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A PLEA FOR TEAM REFLEXIVITY IN ORGANIZATIONS

A three-way interaction model with Team Reflexivity, Goal Clarity and Participative Leadership
on Team Performance

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Abstract

This research contributes to the small but growing body of literature on understanding in what circumstances team reflexivity, the extent to which teams reflect upon and modify their functioning, leads to better team performance. This study answers the call to study the role of leadership and goal setting in the reflexivity process. This has been conducted by the use of survey data from 40 teams from different sectors in the Netherlands. Team members rated reflexivity, participative leadership and goal clarity on team-level, while the team leaders rated team performance. With controlling for team size and team tenure, support is found for the prediction of team reflexivity leading to increased team performance. Non-significant results are found for the individual moderators: goal clarity and participative leadership. Yet, a significant three-way interaction is demonstrated, showing that for high (low) levels of participative leadership and low (high) levels of goal clarity in the reflexivity process will lead to better team performance. Finally, theoretical contributions and practical implications for leaders and organizations are discussed. This study's aspiration is to provide a stimulus for future studies to dive into the complexity of the different conditions of when team reflexivity leads to increased performance.

Keywords: team reflexivity, team performance, goal clarity, participative leadership

A plea for team reflexivity in organizations

In this age of rapid development of technology and science, organizations are forced to adapt and perform quickly in order to remain at the forefront of their business. Nowadays organizations, large and small, depend on teams in their organizational structure. Effective teams are the core of successful organizations, especially for those operating in dynamic environments.

Since teamwork has become an essential part of the modern workplace, there is great interest in processes and conditions that can result in better performance. A process that has only recently been explored in the literature is team reflexivity. Team reflexivity is defined as the extent to which team members reflect on their task objectives, strategies, processes, and environments and adapt these aspects of their functional tasks accordingly (West, 1996). It is found to be an important determinant of team effectiveness (West, 1996). The lack of thinking about progress, processes and performance could lead to devastating results that could have been prevented with reflexivity, like repeated mistakes within medical teams.

Several studies show that reflexivity is positively related to creativity and team performance (e.g. Carter & West, 1998; De Dreu, 2007; Schippers & Homan, 2009). Although research into this aspect in working groups is scarce (for exceptions, see Schippers, Edmondson & West, 2018), limited empirical studies have found support for a negative relationship or non-significant results of team reflexivity on performance under certain circumstances (Brav, Andersson & Lantz, 2009; Schippers, Homan & Van Knippenberg, 2013). As reflexivity is a time and energy-consuming activity, it is important to clarify the conditions under which team reflexivity is most efficient and cost-effective (Schippers et al., 2013). Previous studies explained the team reflexivity-performance relationship based upon the information-processing model of Hinsz, Tindale & Vollrath (1997) and the creation of shared mental models within the team. To build on these efforts, this study aims to develop a better understanding of the relationship in investigating the conditions in which team reflexivity may benefit team performance.

Reflexivity can offer an opportunity to look at the teams' current state and the desired state, in which goal setting is expected to play an important role. Creating a shared mental model regarding the team goal can be desired in this process (DeShon, Kozlowski, Schmidt, Milner & Wiechmann, 2004). In these circumstances, where team members fully understand the direction and priorities of the goals, the teams may be able to perform better with greater confidence. As stated in the recent overview by Schippers and colleagues (2018) the literature on the relationships

between team reflexivity and goal setting on team performance is limited. Based on these mechanisms this study aims to investigate the moderating role of goal clarity in this reflexivity-performance relationship.

Another factor was mentioned in the literature as an important condition for team performance through team reflexivity, namely the support of a leader (Gino & Staats, 2015). For instance, research of Schippers, Den Hartog, Koopman & Van Knippenberg (2008) found that teams with a transformational leader showed more reflexivity, because the leader was able to help the team create a shared vision, and ultimately resulted in better team performance. As stated in the overview of Schippers and colleagues (2018), more research on the role of different leadership styles in reflexivity is needed. Earlier research of Katzenbach & Smith (1993) found that inviting team members to express their ideas is associated with higher performance teams. It is the promise of participative leadership to invite followers to have a say in their work and empower them to take part in decision making. Without the proper stimulation of a leader, the whole process of team reflection may not be that effective in increasing team performance. The current research also investigates participative leadership as a moderator in the relationship between team reflexivity and team performance. Apart from the two two-way interactions, this study will also examine a three-way interaction between team reflexivity, goal clarity and participative leadership on team performance to test how the different conditions interact with each other.

In conclusion, this study seeks to contribute to the current literature on reflexivity by exploring how and when it leads to better team performance. The findings will provide practical implications for managers and teams on how they can implement team reflexivity in their practices to enhance the overall performance of the team and organizations. This leads to the following research questions:

○ Is the relationship between team reflexivity and team performance stronger (weaker) for high (low) levels participative leadership and goal clarity?

○ Will team reflexivity lead to better team performance when goal clarity is high (low) and there are low (high) levels of participative leadership?

Figure 1

Proposed model of the current study
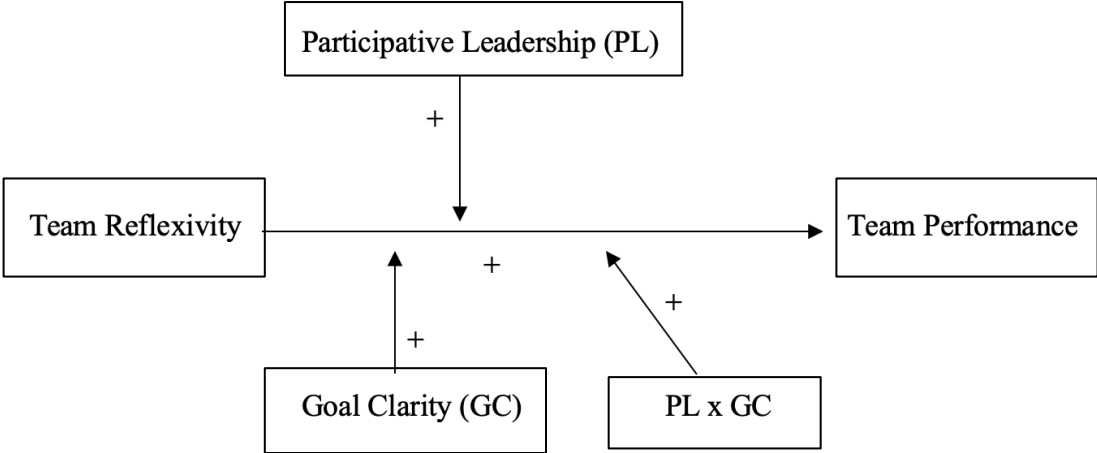
Literature review

