

**Shared Leadership and Team Performance: How Team Trust Mediates their
Relationship in the Work Context**

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Abstract

Shared leadership is an increasingly used concept nowadays. It comprises a distribution of responsibilities among team members and breaks down old hierarchical structures. In this study, we investigate how the concept of shared leadership is related to team performance in the organizational work context. We hypothesize that shared responsibilities in teams go along with an increase in trust among colleagues. However, an increase in a team's level of trust is hypothesized to be positively associated with an increase in team performance. Therefore, trust is predicted to be the mediating factor in the relationship between shared leadership and team performance. We collected cross-sectional data from 70 participants by distributing a questionnaire. All participants assessed statements about shared leadership, team trust, and team performance on a seven-point Likert scale, indicating their level of agreement. Our findings show a significant relationship between shared leadership and team performance, shared leadership and team trust, and team trust and team performance. Furthermore, a mediation analysis revealed trust partially mediates the relationship between shared leadership and team performance. The results extend the current body of knowledge, showing that a partial mediation effect of team trust is found in in-person work settings. Before, only a full mediation in the online team-based context was found. We conclude that shared leadership and team trust are concepts that are positively associated with team performance and are recommended to be implemented and enhanced in the workplace. Future research and practical implications are discussed.

Keywords: shared leadership, team trust, team performance, team dynamics

Shared Leadership and Team Performance: How Team Trust Mediates their Relationship in the Work Context

Nowadays, we live in a fast-paced, globalized, and often barely predictable world. A question many organizations pose is how their organizational structure can adapt to such quick development while staying competitive in the market and keeping their performance high (Hoch et al.,2010). In most organizational work settings team-based working structures are well established, leading to further consideration on how to govern these team structures most effectively (Hoch et al.,2010). An emerging concept in this context is shared leadership. Shared leadership goes hand in hand with the modern zeitgeist of breaking up old hierarchical structures to enable broader expertise and the use of resources of each team member. For example, research revealed that shared leadership fosters knowledge exchange among individuals in teams as well as enhances team members' interest to take on responsibility (Bergman et al., 2012). Further, shared leadership positively affects team satisfaction, team cohesion, and intragroup trust (Bergman et al., 2012). All these aspects are hypothesized to be positively associated with team functioning (Bergman et al., 2012) which is as this study predicts important for successful team performance. As Mehra and colleagues (2006) found, certain types of shared leadership are associated with a positive team's overall performance. Therefore, this paper aims to investigate how shared leadership affects team performance in the organizational work context.

Hoch and colleagues (2010) investigated in their study moderators as age diversity and coordination. They concluded the relationship between shared leadership and team performance is more complex than simply direct and encouraged more specific research on what other factors positively impact this relationship. In Drescher and colleagues (2014) study, such a factor is the mediator team trust. They propose and confirm that the establishment of distributed leadership in groups goes along with an increase in the group's

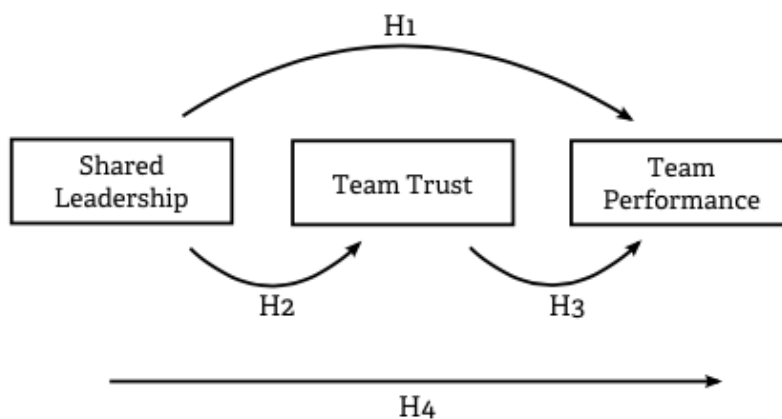
trust over time. In turn, they found the impact of trust in teams enhances overall team performance. Nevertheless, Drescher and colleagues (2014) partly sacrificed generalizability for an increase in measurement rigor by only collecting data from teams being formed in an online computer game setting. Thus, it is still up to research whether the positive relationship between shared leadership, team trust, and team performance exists if the sample is based on real work team settings. Following, we aim to investigate whether team trust mediates the relationship between shared leadership and team performance in the organizational work context. Furthermore, the duration of team-based data in the study of Drescher and colleagues (2014) was only collected for 4 months, which can be considered short taking into account that trust needs time to be built within groups. For that reason, this study will have a more diverse sample regarding team age. Another limiting factor is that a computer games aim is to entertain its participants, who usually participate for intrinsic reasons. Team dynamics in real work settings have as the main goal to be successful because employees' existence and lifestyles depend on it. Therefore, we do not know whether the relationship between shared leadership, team trust, and team performance is the same if the team has a different purpose.

