothesis a positive association between shared leadership and team potency is predicted. Analyzing the effects of shared leadership on team potency shows a significant positive relationship between shared leadership and team potency, since the confidence interval excludes zero and the estimated regression coefficient is positive (Table 2), therefore supporting the second hypothesis. Besides that, 14% of the change in team potency is accounted for by shared leadership ( $F(1,88) = 14.03, p < .001, R^2 = .14$ ).



The third hypothesis predicts a positive relationship between team potency and performance. Looking at the effects of team potency on performance suggests a significant positive relationship, since the confidence interval excludes zero and the estimated regression coefficient is positive, therefore supporting the third hypothesis (Table 2). In the fourth hypothesis team potency is expected to mediate the positive relationship between shared leadership and performance. The findings of the indirect effects in the analysis are nonsignificant and therefore do not provide support for a mediating effect by team potency, since the confidence interval contains zero (Table 2).

**Table 2**

*Results of PROCESS Mediation Analysis on Performance*

Effect	Estimate	SE	t	p	LLCI	ULCI
SL - TP	.47	.13	3.75	< .001	.22	.72
TP - PE	.24	.12	2.04	< .05	.01	.48
Total Effect	-.01	.14	-.08	.93	-.29	.27
Direct Effect	-.13	.16	-.83	.41	-.43	.18
Indirect Effect	.11	.08	-	-	-.00	.22

*Note: N = 90. CI = 95% bootstrap samples: 5000*

*SL = shared leadership, TP = team potency, PE = performance*

**Supplementary analysis**

For further investigation two covariates are added to the model to control for their potential influence. We control for the effects of the mean education level of a dyad (ED) and the mean experience in the current function of a dyad (EX) on performance. This model explains approximately 16% of the total variance in performance ( $F(4,84) = 3.98, p < .01, R^2 = .16$ ), and

approximately 12% when adjusted for the number of predictors in the model ( $R^2_{\text{adj}} = .12$ ). The results indicate a significant positive impact on performance in this model by education, due to its significant positive correlation with performance (Table 1) and a confidence interval that excludes zero (Table 3). Experience has a nonsignificant positive impact on performance in this model, since the confidence interval contains zero (Table 3). The significant positive correlation with performance (Table 1) supports the positive nature of this relationship but contradicts the nonsignificance. This discrepancy might be explained by the negative correlation between experience and shared leadership, with the latter significantly correlating with team potency (Table 1) which has a significant positive effect on performance (Table 3).

The same Hayes Process Macro Model 4 analysis for simple mediation is performed, but we chose to control for the effects of education and experience. The analysis shows that the direct effect of shared leadership on performance maintains nonsignificant and negative, since the estimated regression coefficient is negative and the confidence interval contains zero. The results provide support for a significant and positive relationship between shared leadership and team potency, because the confidence interval excludes zero and the regression coefficient estimate is positive. Moreover, shared leadership, education and experience together explain 19% of the total variance in team potency ( $F(3,85) = 6.64, p < .001, R^2 = .19$ ). When adjusted for the number of predictors to the model, the overall explained variance in team potency is roughly 15% ( $R^2_{\text{adj}} = .15$ ). Further, the analysis indicates a positive relationship between team potency and performance due to the positive regression coefficient estimate and the confidence interval excluding zero (Table 3).

Finally, looking at the indirect effect indicates mediation since the confidence interval excludes zero (Table 3). The analysis indicates a nonsignificant direct effect, providing support

for full mediation of team potency on the relationship between shared leadership and performance. Moreover, the mediation is competitive since the direct effect is negative but the indirect effect is positive. In sum, we conclude that when controlling for the effects of education and experience on performance, the variable team potency fully mediates the relationship between shared leadership and performance.