Teams and their performance can be seen as the central matter of this study. Teams can be defined as a group of more than two people who interact dynamic, adaptively and interdependent towards a shared goal (Hackman, 1987). Team members have been assigned to specific roles or tasks to perform (Salas, Dickinson, Converse, & Tannenbaum, 1992). What makes working in a team different from working alone is that members need to coordinate and integrate their actions with each other. Every member has a significant part in their collective action. The success of the team can be dependent on the way they communicate with each other to finish their collective tasks (Marks, Mathieu, & Zaccaro, 2001). Working in a team can be beneficial if there is process gain over process loss (Steiner, 1972). One approach to stimulate process gain in a team is to reflect and learn from mistakes (Wiedow & Konradt, 2011).

Team Reflexivity and Team Performance

The concept of team reflexivity has been shown as a key determinant in the performance of teams (Gurtner, Tschan, Semmer & Nägele, 2007), especially in innovative teams (Schipper, Den Hartog, Koopman & Wienk, 2003). It has been shown that team effectiveness is increased by enabling team members to better understand what is expected of them (Carter & West, 1998). Teams can develop new methods together to respond to the difficult circumstances and challenges they face. Reflexivity has been studied in terms of after-events, reflection and debriefing. They all refer to a systematic and guided process of sharing experiences and interpretations of team procedures and performance (DeRue, Nahrgang, Hollenbeck & Workman, 2012; Eddy, Tannenbaum & Mathieu, 2013; Ellis, Ganzach, Castle & Sekely, 2010). The process of team reflexivity generally consists of four elements (Chen, Bamberger, Song & Vashdi, 2018). First, reflection and self-explanation, which means reflecting on one's own behavior and giving meaning to what contributed to failure or success (Ellis et al., 2010). The second element is validating information in order to make decisions for change (DeChurch & Mesmer-Magnus, 2010; DeRue et al., 2012; Ellis et al., 2010). The third element contains feedback seeking from peers (Ellis et al., 2010) and eventually, planning for future tasks with taking account of the learned objections raised in the earlier discussion on the action plans and goals (DeShon et al., 2004).

Team performance is stated by Hackman (1987) as one of the fundamentals of team effectiveness, along with satisfaction and viability. Team performance has to do with the productive output of a group, depending on whether the team is reaching their prescribed

performance standards. Several scholars have expressed the conviction that team task reflexivity is positively related to team performance (Carter & West, 1998; De Dreu, 2002, 2007; Somech, 2006). A meta-analysis 46 studies (N = 2,136) of team (and individual) debriefings revealed that debriefings or reflections on performance improved effectiveness by 25% compared to control groups (Tannenbaum & Cerasoli, 2013). In Schippers et al. (2013) student teams with poor performances in their first task, performed much better on the second task after a decent team reflection, which was mediated by team learning. Team learning can be described as a central mechanism behind the concept of team reflexivity, leading to better team performance (Schippers et al., 2018). The reduction of information-processing failures can also be described as an explanatory mechanism behind the success of team reflexivity (Schippers, Edmondson & West, 2014). This includes discussing privately held information, processing biased information and update others when situations have changed. Team reflexivity can promote information exchange and elaboration to prevent information-processing failures (Schipper, Edmondson & West, 2014). A team that reflects regularly is associated with more attention to detail, identifying potential problems, critical discussions, long-term and short-term discussion and adaptation (West, 2002). Those characteristics seems to be aligned with higher team performance. In the reflection process, teams will share a lot of knowledge with each other, which appears to go hand in hand with better decision making through a more extensive consideration of alternatives and coordination through creating shared mental models (Stasser & Tinus, 1985). It is expected that by consciously reflecting on problem areas and improving past work, teams are more likely to learn from their mistakes and thus develop better team performance. Therefore, following hypothesis is constructed:

Hypothesis 1. There is a direct positive relationship between team reflexivity and team performance.

Moderator goal clarity

In the interest of performing better, it may be advantageous that every team member is on the same page regarding the team goals. Among others, based on Ryan's goal setting theory (1970) with the idea of 'conscious goals affect action', goal clarity will be further examined in the current study. Goal clarity is defined as the extent to which team members, as a whole, clearly understand

their sub-goals and the connection between their work and the team's objectives (Hu & Liden, 2011). The meta-analysis of Kleingeld, van Mierlo & Arends (2011) showed that there is an established role of goal setting leading to better team performance. Zander (1980) proposed that there are four types of goals in groups, namely the members' goal for the group, the personal goal for the individual, the team goal for each member and the group's goal itself. Each type of goal can be diverse and competitive with each other, which can be challenging for the group performance. An important component of goal clarity is that individual team members understand how their sub-goals relate to the overall objectives of the team, which makes them experience more autonomy and control (Sawyer, 1992). That indeed can be beneficial for team performance (Hu & Liden, 2011). These findings account for the importance to examine goal clarity in relation to team performance which is the premise of the current study.

In relation to team reflexivity, goal clarity can be of equal importance to a certain extent. Given that reflecting on objectives and setting new goals is one of the aspects of the process of team reflexivity, it is expected that higher levels of goal clarity will lead to more effective communication as team members focus on the right targets. In the meta-analysis of Kleingeld and colleagues (2011) specific, difficult group goals have also been found to encourage groups by focusing attention, mobilizing effort and perseverance, and encouraging the development and use of task strategies that facilitate the achievement of the goals. In addition, group goals initiate motivational mechanisms such as planning, collaboration, communication for moral building and collective effectiveness (e.g. Weldon & Weingart, 1993). These mechanisms seem to be advantageous in the process of team reflexivity. Furthermore, goal clarity is found to be positively related to reflexivity, as it may facilitate the process of reflection by highlighting the cooperative goals instead of competitive goals (Tjosvold, Tang & West, 2004). The study of Dayan & Basarir (2009) supported these findings as well by showing that if members set clear goals together in an open discussion, interaction in reflexivity is stimulated. Goal clarity could additionally lead to more effective interactions among team members and consequently promote action (Gladstein, 1984). When the goals are not clear for every team member, it is expected that these mechanisms mentioned above are less likely to occur and thus less stimulate the performance of the team. Based on this reasoning, it is expected that team reflexivity is likely to be more effective on increasing team performance when the goals are clear for every team member.