Our research aims to extend the findings on the relationship between shared leadership and team performance, taking team trust as a mediating factor. It tests the generalizability of the results of Drescher and colleagues (2014) on team dynamics in a real-world organizational work context. More specifically, it examines whether the positive relation between shared leadership and team performance, being mediated by the team's trust still exists if all data is taken from participants in real-world work settings, rather than data being taken from an online strategy simulation game. Also, we will investigate whether the different purposes (fun versus earning a living) of team collaboration might influence the relationship between shared leadership and team performance via team trust.

Additionally, our study aims to make predictions on teams that not only exist for a duration of 4 months, the maximum amount of team age in the study of Drescher and colleagues (2014). The ecological validity of this study design is high since the study takes participants from real organizational work settings which in turn increases the generalizability of the results to similar settings of groups. To examine whether physical proximity (remote or in-person work setting) impacts the investigated relationship, two supplementary analyses will be performed. Below, Figure 1 displays the mediation model.

Figure 1.

Visualization of Model and Hypotheses.



Theory and Hypotheses Development

Shared Leadership and Team Performance

Shared leadership enables teams to flatten their hierarchies and allows team members to work more independently by sharing their responsibilities so that every individual has their own assigned part (Hoch et al., 2010). It is seen as a dynamic and collective process among team members who mutually influence and support each other to reach a common goal (Pearce & Conger, 2003; Drescher et al., 2014; Carson et al., 2007). The concept of shared leadership differs from the concept of formal leadership by moving away from the assumption that the distribution of power in teams is vertical and that there is one leader who has full

responsibility and decision-making power (Liu et al., 2014; Ali & Wang, 2020). Formal or vertical leadership only contains a downward influence on employees executed by a chosen leader (Conger & Pearce, 2003; Wang et al., 2014). Accordingly, the definition of shared leadership used in our study relies on spreading leadership functions among individuals of a team who pursue common group outcomes. Successful team performance can be seen as a result of effective collaboration within a team that aims to achieve a common goal. In this study, the assessment for high-functioning teams contains a high level of engagement within the team, detailed exchange about conceptual work processes, and a strong identification with the team (Thompson et al., 2009).

A meta-analysis conducted by Wang and colleagues (2014) examined 42 independent samples, finding an overall positive relationship between shared leadership and team effectiveness. Aspects of team effectiveness in the meta-analysis were among other things subjective performance and objective performance, thus relevant and relatable features to our current study. Due to an increase in self-control and management through the implementation of shared leadership in a team, the individual's satisfaction, and motivation to take on responsibility increases, which fosters performance (Hodgetts & Cox, 1995). Also, shared responsibilities in teams support knowledge exchange and collaboration between its members (Bergman et al., 2012). That again enhances team cohesion, consensus (Bergman et al., 2012), and trust (Hogg, 2001) which improves the team's performance.

Additionally, a study conducted by Hoch and colleagues (2010) indicated that shared leadership explains a decent amount of variance in team performance, by investigating various moderators of this relationship. They believe this concept is more complex and suggest further exploration of the relationship taking other conditions into account. Nevertheless, they state a direct relationship is existing. Accordingly, we propose to find support for the previous findings:

Hypothesis 1: Shared leadership in teams is positively associated with team performance.

Shared Leadership and Team Trust

Trust is conceptualized by Mc Allister (1995) as affect-based trust and cognitive-based trust. Affect-based trust resembles a high level of social interaction among team members and a great amount of citizenship behavior which fosters an openness to sensitive topics and sharing of personal knowledge (McAllister, 1995). Its impact on team dynamics is reflected in stronger emotional bonds among members as well as a reduction in the fear of being taken advantage of, and an increase in vulnerability (Chowdhury, 2005). In turn, cognitive-based trust emerges if a team member is perceived as a competent and successful colleague who is reliable and has proven their ability many times. Accordingly, reciprocal cognitive trust requires some working experience together (McAllister, 1995). It affects team dynamics by perceiving professional relationships in the team as improved and achieving a higher level of collaboration in tasks and activities (Chowdhury, 2005). This well-researched construct on trust will be used in our study to better understand how shared leadership impacts team trust.

Previous research revealed that group trust is one of the claimed advantages of shared leadership (Drescher et al., 2014). Team members who work with full responsibility and commitment on the tasks for which they take the lead appear trustworthy as they contribute positively to the progress of the team (Bligh et al., 2006). In other words, shared leadership embeds self-leadership which allows members to work as responsible, dynamic individuals, and be perceived as such (Bligh et al., 2006). Thus, this study hypothesizes that shared leadership seems to have a positive impact on team trust. Another reason team trust is positively associated with shared leadership is that as all team members exercise leadership responsibilities, social interaction between them increases, which is most likely to lead to the building of trusting relationships (Drescher et al., 2014). In addition, shared leadership allows

trust to grow and develop while working together over time (Drescher et al., 2014). Following the former argumentation, we hypothesize:

Hypothesis 2: An increase in shared leadership is positively associated with an increase in team trust.