**Table 3**

*Results of PROCESS Mediation Analysis Controlling for Education and Experience*

Effect	Estimate	SE	t	p	LLCI	ULCI
SL - TP*	.50	.13	3.99	< .001	.25	.75
SL - PE	-.14	.15	-.93	.36	-.43	.16
TP - PE*	.27	.12	2.31	.02	.04	.51
ED - PE*	.28	.10	2.73	< .01	.08	.48
EX - PE	.21	.12	1.84	.07	-.02	.44
Total Effect	-.00	.14	-.01	.99	-.28	.28
Direct Effect	-.14	.15	-.93	.36	-.43	.16
Indirect Effect*	.14	.08	-	-	.00	.30

Note:  $N = 90$ . CI = 95% bootstrap samples: 5000

*SL = shared leadership, TP = team potency, PE = performance, ED = education, EX = experience*

\* = significant effect

## Discussion

The aim of this study was to understand whether and how team potency mediates the relationship between shared leadership and performance. We hypothesized that shared leadership would be positively associated with both performance (H1) and team potency (H2), and that team potency would be positively associated with performance (H3). Additionally, we hypothesized that the positive relationship between shared leadership and performance might be explained by an increase in team potency (H4). The findings provide no support for the positive association between shared leadership and performance. Furthermore, the results indicate a positive association between team potency and both shared leadership and performance. Interestingly, our findings suggest that, without controlling for the effects of potential covariates on performance, team potency does not mediate the relationship between shared leadership and performance. However, when controlling for the effects of education and experience on performance, the findings indicate that team potency fully mediates the positive relationship between shared leadership and performance.

### **Theoretical Implications**

The significant theoretical implications of this study contribute to our understanding of the complex dynamics between leaders and employees by studying shared leadership, team potency and performance, taking a dyadic approach. First off, the nonsignificant effect of shared leadership on performance contradicts previous research such as the study of Drescher et al. (2014). Whilst the study of Drescher et al. (2014) is based on the group level, our study is based on a dyadic level, which might explain this discrepancy since shared leadership is a sociostructural factor that affects team processes, which therefore might positively influence performance on the group level but not on the dyadic level.

Secondly, the significant effect of shared leadership on team potency supports the social cognitive theory (Bandura, 1986), arguing that sociostructural factors influence team processes. Moreover, Gu et al. (2022) argue at the group level that shared leadership increases opportunities for a team to effectively direct and combine their influence to address common goals, resulting in higher team potency. Our study supports this reasoning and adds to it because we provide support for this process at the dyadic level instead of the group level.

Third, the significance of the positive effect of team potency on team performance supports the social cognitive theory (Bandura, 1997), which argues that beliefs within the self-system such as team potency ultimately affect outcomes such as performance. Moreover, group level studies argue that increasing team potency encourages the group to put forth more effort (Stajkovic et al., 2009) and enhance collaboration and coordination, resulting in higher team performance (Gully et al., 2002). The significant effect of team potency on performance supports this reasoning. Furthermore, Stajkovic et al. (2009) emphasize in accordance with Bandura (1997) that achieving varying levels of results are necessary to progress the collective efficacy field. Following this reasoning, our findings contribute to achieving varied results within the team potency field, thereby advancing its theoretical development.

Fourth, the nonsignificant results of our analysis of team potency as a mediator, without controlling for education and experience, contradicts previous studies (Gully et al., 2002; Guzzo et al., 1993; Sivasubramaniam et al., 2002; Stajkovic et al., 2009). However, when controlling for the effects of education and experience on performance, our findings suggest that team potency fully mediates the relationship between shared leadership and performance, thereby supporting previous studies (Gully et al., 2002; Guzzo et al., 1993; Sivasubramaniam et al., 2002; Stajkovic et al., 2009). Furthermore, this study progresses the theoretical development of

the field due to our dyadic level of results and unique insight in the difference in mediating effects of team potency with and without controlling for the effects of education and experience.

The previous study of Stajkovic et al. (2009) argues that team potency is an emergent state that develops over time as teams gain experience working together. Moreover, experience increases team potency because it allows team members to develop effective working procedures and routines (A. De Jong et al., 2005). Additionally, Ng and Feldman (2009) emphasize that work experience provides practical and tacit knowledge and skills, which are enhanced by years of service and subsequently increase job performance (Schmidt et al., 1986). This is in line with previous meta-analyses (Quiñones et al., 1995), reporting a positive relationship between experience and job performance. Consequently, the significant positive relationship in our study between experience and performance supports this reasoning of earlier studies.