Hypothesis 2. The relationship between team reflexivity and team performance is moderated by goal clarity in such a way that high levels of goal clarity strengthens the relationship, whereas for low levels of goal clarity it weakens the relationship.

Moderator participative leadership

One other condition that might vary the relationship between team reflexivity and team performance is the role of the leader, more specifically: participative leadership. Participative leadership is a leadership style in which the leader involves followers in the decision-making process and consults with team members before any decisions are made (Somech, 2003). With a participative leader, the team members are actively involved in problem solving (Lam, Huang & Chan, 2015) and the responsibility is also more delegated to the members (Huang, Iun, Liu & Gong, 2010). Participative leadership seeks to stimulate the participation of team members by giving them greater discretion, attention, influence, support and information (Bass & Stogdill, 1990). Participative leadership is also sometimes mentioned as empowering leadership in the literature (Arnold, Arad, Rhoades & Drasgow, 2000). A common approach of measuring participative leadership is by using a single dimension of empowering leadership developed by Arnold and colleagues (2000), for many participative leadership studies (Huang et al., 2010; Lam et al., 2015; Miao, Newman & Huang, 2014). It can be said that participative leadership focuses more on participation (in decision-making) instead of the overall empowering process (Lee et al., 2018). In the past it has been shown that empowering leadership is positively related to both knowledge sharing and team efficacy, both of which are in turn positively related to performance (Srivastava, Bartol & Locke, 2006). The research of Dayan & Basarir (2009) showed a significant relationship between team empowerment and team reflexivity. This study aims to clarify whether participative leadership is as well related to team reflexivity and team performance.

However, not much is known about the role of participative leadership and its outcome variables, nor is the relationship between participative leadership and team performance yet fully established (Lam et al., 2015). Besides, little is known about the relationship between team reflexivity and participative leadership and the mechanisms between them (Somech, 2006). However, participation in decision making is for example linked to performance through cognitive and motivational mechanisms (Wagner, Leana, Locke, & Schweiger, 1997). The literature shows

that participative leadership is positively associated with the process of team reflexivity in high heterogeneous teams (Somech, 2006). Which suggests that participation promotes and facilitates the process of team reflection through cognitive mechanisms (Cannon-Bowers, Tannenbaum, Salas & Volpe, 1995).

Part of the cognitive mechanism are underlying elements such as information processing and mental models. The study of Lam and colleagues (2015) shows that participative leadership leads to higher employee performance when there is a high level of information sharing. This is the degree to which leaders openly share, discuss, and communicate important information needed to make decisions and form judgments (Arnold et al., 2000). Building on this idea of information processing (Hinsz et al., 1997), it seems likely that all available information should be shared for the optimal choice process by a contribution of all team members to the reflection process. Which is more likely if there is a leader who encourage team members to share the information and contribute to the choice process, rather than a team leader who does not. Besides, shared mental models could explain why reflexivity could lead to better team performance (Konradt, Otte, Schippers & Steendatt, 2016). Shared mental models are the understanding of tasks (i.e. procedures and strategies) and of the other team members (i.e. roles and responsibilities) (Konradt et al., 2016). A participative leadership style could therefore stimulate the exchanging experiences from past actions and sharing the knowledge to develop better shared mental models, thus increasing team performance.

In conclusion, it is expected that the way leaders support their team members to actively debate and contribute to the team reflection and decision making will have a positive impact on the eventual team performance. Conversely, if there is less participative leadership behavior in the process of team reflexivity, it is predicted that the performance will decrease. Based on this reasoning, the following hypotheses is constructed:

Hypothesis 3. The relationship between team reflexivity and team performance is moderated by participative leadership in such a way that high levels of participative leadership strengthens the relationship, whereas for low levels of participative leadership it weakens the relationship.

Three-way interaction effect on team performance

In addition to testing the two conditions goal clarity and participative leadership that lead to better team performance in the process of team reflexivity, this research goes a step further by examining whether different levels of goal clarity and participative leadership together will even further increase the team performance due to team reflexivity. This raises the question whether or not both conditions are necessary to stimulate this relationship and how/whether the relationship varies.

Situational leadership states that different situations demand different kinds of leadership (Vroom & Yago, 1988). In addition to that, substitutes for leadership theory (Kerr & Jermier, 1978) state that under some circumstances, situational factors can substitute or 'neutralize' leadership, i.e. preventing the leader from taking action. Therefore, it would be expected that in different contexts (high or low levels of goal clarity) in a reflection process it asks for different levels of (participative) leadership. For instance, it is found that clear goals increase team performance by guiding team member's attention and encourage the members to be persistent (Hu & Liden, 2011; Locke & Latham, 1990). During reflexivity this can be good in favor of increasing the performance of the team. If the team knows clearly what the goals are and how to formulate clear objectives in the reflection process it can be argued that the function of a participative leader, whose task it is to stimulate team members in the process of reflection, becomes less relevant. Similarly, substitutes for leadership theory provide a related example: for well-designed jobs that provide clarity, meaning and intrinsic motivation, it requires little guidance from the leader. Hence, it is suggested that team reflexivity for a team with high levels of goal clarity and low levels of participative leadership, will result in better performance.

In contrast, it can be argued as well that participative leadership can have more impact if there is lower goal clarity in the team, this is based on path-goal theory. That shows that participative decision-making leads to more effective decision making, when there are ambiguous goals (House & Mitchell, 1975). If there are unclear goals, participative decision making makes team members learn what leads to what, gives them a better understanding of the concepts and what is eventually required for better performance (House & Mitchell, 1975). Hence, it is expected that the reflection will result in higher performance. Therefore, it is expected that team reflexivity in a team that has low goal clarity, can be enabled by high levels of participative leadership to increase their performance.