Team Trust and Team Performance

Trust in teams is a quite desirable characteristic because it is related to positive acts such as knowledge sharing (Romeike et al, 2016; Barczak et al., 2010), effort invested into the group and coworkers (Colquitt et al., 2007), and a positive performance trend in teams (Drescher et al., 2014). Thus, trust can be seen as the base for many other positive aspects to emerge that could in turn increase overall team performance. For example, studies show that trust between team members leads to a greater willingness to help people at work than the job would suggest (Colquitt, 2007). Based on the former arguments, we hypothesize:

Hypothesis 3: An increase in team trust is positively associated with an increase in the team's performance.

The Mediating Role of Team Trust

As Boies and colleagues (2011) show, implementing shared leadership in a team does not necessarily lead to an increase in team performance. Rather, as found by Gong and colleagues (2009) and Shin and Eom (2014), sharing creative ideas within a team requires a basic level of confidence in one's abilities and accomplishments to feel confident about opening up about these ideas that might improve team performance in the long run.

The current study tests the assumption that the relationship between shared leadership and team performance is explained by a third variable. Different from Gong and colleagues (2009) and Shin and Eom (2014), this study proposes that the variable that is fundamentally explaining the relationship between shared leadership and team performance is the mediator team trust. As Drescher and colleagues (2014) study found, the relationship between shared

leadership and team performance is based on an increase in team trust within the respective team. Their study revealed that the expansion from hierarchical to shared leadership is associated with a strengthened level of trust in that team, whereas an increase in trust is positively associated with performance. They found support for a full mediation. Distributing the leadership responsibilities in a team, makes coworkers appear more trustworthy (Bligh et al., 2006). Trust itself increases people's willingness to collaborate and help others, for example, coworkers to a greater extent. That in turn enables better team performance (Colquitt, 2007). As argued before, trust is seen as the variable through which the relationship between shared leadership and team performance is explainable. Therefore, we hypothesize trust to be the full mediating factor and expect to find the following:

Hypothesis 4: Team trust fully mediates the relationship between shared leadership and team performance.

Method

Participants

In total, 118 people responded to the questionnaire. Two exclusion criteria were applied. First, only participants working in their teams for three months or longer were included to ensure a certain degree of familiarity with the team. Second, only participants who finished the questionnaire were included. The sample for the analysis consisted of 70 participants, including 27 males, 42 females, and 1 otherwise defined person. The participants were members of teams operating in different industrial areas mainly in the Netherlands, Germany and Poland. It is a convenience sample since the sample relies on university, private, and social media contacts. The data collection took around 2 weeks. To be included in the analysis, the teams had to consist of a minimum of three members, the participants had to be at least 18 years old, and work a minimum of 20 hours a week. Regarding the demographics of the participants, 42.9% of these participants worked in teams of 3 to 8 people, 31.4%

worked in teams of 9 to 14 people in teams, 14.3% in teams of 15-20 people, and 11.2% in teams with more than 20 members. The mean age of all included participants was 42.7 ($SD = 14.17$), ranging from 21 years up to 65 years. Participants included in the study worked from a minimum of 3 months up to 30 years in their team. Around 77.1% were permanently employed, and the remaining 22.9% of participants were either temporarily employed or otherwise defined. The sample consisted of 41.4% Germans, 25.7% Dutch people, 20% Poles, and 12.9% of other nationalities. The participants working in a business sector were employed in areas ranging from Administration to Education and Instruction (see Appendix A), with 24.3% working in other areas as the ones suggested in the questionnaire. The study design was approved by the ethics committee of the University of Groningen.

Procedure and Design

In the present study, participants had to fill in a questionnaire that measured several constructs related to shared leadership, its team outcomes, and demographics. The constructs relevant for this study are shared leadership, team trust, and team performance (see Measures section for more detail). The questionnaire was constructed using Qualtrics (Qualtrics, Provo), administered online, and distributed via a link. For all three variables, participants had to rate items on a seven-point Likert scale, allowing them to indicate their level of agreement from 1 = strongly disagree, 4 = Neither agree nor disagree, to 7 = strongly agree. Before starting the survey, all participants had to read and sign an informed consent. After the data collection, two included control questions to check for participants' attention to prevent response bias were assessed as being invalid. The answer options were no longer meaningful due to different formatting in case the survey was completed on the mobile phone. Completion of the questionnaire concluded the data collection for the individual and each participant was given a detailed explanation of the study's purpose at the end of the survey. Finally, participants were thanked for their cooperation and time.

Measures

Shared Leadership. We measured the degree of shared leadership in teams with a questionnaire developed by Hoch and colleagues (2010). It measures both shared leadership, which is executed on a team level, as well as vertical leadership, which is carried out hierarchically by the supervisor. Both are measured in terms of transformational, transactional, directive, empowering, and aversive leadership behaviors (Hoch et al, 2010). For reasons such as time management (keeping the questionnaire as short as possible) and only gathering data that is specifically relevant for our study, the questionnaire was adapted to 18 questions. These questions measured transformational, directive, empowerment (individual), and empowerment (team) leadership. All team members answered items of shared leadership and vertical leadership. Hochs and colleagues (2010) questionnaire displayed a Cronbach's alpha of .85 for shared leadership. For the answering format of shared leadership, a seven-point Likert scale was used. The questionnaire used in our study can be found in Appendix B1.