Previous research shows that higher levels of education foster higher levels of crystallized and fluid intelligence (Ceci, 1991; Neisser et al., 1996). Fluid intelligence refers to the ability to reason, think abstractly, and solve novel problems, whereas crystallized intelligence refers to the ability to use learned knowledge and experience (Kanfer & Ackerman, 2004). In addition, education provides individuals with more declarative and procedural knowledge (Ng & Feldman, 2009). Declarative knowledge equips individuals with expertise regarding rules, principles, and facts, while procedural knowledge involves applying declarative knowledge in practice (Ree et al., 1994). The significantly positive association between education and performance indicated by our study supports the findings of Ng and Feldman (2009), who explain this positive association through the increase in fluid and crystallized intelligence as well as the increase in declarative and procedural knowledge.

### **Practical implications**

The findings of this study can be leveraged to enhance organizational performance by improving employee performance through shared leadership and team potency. Leaders can share leadership tasks among employees to facilitate more effective coordination of their efforts. Additionally, leaders might also consider providing employees with more responsibility or opportunities to take the lead in problem-solving situations to better utilize their expertise. Furthermore, leaders should try to strengthen an employee's potency beliefs by providing more opportunities to exert influence on the overall functioning of the team when aiming to increase collaborative efforts.

This study further indicates that experience and education significantly impact performance. Therefore, leaders should aim to attract highly educated employees and retain experienced ones, while continuously offering further education opportunities (Ng et al., 2005). Moreover, leaders of an inexperienced team should organize team meetings in which the employees analyze their own working procedures and try to create improved versions of them in order to increase the team's performance. Leaders of a lower educated team should organize and design training sessions aiming to increase declarative and procedural knowledge, in order to increase their performance.

Effective training programs aiming to increase a team's performance should focus on both employees and leaders. First of all, effective training programs designed for employees should aim to increase the potency beliefs, encourage effortful collaboration and give insights and tools for effective coordination within the team. Additionally, effective leadership training programs should focus on learning leaders how to provide employees with greater opportunities to exert influence. Furthermore, an effective leader training program might focus on increasing the coordination, collaboration and effort within a team as well.

### **Strengths Limitations and Future Directions**

One strength of this study is the use of validated multi-item scales that proved to be highly reliable, as shown by the high Cronbachs alpha scores and the previous successful applications of the questionnaire scales. Moreover, the sample has a broad diversity in terms of demographics such as age, working hours and education level. A unique strength of this study is its dyadic approach, this offers unique insight in the direct impact of a leader's behavior on their employee's self-system and outcomes.

Nevertheless, it should be noted this study has various limitations as well. First off, the sample size of this study was small ( $N = 90$ ), which limits the power and generalizability of the study. Because, in models where variables like team potency are influenced by numerous factors, and specific outcomes such as performance are affected, a small and diverse sample may fail to adequately account for all influential variables, thus hindering the detection of specific effects. The small sample size was due to the drop-out rate of approximately 60% of all dyads due to not meeting participation requirements. We therefore encourage a potential replication to address the issue of the dropout rate by using a different coding process in order to achieve a bigger sample size, thereby strengthening the generalizability and power for a future study.

Additionally, this study faces limitations that might affect the validity and generalizability, since the mediating effect of team potency might be influenced by unexamined variables. The study of Chen et al. (2022) argue that input factors such as training at the team level (Liang et al., 2021; Tröster et al., 2014), team diversity (De Jong et al., 2021) and team familiarity (Avgerinos et al., 2020), influence team emergent states such as team potency, ultimately affecting outputs such as performance. Therefore, we encourage future studies to



include these variables to account for the possible influence they might have within the model, thereby increasing validity and generalizability.

Another limitation of our study is the use of self-reported measures within the questionnaire, which might lead to socially desirable responses. Additionally, participants recruited the leader or employee of their choice, possibly resulting in a biased sample due to participants' tendency to choose a favorable leader or employee. Furthermore, most participants were recruited by choice of the data collectors, since most of the data comes from peers, relatives, or coworkers of the data collectors themselves. This may lead to an overrepresentation of high scores on all variables included in our model since they're all positive attributes, but particularly for performance as most dyads were formed by a leader selecting and recruiting their employee and self-reporting that employee's performance. Consequently, this overrepresentation may hinder the detection of the mediation effect of team potency on the relationship between shared leadership and performance. We therefore suggest that future studies should encourage and allow participants to spread the questionnaire amongst all coworkers instead of selecting just one themselves, in order to counter sampling bias. Additionally, we suggest future research to include multisource-data to address the self-report issue, especially for performance it might be useful to include peer-review and objective measurements as well.