In summary, consistent with path-goal theory and situational leadership, it is expected that team reflexivity is especially useful for increasing performance in a context where there is low goal clarity and team members experience their leader as a highly participative leader. Or the other way around, team reflexivity will lead to better performance in circumstances with high goal clarity and low participative leadership. Essentially, it suggested that team performance is the outcome of a three-way interaction involving team reflexivity, goal clarity and participative leadership.

Hypothesis 4. Team reflexivity, goal clarity and participative leadership interact to affect team performance in such a way that when goal clarity is high (low) and participative leadership is low (high), the positive effect of team reflexivity on team performance will be stronger.

Method

Design

This research used quantitative methods with an online survey to answer the research question. The set-up of the study was a cross-sectional design.

Sample

This study only focuses on employees working in teams. Some inclusion criteria for teams were designed: the team needed to contain at least three employees (following guidelines for team definition (Salas et al., 1992)), they needed to have a direct team leader (in order to measure participative leadership) and somehow needed to have an innovative character. This last criterion was chosen because this innovative work environment requires teams to adapt quickly to change, an environment in which team reflexivity could be needed. At least 30% of the entire team had to complete the survey in order to include the team in the final data. This was done to ensure that on one hand the team data created a representative picture of the team and on the other hand made it possible to get enough teams to be included in the study.

The total response rate consisted of 257 team member respondents. After removing the invalid answers, missing data, and incomplete teams (< 30%) and missing leader responses the sample included 192 participants, consisting of 152 team members and 40 team leaders. In the end a total of 40 teams participated in this study. The final sample ranged in size from 3 to 30 team members (*mean* = 6.3, *SD* = 4.7). For team members there was an average team tenure of 23.6

months (*SD*= 35.4). There were 71 men and 81 female participants (*M*age= 33.1 years old, *SD*age= 10.3 years old), with an average of 10.3 years of work experience (*SD*= 10.5). Moreover, 62.5% of the team members had a bachelor's degree level of education or higher. The team leaders had a team tenure of *M*= 35.3 months of team tenure (*SD*= 43.2). The sample consisted of 20 men, 19 female participants and 1 unknown (*M*age= 36.2 years old, *SD*age= 10.3 years old), with an average of 13.9 years of work experience (*SD*= 10.0). Besides, 62.5% of the team members had a bachelor's degree level of education or higher. The teams are working in different industries and departments, like financial and insurance sector, health sector, civil technic, consultancy, software and retail. Most of the teams (24.2%) are working with service-related activities. All teams are part of organizations that are based in the Netherlands.

Procedure

The data is conducted through an online survey among team leaders and employees in teams. Joint data collection is done through convenience data sampling in the personal and professional network of the research team of students studying the topic 'Team Reflexivity'. This joint data collection was chosen in order to include a sufficient number of teams in the study. The first contact with the team was done by email or phone. A promotion letter/poster was sent out to collect the teams for the study. The team criteria were checked with a contact person, a briefing followed, and agreements were made about participation in the study. The contact person was then asked to send the questionnaires to his or her team and team leader. The online survey was available both via computer and mobile phone. Before starting the official survey, all participants had to agree to the informed consent on the use of their anonymized personal data and the confidentiality of the survey. To increase the response rate a personal approach was applied through contact in our network and snowball sampling to get in contact with more teams. Friendly reminders were sent to the contact person in case they did not reach the 30% response rate of the survey. To ensure confidentiality, team IDs were used to match the data for further analysis.

Measures

Four different questionnaires were used for this study. One for the team leader (average response time ± 3 minutes) and one for the team members (average response time ±10 minutes). Both questionnaires were offered in Dutch and English. Following the standard method of back translation (Brislin, 1980), the original English questionnaire items were translated into Dutch for native Dutch participants. After the translation to Dutch, a native speaker translated all items back

to English. The items that lacked correct translation were corrected and re-tested. Before publishing the questionnaire, all scales were checked by an expert and non-expert on their face validity and usability. The following scales were included in this research.

Team Reflexivity

Team reflexivity was assessed in the questionnaire of the team members. This was measured with the 4-item Team Reflexivity scale that was reported by Carter & West (1998) as the scale 'reflection: discussing processes. This scale contains items such as "The team often reviews its objectives"; "We regularly discuss whether the team is working effectively," and "The methods used by the team to get the job done are often discussed". One reversed item was created in the following way: "The team rarely reviews whether it's getting the job done". This is done on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Team Performance

Team leaders were asked to rate the team performance using four items taken from Black & Porter (1991). Answering the following question "How would you rate the following performance related aspects of the team?". Each of the four performance aspects, i.e., overall performance, completing tasks on time, quality of performance and the achievement of work goals, were assessed with items on a 5-point Likert scale (1 = poor, 5 = excellent). A Cronbach's α of .67 has been found for the team leader's response.

Goal Clarity

Goal clarity was included in the questionnaire for the team members. Three self-report items from a measure developed by Anderson and West (1998). This included the items: "Team members have clear performance norms, in line with the team objectives", "In our team, team members know what is expected from them" and one reversed item was formulated as "Our team formulates vague objectives". This scale has been tested on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree).

Participative Leadership

The 6-item scale Empowering Leadership Questionnaire from Arnold et al. (2000) was used to measure participative leadership. Team members were asked to rate their team leader. This is done on a 5-point Likert scale (1 = strongly disagree, 5 = strongly agree), with statements like "My team leader encourages work group members to express ideas/suggestions", "My team leader

gives all work group members a chance to voice their opinions" and the reversed item "My team leader makes decisions that are based only on his/her own ideas".

Control variables

This study checked for team size and average team tenure, to exclude that these variables influence aspects of team performance (Hackman & Hackman, 2002). Although teams with more team members have more resources, in most cases they tend to perform worse than smaller teams (Hackman & Hackman, 2002), implying that individuals expend less effort and take less responsibility for tasks (Mueller, 2012). Given that teams need some time to get to know each other before they can become a well-functioning team, the team tenure will also be tested (Goodman & Leyden, 1991).