Team Trust. Team trust was measured with a scale developed by McAllister (1995). He developed 11 items measuring the two dimensions of trust, which are cognitive-based trust (6 items) and affect-based trust (5 items). These scales were used before in research on interpersonal trust in the organizational work setting. Cronbach's Alpha for the scale on cognitive-based trust measured .91, and .89 for the affect-based scale (McAllister, 1995). Participants could rate their agreement with the items of cognitive-based and affect-based trust on a seven-point Likert scale. The questionnaire used in our study can be found in Appendix B2.

Team Performance. The scale used to measure team performance was developed by Thompson and colleagues (2009). They performed an exploratory factor analysis with 30 developed items, which revealed a dimension of 18 items that are sufficient to assess team

performance. The final 18 items were rated by participants regarding their overall experience with their team on a seven-point Likert scale. The internal consistency of the scale in Thompson and colleagues (2009) study was high with a Cronbach's alpha of .97. The questionnaire used in our study can be found in Appendix B3.

Results

We detected two outliers and excluded them from the analysis (see data set case nr. 14a, years of working in the company; case nr. 21, team size). Since the rest of the data seemed to be normally distributed, the two cases were kept in the analysis. All statistics were conducted using SPSS (Version 26) with an extension called PROCESS macro (Hayes, 2022) that aims to simplify mediation and moderation analysis for linear regression.

Assumptions

Before performing the main analysis, we checked the assumptions of linear regression. Looking at a P-P plot, no major deviation from the normality line was detected, which let us conclude the assumption of normality is met (see Appendix C1). A scatterplot (shared leadership on the x-axis, team performance on the y-axis) to check for linearity displayed an approximately linearly distributed data set, meeting the criteria for linearity (see Appendix C2). Checking for homoscedasticity, the scatterplot of the residuals looks approximately equally distributed, although a slight, funnel-shaped pattern is discernible (see Appendix C3). Since the data generally looks spread, we assume it is sufficiently satisfied to proceed with a linear regression analysis. Looking at the scatterplot of the residuals to check for independence, the distribution seems to show no distinct pattern, though as mentioned before a slight, funnel-shaped pattern is discernible. The Durbin-Watson test (ranging from 0 to 4) indicates a value of 2.583, which is still acceptable following the range (1 to 3) that is considered appropriate for performing linear regression. Therefore, we conclude, that the observations are independent of each other (see Appendix C3).

Descriptive statistics

The descriptive statistics such as means, standard deviations (SD), and correlations (r) of the variables shared leadership, team trust and team performance can be seen in Table 1.

All variables are positively correlated and significant.

Table 1.

Descriptive statistics and correlations for all study variables

Variables	Mean	SD	1 (r)	2 (r)
1. Shared Leadership	4.73	1.11		
2. Team Performance	5.07	1.04	0.72**	
3. Team Trust	5.12	0.98	0.64**	0.80**

Note. N = 70. **p < 0.01 (two-tailed significance)

Hypothesis Testing

To test the first three hypotheses (see Table 2), we performed a linear regression. The results show a positive and significant association between shared leadership and team performance (see Table 1 & Table 2). These results support our first hypothesis (H1), which predicted to find a positive effect of shared leadership on team performance. Furthermore, the results revealed a positive and significant relationship between shared leadership and the mediator team trust (see Table 1 & Table 2). This supports the second hypothesis (H2), which predicted that shared leadership is positively related to team trust. The regression results of the relationship between team trust and team performance also indicated a positive and significant relationship (see Table 1 & Table 2). This supports our third hypothesis (H3), which expected to find that an increase in team trust is positively associated with an increase in team performance.

Table 2.*Modeling of Equations: Hypothesis Testing*

Hypothesis	Relationship	Estimate	t	SE	p	Result
H1	SL → TP	.32	4.05	.08	.00	Supported
H2	SL → TT	.56	6.83	.08	.00	Supported
H3	TT → TP	.62	6.88	.09	.00	Supported
H4	SL → TT → TP	.35	-	-	-	Supported

Note: N = 70. CI = 95%

SL = Shared Leadership, TP = Team Performance, TT = Team Trust

To test our fourth hypothesis, the dependent variable team performance was regressed on the independent variable shared leadership, taking team trust as a mediator. Performing a PROCESS mediation analysis, the results of the total effect (see Table 3) of the bootstrapping mediation model analysis were shown to be significant. Also, the direct effect (see Table 3) of shared leadership on team performance, when controlling for team trust was found to be significant. Furthermore, looking at the bootstrap confidence interval [Boot CI = (.21; .54)], the indirect effect (see Table 3) that team trust has on the relationship between shared leadership and team performance was also found to be significant since the interval does not contain the value 0. Following, the analysis revealed partial support for our fourth hypothesis (H4), stating that team trust mediates the relationship between shared leadership and team performance to a certain extent. However, the mediation is partial and not, as predicted, a full mediation. Following, the relationship between shared leadership and team performance also exists without taking team trust as a mediator, even if the association is weaker. The whole model with its variables shared leadership, team trust and team performance explains 71.4% of the variance ($R^2 = 0.71$) with an F-value of $F(2,67) = 83.6$, and $p = 0.00$.