Lastly, in line with the significant positive effects of education on the overall model, its significant positive correlation with performance in our study and previous research (Ng & Feldman, 2009), we encourage future research to include education in the model to further investigate its potential mediating effects on the relationship between shared leadership and performance. Although the positive effects of experience on our overall model were nonsignificant, previous findings (Quinones et al., 1995) and our findings support the

significance of the positive effects of experience on performance. Therefore, we propose that future research include experience in the model to further examine its potential mediating effects on the relationship between shared leadership and performance.

### **Conclusion**

To conclude, our study shows that team potency only mediates the relationship between shared leadership and performance when controlling for the effects of working experience and education level on performance. This emphasizes the complexity of the leader-employee working dynamics. Considering the covariate-dependent mediation of team potency but its significant impact on performance, further research is needed to sort the discrepancy. The nonsignificant relationship between shared leadership and performance challenges the existing perspective, urging further investigation into additional factors that might moderate or mediate this relationship such as education or experience. Because, understanding the interplay between shared leadership, team potency and performance is critical for organizations aiming to increase the results of their employees. This study progresses the field with the new insights and the dyadic level results it provides. Overall these findings emphasize the importance of team potency in fostering performance. They advocate for further thorough exploration at various levels to identify the factors that improve organizational performance.

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## Appendix A

### Code Employee

To be able to compare your answers with those of your supervisor and maintain the anonymity of your data, we would like to ask you to create a code. The code is designed so that no one, not even the researchers, can identify you personally. The guideline for creating the code is as follows:

The code consists of 2 elements:

1. The last 2 letters of your supervisor's last name. (Example: Van der Broek = EK)
2. The last 2 letters of your own last name. (Example: De Vries = ES)

Enter the 2 elements (4 characters) in the field below (for the current example, this would be: EKES)

### Code Leader

To be able to compare your answers with those of your employee and maintain the anonymity of your data, we would like to ask you to create a code. The code is designed so that no one, not even the researchers, can identify you personally. The guideline for creating the code is as follows:

The code consists of 2 elements:

1. The last 2 letters of your own last name. (Example: Van der Broek = EK)
2. The last 2 letters of your employee's last name. (Example: De Vries = ES)

Enter the 2 elements (4 characters) in the field below (for the current example, this would be: EKES)

## Appendix B

### Measures Shared Leadership

***English (original)*****(A) Transformational leadership:**

“My colleagues provide a clear vision of whom and what our team is.”

“My colleagues are driven by higher purposes or ideals.”

“My colleagues show enthusiasm for my efforts.”

“My colleagues encourage me to rethink ideas which had never been questioned before.”

“My colleagues seek a broad range of perspectives when solving problems.”

“My colleagues encourage me to go above and beyond what is normally (e.g., extra effort).”

**(B) Individual empowering leadership:**

“My colleagues encourage me to search for solutions to my problems without Supervision.”

“My colleagues urge me to assume responsibilities on my own.”

“My colleagues encourage me to learn new things.”

“My colleagues encourage me to give myself a pat on the back when I meet a new challenge.”

**(C) Team empowering leadership:**

“My colleagues encourage me to work together with other individuals who are part of the team.”

“My colleagues advise me to coordinate my efforts with the others, who are part of the team.”

“My colleagues urge me to work as a team with the others, who are part of the team.”

“My colleagues expect that the collaboration with the other members in the team works

well.”

(D) Participative leadership:

“My colleagues decide on my performance goals together with me.”

“My colleagues and I work together to decide what my performance goals should be.”

“My colleagues and I sit down together and reach agreement on my performance goals.”

“My colleagues work with me to develop my performance goals.”

### ***Dutch***

**De volgende vragen gaan over uw leidinggevende.**

Geef alstublieft aan in hoeverre u het eens bent met de stellingen.