Aggregation

Preceding aggregation to the team level, the calculations of the Rwg, ICC1 and ICC2 values were done to test the within and between group agreements, following the formula developed by James, Demaree & Wolf (1984). The mean values were Rwg = .86, ICC1 of .15 and ICC2 of *.39* for team reflexivity, Rwg = .94, ICC1 of .19 and ICC2 of .47 for team performance, Rwg = .91, ICC1 of .27 and ICC2 of .57 for goal clarity and Rwg = .91, ICC1 of .18 and ICC2 of .45 for participative leadership, as can be found in table 1. The ICC1 values were beyond the cut-off scores of 0.12 for ICC1 (James et al., 1984) and except for goal clarity, below 0.50 for ICC2 (LeBreton & Senter, 2008). Concerning this matter, Bal, De Jong, Janssen & Bakker (2012) note that many studies have reported low ICC scores. A lower ICC value can be caused by small team sizes or because of the higher between-group variance compared with within-group variance. In this case it can be wise to look at the within-group agreement indices with Rwg values (LeBreton, Burgess, Kaiser, Atchley & James, 2003; James, et al., 1984). Since all Rwg values were above the cutoff value of .70 (James et al., 1984), aggregation of the individual team member response to the team level was adequate.

Analyses

Data from Qualtrics has been exported to SPSS. Before analyzing the data, data-inspection has been done. Incomplete or invalid answers were removed from the dataset. Furthermore, items have been reversed, multicollinearity between all variables have been checked and the individual scores are aggregated to the team level, in order to conduct the analyses at the team level. There were no outliers in the dataset that needed to be deleted. All assumptions for regression analyses

were met. A regression and multiple (hierarchical) regression were used to test the hypothesis with PROCESS in SPSS.

Furthermore, type I error rate (alpha) was deliberately set at .10, rather than the traditional .05, considering the small sample size of this study (Fisher, 1950). This has been done in several different studies as well (Pérez & Pericchi, 2014; Haas, Nugent & Rule, 2004). To ensure transparency and the validity of generalization of the data the actual values of p, beta, confidence intervals are reported.

Results

Table 1 shows the means, standard deviations, intercorrelations of all variables, including the control variables used in this study and the reliability indices of the scales.

Table 1

Means, standard deviation, aggregated level intercorrelations, within-group agreement and intraclass correlations (N=40 teams)

Variable	M	SD	1	2	3	4	5	6	α	Rwg	ICC1	ICC2
1. Team size	21.2	20.2	-									
2. Team tenure[a]	6.30	4.68	.23	-								
3. Team reflexivity	3.57	.41	.01	-.26	-					.86	.15	.39
4. Goal clarity	3.78	.50	-.06	-.04	.25	-				.91	.18	.45
5. Participative leadership	4.11	.46	.03	.17	.38**	.34**	-			.91	.27	.57
6. Team performance	3.87	.35	-.18	.06	.35**	-.01	.34**	-	.67			

*Note.* *p <.10 **p < 0.05; ***p < 0.01; ****p < 0.001; two-tailed

[a]Months

To test hypothesis 1, a hierarchical linear regression analysis was conducted to evaluate the prediction of team performance from team reflexivity and the control variables. In the first block, the control variables team size and team tenure were entered. This revealed a model that was not statistically significant (p =.47). For the second block analysis, the predictor value team reflexivity was added. In line with Hypothesis 1, there is a significant, positive relationship between team reflexivity and team performance (β = .40, t = 2.59, p = .013) as can be seen in table 2. Additionally, the R^2-change value of .152, suggests that when controlling for team size and team tenure, team reflexivity explains 15,2% of the variance in the predicted team performance (R^2 = .192, F (1,36) = 6.752, p = .013). Thus, hypothesis 1 is supported, meaning that teams reporting a higher level of team reflexivity show higher levels of team performance.

To investigate hypothesis 2, a simple moderator analysis was performed using PROCESS. The hypothesis tested if the relationship between team reflexivity and team performance is moderated by goal clarity in such a way that high levels of goal clarity strengthens the relationship, whereas for low levels of goal clarity it weakens the relationship. Neither the overall model $F(5,34) = 1.76$, $p = .146$, $R^2 = .206$, nor the interaction between team reflexivity and goal clarity was found to be statistically significant ($b = -.051$, 95% CI [-.792, .689], $t = -.14$, $p = .889$), indicating that the relationship between team reflexivity and team performance is not moderated by goal clarity. In addition, the interactive effect figure (Figure 2) exhibits that interaction was not significant.