Table 3.*Results of PROCESS Mediation Analysis on Team Performance*

Effect	<i>Estimate</i>	<i>SE</i>	<i>t</i>	<i>p</i>	<i>LLCI</i>	<i>ULCI</i>
Total Effect	.67	.08	8.45	.00	.51	.83
Direct Effect	.32	.08	4.05	.00	.16	.48
Indirect Effect	.35	.08	-	-	.21	.54

Note: N = 70. CI = 95%

Further, we carried out two supplementary analyses to check whether physical proximity (remote or in-person work setting) impacts the mediation effect team trust has on the relationship between shared leadership and team performance. For the first analysis, participants were selected who indicated to work mainly in an in-person setting. The sample size comprised 56 participants. The analysis revealed a significant direct effect with $t = 3.9$; $p = .00$, and a significant indirect effect with a bootstrap confidence interval [Boot CI = (.18; .47)] that did not contain the value 0. The second analysis included participants that work in a mainly remote work setting. The sample consisted of only 14 participants. The results showed a non-significant direct effect ($t = .8$; $p = .44$) since the p-value is above the .05 significance level. The bootstrap confidence interval on the other hand was shown to be significant [Boot CI = (.02; 1.01)]. Since the direct effect was non-significant, a linear regression was performed to see whether the relationship between shared leadership and team performance is generally positively associated in the sample of remote participants. The results displayed a significant relationship, with 59% of the variance $R^2 = 0.59$) and an F-value of $F(1,12) = 17.3$, $p = 0.01$

Discussion

This study examined the relationship between shared leadership and how it affects team performance, taking team trust as a mediator into account. In line with previous research on these dynamics (Blight et al., 2006; Drescher et al., 2014; Hoch et al., 2010; Wang et al.,

2014), we hypothesized to find a positive association between shared leadership and team performance, shared leadership and team trust, and team trust and team performance.

Additionally, we expected to find that the relationship between shared leadership and team performance is mediated by team trust.

The results show a positive and significant relationship between shared leadership and team performance, which supports the first hypothesis. Also, the relationship between shared leadership and team trust was found to be positively and significantly associated, which supports the second hypothesis. Moreover, the third hypothesis, predicting to find a positive and significant relationship between team trust and team performance was also supported by the results. Even though both variables of the first three hypotheses increase in the same direction, we cannot make any directional statements, saying for example that one variable causes the other one (Chen & Popovich, 2002).

The results of the bootstrapping analysis show a positive and significant relationship between shared leadership and team performance when the effect of team trust is not considered (direct effect). Furthermore, the results of the mediation model (indirect effect) with team trust as a mediator were significant as well. Following, we found support for the mediation hypothesis (H4) to the extent that team trust partially mediates the relationship between shared leadership and team performance. No support for full mediation was found in the main analysis. Therefore, the results suggest that distributing the power within a team is recommendable to foster a team's level of trust. The concept of team trust contains aspects such as increased knowledge sharing and support among colleagues, that positively impacts a team's performance. Nevertheless, it is likely that also other mediators or moderators impact the relationship since trust could not account for all the variance as a mediator. Current research debates whether a significant mediation effect is as in linear regression only correlational or whether it implies causation, at least to some extent. MacKinnen and

colleagues (2007) are convinced that there are certain methods to state causal inference for mediation since they are based on alternative approaches using for example principal stratification. However, Lacobucci (2008) emphasizes the fact that the data collected for mediation is itself correlational, which is a limitation for making conclusions on causality. He argues that without any experimental manipulation a third variable cannot be excluded, as well as randomization of participants and controlling for other external confounds cannot be ensured. Since these requirements are not met, this study suggests interpreting the results with caution regarding causality.

Theoretical implications

Integrating the results of the mediation analysis into previous research supports Wang and colleagues (2014) and Hoch and colleagues (2010) findings on shared leadership and team effectiveness (containing aspects of team performance). Therefore, we can suggest that the relationship found between shared leadership and team performance is meaningful. Also, the positive association between shared leadership and team trust, previously revealed by Blight and colleagues (2006) and Drescher and colleagues (2014) was confirmed. This supports the explanation that in shared leadership teams, members have more opportunities over time to show their trustworthiness which increases team trust (Drescher et. al., 2014). Additionally, as shown by Colquitt and colleagues (2007), team trust positively impacts the performance of teams through for example a greater willingness to help co-workers and information sharing. This could be confirmed by the results of our study, which illustrates trust and performance are closely related constructs in team dynamics. Lastly, the findings of Bergman and colleagues (2012) and Drescher and colleagues (2014), stating that shared leadership positively affects team trust, and that team trust positively affects team functioning and team performance, could be supported by the results of the mediation analysis. Differing from Drescher and colleagues (2014), who found support for a full mediation hypothesis, this

study's results showed a partial mediation. Accordingly, the relationship between shared leadership and team performance also exists without taking team trust into account as a mediator. Considering the complexity and versatility of the human being and concepts like shared leadership, team trust, and team performance, it would be unrealistic to expect only one mediator (here team trust) explains such a compound relationship (Judd & Kenny, 1981).