[1 Helemaal mee oneens; 7 Helemaal mee eens; 4 niet mee eens, niet mee oneens]

(A) Transformational leadership:

1. Mijn leidinggevende geeft een duidelijk beeld van waar ons team voor staat.
2. Mijn leidinggevende is gedreven door hogere doelen of idealen.
3. Mijn leidinggevende laat waardering zien voor mijn inspanningen.
4. Mijn leidinggevende moedigt mij aan om ideeën te heroverwegen die nooit eerder in twijfel getrokken zijn.
5. Mijn leidinggevende maakt gebruik van veel verschillende perspectieven om problemen op te lossen .
6. Mijn leidinggevende moedigt mij aan om meer te doen dan alleen dat wat van mij verwacht wordt (bijv. extra inspanning).

(B) Individual empowering leadership:

7. Mijn leidinggevende moedigt mij aan om zelf oplossingen te zoeken voor mijn problemen in het werk.

8. Mijn leidinggevende dringt aan om zelf verantwoordelijkheid voor het werk te Nemen.
9. Mijn leidinggevende moedigt mij aan om nieuwe dingen te leren.
10. Mijn leidinggevende moedigt mij aan om mezelf een schouderklopje te geven wanneer ik een nieuwe uitdaging heb behaald.

(C) Team empowering leadership:

11. Mijn leidinggevende moedigt mij aan om samen te werken met andere teamleden.
12. Mijn leidinggevende adviseert mij om mijn werk af te stemmen met anderen, die onderdeel uitmaken van het team.
13. Mijn leidinggevende dringt erop aan om als een team samen te werken met anderen, die deel uitmaken van het team.
14. Mijn leidinggevende verwacht dat de samenwerking met de andere teamleden goed verloopt.

(D) Participative leadership:

15. Mijn leidinggevende besluit samen met mij wat mijn prestatiedoelen zijn.
16. Mijn leidinggevende en ik werken samen om te kiezen wat mijn prestatiedoelen moeten zijn.
17. Mijn leidinggevende en ik gaan samen om de tafel om overeenstemming te krijgen over mijn prestatiedoelen.
18. Mijn leidinggevende werkt met mij samen om mijn prestatiedoelen te ontwikkelen.

**Measures Team Potency**

***Dutch***

**Beantwoord de volgende items, waarbij u uzelf beschouwt als een vertegenwoordiger van uw team en handelt als de stem van dit team.**

Geef alstublieft aan in hoeverre u het eens bent met de stellingen.

[1 Helemaal niet eens; 7 Helemaal wel eens; 4 neutraal]

1. Mijn team heeft vertrouwen in zichzelf.
2. Mijn team gelooft dat het buitengewoon goed kan worden in het leveren van werk van hoge kwaliteit.
3. Mijn team verwacht bekend te staan als een goed presterend team.
4. Mijn team denkt dat het elk probleem dat het tegenkomt kan oplossen.
5. Mijn team gelooft dat het zeer productief kan zijn.
6. Mijn team kan veel voor elkaar krijgen als het hard werkt.
7. Geen taak is te zwaar voor mijn team.
8. Mijn team verwacht veel invloed te hebben

***English***

Items:

1. This team has confidence in itself.
2. This team believes it can become unusually good at producing high-quality work.

3. This team expects to be known as a high-performing team.
4. This team feels it can solve any problem it encounters.
5. This team believes it can be very productive.
6. This team can get a lot done when it works hard.
7. No task is too tough for this team.
8. This team expects to have a lot of influence around here.

#### Response scale

1. To no extent
2. To a limited extent
3. To some extent
- 4 . To a considerable extent
- 5 . To a great extent

#### **Measures Performance**

##### ***Dutch***

**De volgende vragen gaan over uw medewerker.**

(1=zeer slechte prestatie, 7=zeer goede prestatie)

Hoe scoort *uw medewerker* op...:

... het bereiken van doelen?

... het behalen van deadlines?

... werksnelheid?

... de kwaliteit van het werk?

... productiviteit?

... effectiviteit?

### ***English***

**The following questions are about your employee.**

(1 = very poor performance, 7 = excellent performance)

How does your employee score on...:

... achieving goals?

... meeting deadlines?

... work speed?

... the quality of work?

... productivity?