Figure 2

*Plot of the non-significant moderation effect of goal clarity*
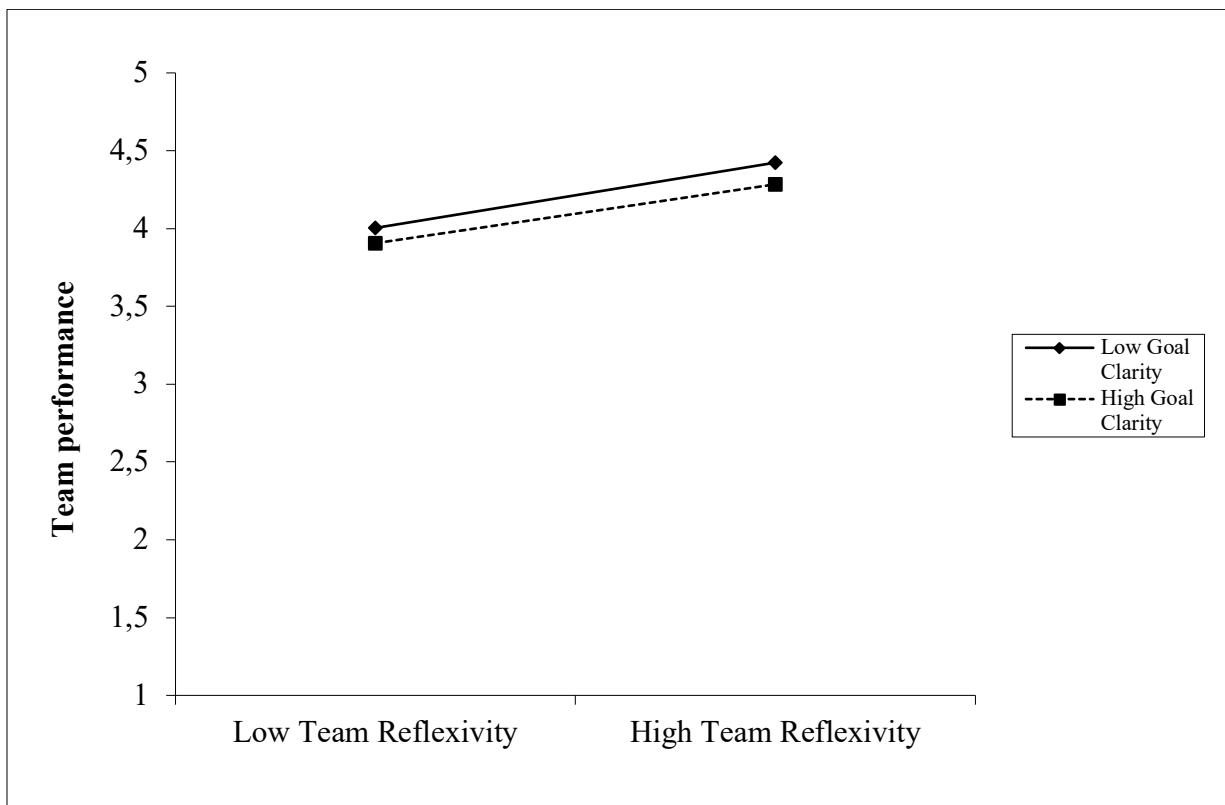
Hypothesis 3 tested if the relationship between team reflexivity and team performance is moderated, to such degree that high (low) levels of participative leadership strengthens (weakens) the relationship. A simple moderator analysis (model 1) was performed in PROCESS. The overall model is significant $F(5,34) = 2.09$, $p = .091$, $R^2 = .24$. However, the interaction between team reflexivity and participative leadership was found not be statistically significant ($b = .-.44$, 95% CI

[-1.74, .857], t =-.69, p = .494), indicating that the relationship between team reflexivity and team performance is not moderated by participative leadership. See figure 3 for the plot.

Figure 3

Plot of the non-significant moderation effect of participative leadership.
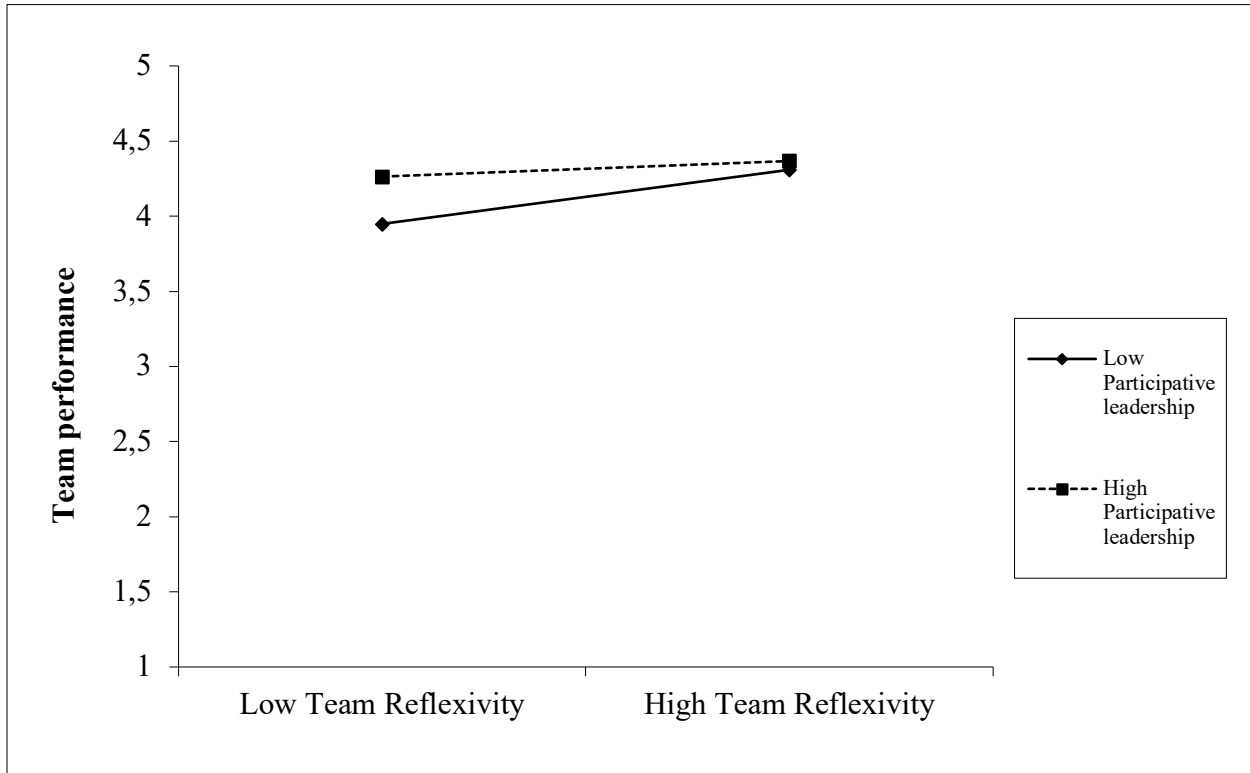
Hypothesis 4 predicted that the relationship between team reflexivity and team performance was moderated by goal clarity and participative leadership, in such a way that team reflexivity had the strongest positive relationship with team performance when there were high (low) levels of goal clarity and low (high) levels of participative leadership. Table 2 shows that hypothesis 4 is supported (b = -2.81, 95% CI [-5.34, -.283], t = -2.27, p = .031). The three-way interaction is plotted in figure 4 by following the widely known procedure, specified by Aiken, West & Reno (1991). As figure 4 shows, team reflexivity had the strongest positive relationship with team performance when goal clarity was low and participative leadership was high, and thereby supports hypothesis 4.