To see whether physical proximity impacts the relationship between shared leadership, team trust, and team performance, we performed two supplementary analyses. Each included either participants indicating they worked mainly remote, or in-person. Knowledge about whether team outcomes are differently associated with shared leadership and team trust when the level of physical proximity changes, would be a great insight into how team dynamics are affected in a world that is moving to more globalized and digitized working structures.

The results of the in-person condition suggest a partial mediation between shared leadership, team trust, and team performance. This means, as in the main analysis, that for participants, working in in-person, team-based settings a relationship between shared leadership and team performance exists besides the mediator team trust. On the other hand, in the remote condition, the results suggest a full mediation of team trust in the relationship between shared leadership and team performance. In other words, trust explains why shared leadership teams reach high team performance. No association between shared leadership and team performance was found when controlling for the effect of team trust. These findings go along with Drescher and colleagues (2014) results, who found support for full mediation using a large online sample. This suggests that in remote and online work-settings trust is a necessity to improve a team's performance and to explain the association with shared leadership. Following, the main focus should be placed on developing trusting bonds between team members in team settings.

A possible explanation for the full mediation in the remote work setting could be that when colleagues do not see each other physically, trust provides the basis for good performance. However, in in-person work relationships, physical presence might cause other mediators to play a more important role in the relationship of shared leadership and team performance. Hadi and Chaudhary (2021) found that in shared leadership teams, members are likely to reflect better and feel psychologically empowered which goes along with an increase in performance. They investigate team reflexivity as a mediator, which includes collaborative, reflective behaviors and open space for discussing strategies and processes. Nevertheless, the results have to be looked at with caution due to the very small sample size. Also, as mentioned before, it is unlikely to only have one variable mediating the relationship of such complex concepts as shared leadership and team performance.

The findings advance the current body of knowledge in that the mediation effect of team trust in the relationship between shared leadership and team performance was only found in an online team-based setting (Drescher et al., 2014) before. Now, partial mediation was also found in real-world in-person team settings. As discussed before, a partial mediation suggests that in real-world in-person settings, the relationship between shared leadership and team performance is mediated also by other factors besides team trust. Thus, team trust accounts for the relationship to some extent, though it does not fully explain it. Furthermore, the results show that in organizational work settings, where people's motives are to perform well to ensure their workplace and related lifestyle, shared leadership is positively associated with team performance, and this relationship is partially mediated through the team's level of trust.

Strengths and Limitations

The scales used to measure the constructs' shared leadership, team trust, and team performance were well researched and showed satisfying reliability and validity. Furthermore,

the sample used for the analysis was quite diverse, including participants with different age ranges as well as areas of work. The sample was based on real-world teams in organizations. Therefore, no simulated teams or student team-based work settings were taken into account for the study.

A limitation of the current study is that the collected data only consists of a self-report questionnaire, which is susceptible to biases. People's self-ratings can be flawed regarding the assessment of themselves and others, being biased toward socially desirable responses, or could be simply untruthful. Therefore, we cannot guarantee the accuracy of the data. Furthermore, the sample is a convenience sample, so we cannot be certain that some parts of the population are over or under-represented and generalizations should be made with caution. Unfortunately, the control questions to check for the participants' attention had to be excluded from the analysis due to different formatting on the cellphone screen, which made the instruction of left or right answering impossible for participants. Because of that, we cannot exclude random responses. Another limitation is that the questionnaire was translated from English into two further languages (German and Polish). That way some information might have been lost in translation and participants might have understood the questions and statements slightly differently than intended. Lastly, to increase the power of the current study a sample size greater than 70 would be recommendable. Especially regarding the supplementary analysis, where the 'remote' analysis only included 14 participants.

Regarding content limitations, the scale used to measure team performance mainly refers to the quality of the social component and interaction within the team. This prevents us from making statements about any monetary profit or increase in competitiveness of the company that is related to the increase in performance.

Future Research

A suggestion for future research is to extend the model to see how different mediators or moderators impact the researched relationship. For example, it would be interesting to investigate team trust as a partial mediator with a different outcome variable, such as team creativity. Team creativity enhances the team's ability to solve problems and integrate different perspectives into this process (Barzack et al., 2010). Barzack and colleagues (2010) found team trust to be a significant mediator of the relationship between emotional intelligence and team creativity. Thus, the research could show whether shared leadership is also a predictor of team creativity and whether team trust mediates this relationship. If supported, this information would be another important piece in the context of how shared leadership and team trust positively impact team-based settings. Also, checking for further mediators, such as team reflexivity to see whether it explains greater or full variance in the investigated relationship than the partial mediator team trust would be insightful.