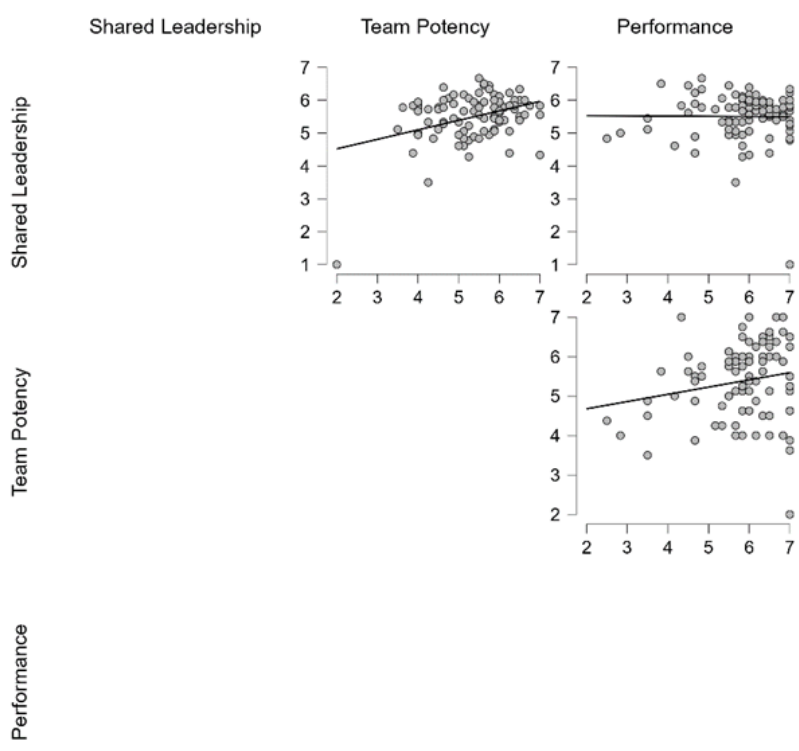
... effectiveness?

## **Appendix C**

### **Figure 1**

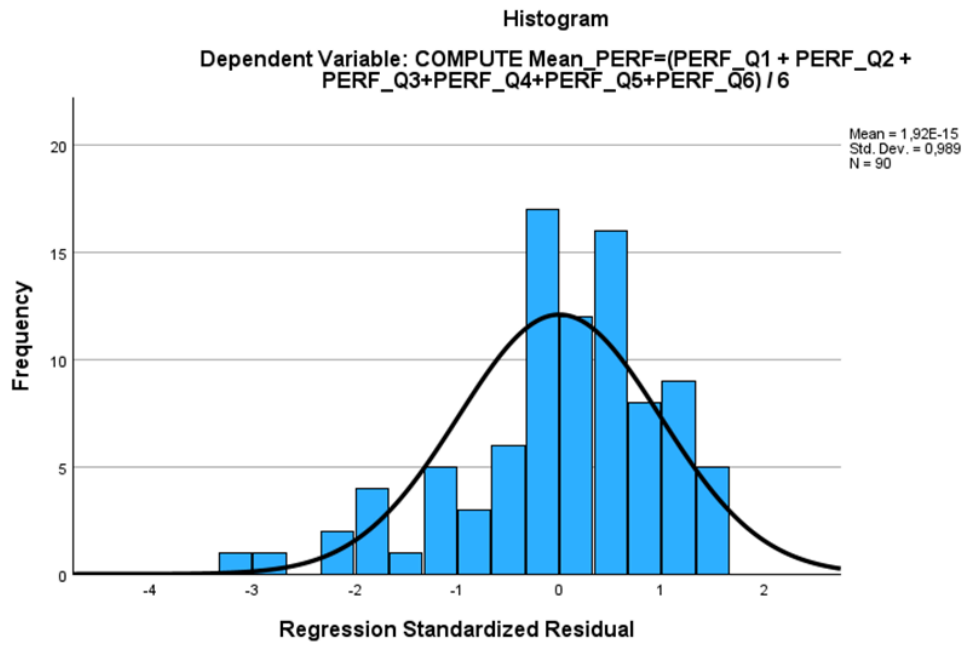
*Linearity Assumption Check*





**Figure 2**

*Histogram to Check Normality Assumption of Residuals*



**Figure 3**

*Scatterplot to Check Homoscedasticity*