Figure 4

Plot of the three-way interaction
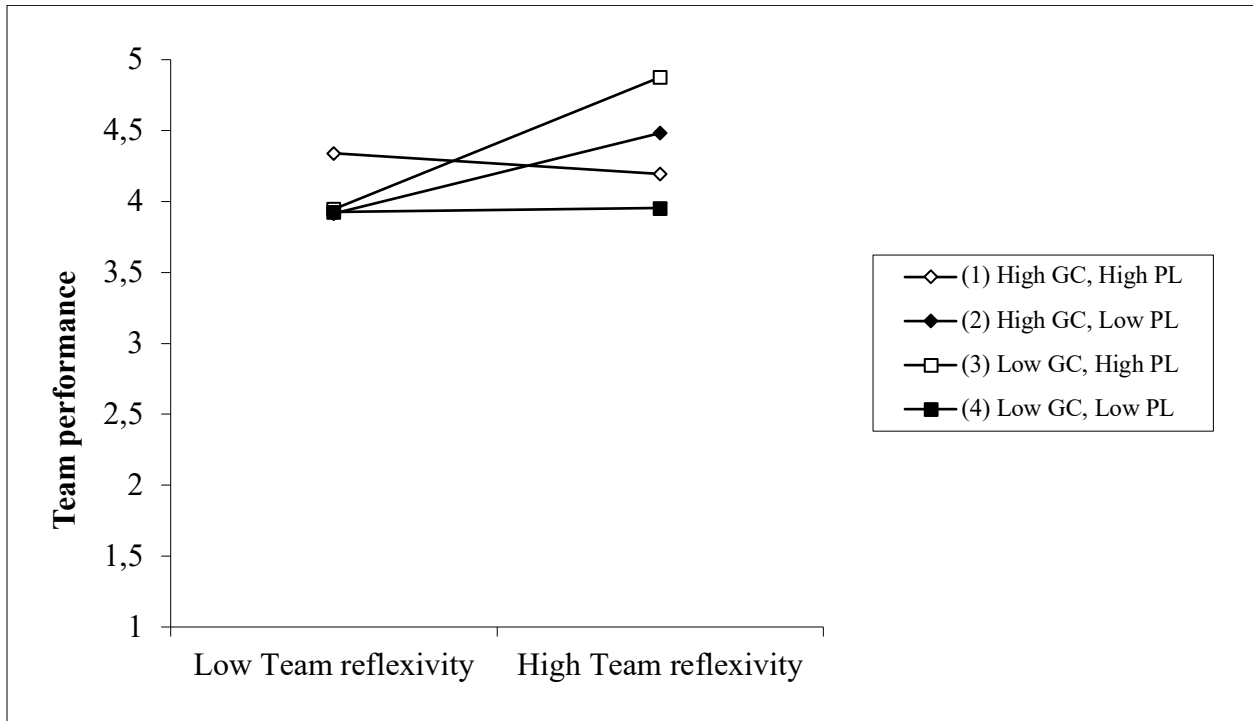
To further investigate this interaction, a method is used to investigate whether pairs of individual gradients differed from each other (Dawson & Richter, 2006). This method calculates if the ratio of the differences between a gradient pair and its standard deviation differs from zero. The simple slope and the test about their differences are presented in table 3 (related to the plot of figure 4). In team reflexivity for teams with low participative (M-1*SD*) and high goal clarity (M+1*SD*), there is a significant positive effect on team performance, $b = .698$, 95% CI [.064, 1.33], $t = 2.25$, $p = .032$. For teams in the reflection process with mean values of goal clarity and participative leadership, there is also a significant positive effect on team performance, $b = .425$, 95% CI [.011, .859], $t = 1.99$, $p = .055$. When there are high levels of participative leadership and low levels of goal clarity in the reflection process of a team, there is as well a positive significant effect on team performance, $b = .1.15$, 95% CI [.173, .2.46], $t = 1.77$, $p = .086$.

Table 3

Simple slopes comparison for three-way interactions

Pairs of comparisons	Team Performance	
	Slope	*t*
1 (High GC, high PL)	-.18	-.31
2 (High GC, low PL)	.70	1.20
3 (Low GC, high PL)	1.15	1.50*
4 (Low GC, low PL)	.04	.045
Slope difference		
1 and 2		-90.9****
1 and 3		-6.7****
1 and 4		-1.03
2 and 3		-2.36**
2 and 4		3.3**
3 and 4		86.0****

Note. Pair numbers correspond to the numbers listed in Figure 4

*p <.10; **p < 0.05; ***p < 0.01; ****p < 0.001; two-tailed

Table 3

Results of the general linear model analysis (N=40 teams)

Variable	Team Performance				
	B	*SE(B)*	*ß*	*R^2*	*ΔR^2*
Step 1:	2.528**	.648		.192**	
Team size	-.022	.015	-.227		
Team tenure	.005	.004	.209		
Team reflexivity	.453**	.174	.404		
Step 2:	4.154****	.136		.206	
Team size	-.023	.016			
Team tenure	.005	.004			
Team reflexivity (TR)	.491**	.184			
Goal clarity (GC)	-.120	.153			
TR x GC	-.051	.364			.001
Step 3:	4.222****	.149		.235*	
Team size	-.021	.015			
Team tenure	.002	.004			
Team reflexivity (TR)	.286	.215			
Participative leadership (PL)	.262	.218			
TR x PL	-.443	.640			.011
Step 4:	4.204****	.146		.398*	
Team tenure	.004	.004			
Team reflexivity (TR)	.425*	.213			
Goal clarity (GC)	.058	.179			
Participative leadership (PL)	.378*	.215			
GL x PL	-.570	.425			
TR x GC x PL	-2.814**	1.239			.103**

*Note. *p <.10 **p < 0.05; ***p < 0.01; ****p < 0.001; two-tailed

Discussion

In conclusion, this multi-source survey study using innovative teams in the Netherlands aimed at finding how and when team reflexivity would lead to better team performance. It confirms the evidence for team reflexivity leading to better performance. The current study did not find, as hypothesized, a boundary condition of higher or lower levels of goal clarity alone as influencer of the relationship. Next to that, there was no significant result found of participative leadership as a single moderator of the team reflexivity-team performance relationship. However, a three-way interaction was found between team reflexivity, goal clarity and participative leadership on team performance. This result demonstrates the complexity of team reflexivity in relation to goal setting and leadership with the intention to improve team performance.