A further improvement would be to include more control variables, for example, team size. That way, it could be shown whether, and if, how team size impacts the relationship between shared leadership, team trust, and team performance. Logically, it would make sense that the smaller your team is, the better you know your colleagues, and the higher the possible level of trust is in your team. Furthermore, it would be interesting to investigate if team age impacts the researched mediation effect. Hypothetically, it would make sense that the longer teams work together, the higher their level of trust, which possibly impacts the mediation effect.

Additionally, future research could investigate methods that foster team trust. Here, it would be useful to find out which are most appropriate and implementable for a company environment. Furthermore, it would be recommended to gather data on the variables in a more objective way. This could be done, for example, by evaluating the data of the company for team performance. This way the assessment of the outcome variable is prevented from a

perceptual bias and conclusions can also be drawn on greater monetary gains through increased performance.

Practical Implications

The findings of this study revealed team trust partly mediates the relationship between shared leadership and team performance. Therefore, employers should not only embody the concept of shared leadership in their company philosophy but rather also implement targeted interventions in teams to strengthen team trust. This could be done by hiring professional coaches or consultants, or with the knowledge of research papers and books explaining certain interventions that foster team trust. Generally, managers supporting a respectful, open-minded, and empowering working atmosphere shall positively influence team trust. Regarding shared leadership, company executives are well-advised to break down hierarchical structures and support more responsibilities for each team member.

Conclusion

We can conclude that this study revealed team trust partially mediates the relationship between shared leadership and team performance in the team-based organizational work context. Since team performance is positively associated with both team trust and shared leadership, our findings support that implementing and promoting these concepts in the team-based corporate structure keeps the company more competitive. Therewith, we can partly extend the effect found by Drescher and colleagues (2014) to an in-person real-world setting, giving new insights for managers on how to improve team outcomes in their company.

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Appendix A

Demographics of the Participants

In which business sector are you employed? - Selected Choice

		Frequency	Percent
Valid	Administration	5	7.1
	Construction industry	1	1.4
	Financial industry	7	10.0
	Hospitality sector, tourism, culture	2	2.9
	Industry, production	5	7.1
	ICT, consulting, legal consulting	5	7.1
	Communication and marketing	1	1.4
	Public administration	6	8.6
	Health and social welfare	8	11.4
	Education and instruction	13	18.6
	Other, namely...	17	24.3
	Total	70	100.0

Appendix B

Questionnaires Used to Examine all Variables Included in the Study

B1. Questionnaire on Shared Leadership Developed by Hoch and Colleagues (2010).

1. My team members provide a clear vision of whom and what our team is
2. My team members are driven by higher purposes or ideals
3. My team members show enthusiasm for my efforts
4. My team members encourage me to rethink ideas which had never been questioned before
5. My team members seek a broad range of perspectives when solving problems
6. My team members encourage me to go above and beyond what is normally expected of one (e.g., extra effort)
7. My team members decide on my performance goals together with me
8. My team members and I work together to decide what my performance goals should be
9. My team members and I sit down together and reach agreement on my performance goals
10. My team members work with me to develop performance goals
11. My team members encourage me to search for solutions to my problems without supervision
12. My team members urge me to assume responsibilities on my own
13. My team members encourage me to learn new things
14. My team members encourage me to give myself a pat on the back when I meet a new challenge
15. My team members encourage me to work together with other individuals who are part of the team

16. My team members advise me to coordinate my efforts with the others, who are part of the team

17. My team members urge me to work as a team with the others, who are part of the team

18. My team members expect that the collaboration with the other members in the team works well

B2. Questionnaire on Team Trust Developed by McAllister (1995)

Affect-based trust

- We have a sharing relationship. We can all freely share our ideas, feelings, and hopes.
- I can talk freely to my team members about difficulties I am having at work and know that they will want to listen.
- We would all feel a sense of loss if one of us was transferred and we could no longer work together as a team.
- If I shared my problems with a team member, I know (s)he would respond constructively and caringly.
- I would have to say that we have all made considerable emotional investments in our working relationship.

Cognition-based trust

- Fellow team members approach their job with professionalism and dedication.
- Given my team members' track record, I see no reason to doubt their competence and preparation for the job.
- I can rely on the other team members to not make my job more difficult by careless work.

- Most people, even those who aren't close friends with the other members of my team, trust and respect them as coworkers.
- Other work associates of mine who must interact with my team members consider them to be trustworthy.
- If people knew more about my team members and their background, they would be more concerned and monitor his/her performance more closely.

B3. Scale on Team Performance Developed by Thompson and Colleagues (2009)

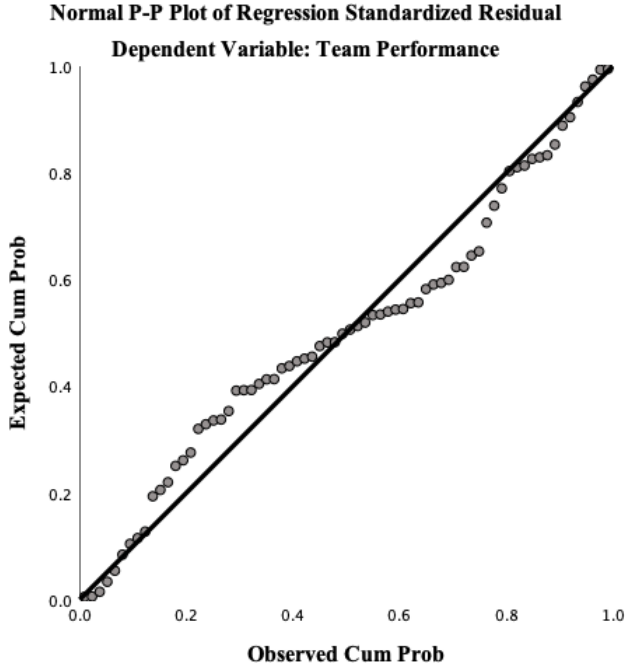
1. All team members made an effort to participate in discussions.
2. When team members had different opinions, each member explained his or her point of view.
3. Team members encouraged one another to express their opinions and thoughts.
4. Team members shared and received criticism without making it personal.
5. Different points of view were respected by team members.
6. Often members helped a fellow team member to be understood by paraphrasing what he or she was saying.
7. My team used several techniques for problem solving with each team member presenting his or her best ideas.
8. Team members worked to come up with solutions that satisfied all members.
9. All team members consistently paid attention during group discussions.
10. My team actively elicited multiple points of view before deciding on a final answer.
11. Team members listened to each other when someone expressed a concern about individual or team performance.
12. Team members willingly participated in all relevant aspects of the team.
13. Team members resolved differences of opinion by openly speaking their mind.

14. Team members used feedback about individual or team performance to help the team be more effective
15. Team members seemed attentive to what other team members were saying when they spoke.
16. My team resolved many conflicts by compromising between team members, with each one giving in a little.
17. Members who had different opinions explained their point of view to the team.
18. Team members were recognized when something they said helped the team reach a good decision.

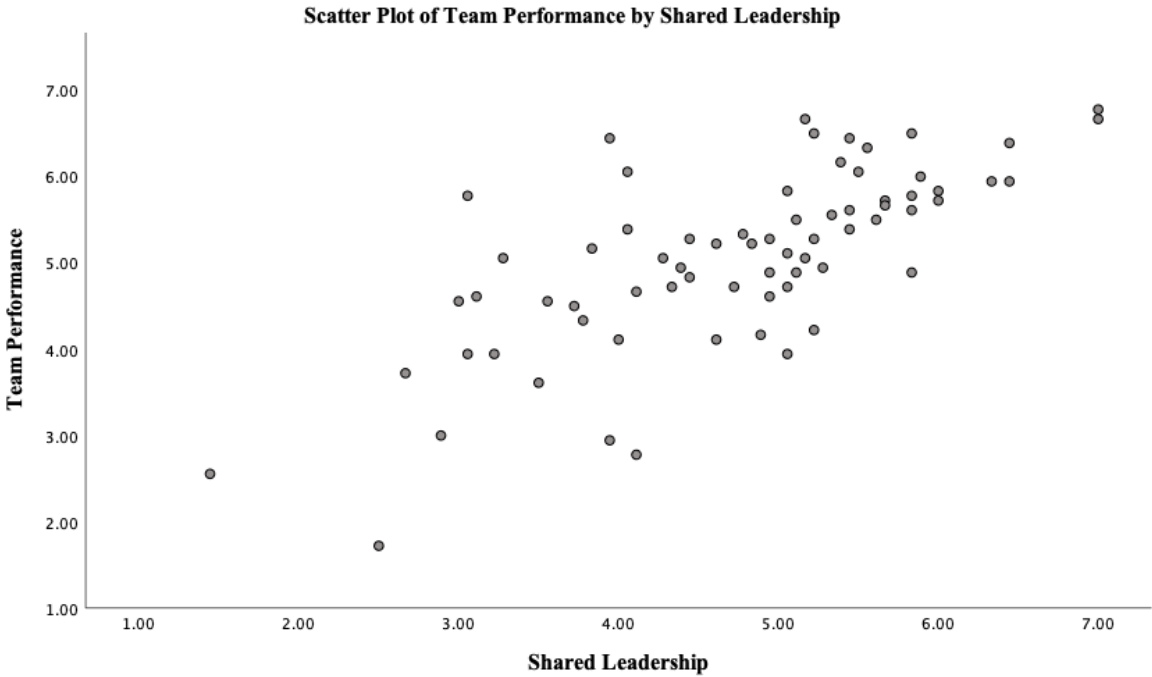
Appendix C

Assumption Checks for Linear Regression

C1. Normal P-P Plot of Regression Standardized Residual to Check Normality



C2. Scatterplot of Team Performance and Shared Leadership to Check Linearity



C3. Scatterplot of the Residuals to Check Independence and Homoscedasticity