Theoretical contributions

The current study has provided evidence for the relationship between team reflexivity and team performance, therefore confirming the literature that has been done in this field (Carter & West, 1998; Tjosvold et al., 2004; Somech, 2006 & Schippers, 2004). This implicates that teams who regularly discuss whether they are working effectively and adapting their objectives will increase their overall performance and quality of work. This research therefore contributes to the literature on team reflexivity and the issue of how team performance can be influenced in a meaningful manner (Schippers et al., 2018).

In addition, the current study answers the call to investigate the role of goal setting in the process of team reflexivity to team performance (Schippers et al., 2018). Although, it did not find a significant result of goal clarity as a moderator in this relationship. It can be argued that, because reflexivity already includes looking back on results and setting new goals, the absence or presence of current clear goals does not have that much impact on the relationship. The study of Gurtner (2009) even found that goal clarity negatively related to this relationship, stating that teams with already clear goals do not benefit from reflexivity. One other explanation that this expected result is not found may be due to the low power. A replication study with a bigger sample is suggested, because the Johnson-Newman output in PROCESS obtained, as a result of moderation analysis, some significant results of the predicted higher and lower levels of goal clarity.

The current study explored the role of participative leadership to contribute to the empirical understanding of the role of leadership in the process of team reflexivity, which has been limited so far (Schippers et al., 2008). No significant result was found for the influence of higher or lower

levels of participative leadership in team reflexivity predicting team performance. One explanation could be that the teams in our sample were too homogeneous to find an effect of participative leadership. Since the study of Somech (2006) found that participative leadership was positively associated in the process of team reflexivity, only when the teams were highly heterogeneous. With a diverse team, a participative leader might unite all the team members by making them listen to each other and express their different ideas. This can be very stimulating for the group reflection if this a group full of different perspectives. With homogenous teams, the uniting effect of a participative leader might become redundant when the team is already understanding each other's perspectives while reflecting in the first place.

Additionally, to the knowledge of the author, this is the first study that examined the effect of a three-way interaction between team reflexivity, goal clarity and participative leadership on team performance. This research demonstrates that in the process of team reflection, teams will benefit under circumstances with very low levels of goal clarity and high levels of participative leadership, leading to more team performance. This could imply that if the team leader notices that the goals are not clear during reflection, it should encourage the group to voice their opinions and stimulate interaction to get all the available information on the table. As the information-processing theory states, this could lead to better decision-making through more extensive consideration of alternatives and coordination through the creation of shared mental models (Stasser & Tinus, 1985). Team members could feel empowered by the leader to take action and thus increase team performance (Seibert, Wang & Courtright, 2011; Seibert, Silver & Randolph, 2004).

This three-way interaction effect was also visible in the other direction. The process of team reflection will improve performance in circumstances where there are high levels of goal clarity and lower levels of participative leadership. This leads to the interpretation that when team members know what is expected of them, they do not need the support of a participative leader to actively invite them to participate in the reflection. It might even cause some inconvenience to the team if they know what to do and yet there is someone who continues to invite them to participate. The current study contributes to the literature on situational leadership (Vroom & Yago, 1988) and substitutes for leadership theory (Kerr & Jermier, 1978), with specific examples of when a leader knows when it is advantageous to exhibit this participative behavior and when it is undesirable. Furthermore, substitutes for leadership theory could offer an explanation why this study found

non-significant results for participative leadership as a moderator on itself but did find a three-way interaction with other conditional variables. This example shows that just looking at the results of leadership style research may not be enough to draw conclusions for implementing it in teams and organizations. It is important to look at the team characteristics and circumstances to see the whole picture of the effect of leadership (Vecchio, 2003).

Practical implications for managers

The results of this study can be stimulating for managers to integrate team reflexivity into their development practices in order to increase the team performance. If there is no support or time for thoughtful reflection given by managers, this is unlikely to happen (Fay, Shipton & West, 2015). Therefore, it is important that reflection sessions are becoming part of their routine and will be frequently scheduled. It would be advised for teams and managers to engage in team training reflection programs, through which they can develop their reflection and goal setting skills.

Given the results of this study, it is important for leaders to be aware of when participative stimulation is needed and when not. If the manager, or the team, has the feeling that the goals are clear, the leader can keep him or herself more in the background in the discussion. Training for situational participative leadership would be recommended. For self-management teams it would be advised to check if there is goal clarity. If not, for instance in the early stages of a project, the team should engage in more goal-specification activities (Sonnentag & Volmer, 2010). For instance, the team can use project boards that visualize their goals and the division of the related tasks. Besides, it would be advised that all agenda items in meetings are closed with a summary of the concrete SMART goals. Which means formulating (learning) goals that are specific, measurable, acceptable, realistic and time-bound (O'Neill, 2000).

A somewhat more controversial, but idealistic argument, would be the advice to replace the yearly performance appraisals with employees by team reflexivity as a continuous process of performance feedback. This might desirable, especially, since there is some discussion as to whether the regular annual performance interviews are really effective for the performance of the employees or not (Balzer & Sulsky, 2013; Adler, Campion, Colquitt, Grubb, Murphy, Ollander-Krane & Pulakos, 2016). When employees experience the appraisal by the supervisor as biased, political or irrelevant, this can become a source of both frustration and dissatisfaction (Skarlicki & Folger, 1997). One suggestion could be that giving feedback on a regular basis, done by direct colleagues will have a more positive impact on the experience of the employee and the overall

performance compared to classic performance appraisal that combines feedback with decisions about promotion and salary negotiations.

Limitations and future directions

One of the strengths of this article is the data collection at team level, which gives a good representation of the actual state of the team. Besides, this study used multi-source data design by testing the judgement of the team leader for team performance. This can result in more objective data, by overcoming common method bias, that can be caused by socially desirable answers (Rosenman, Tennekoon & Hill, 2011). Finally, it can be stated that the findings can be generalized to several work settings, because data collection was done amongst teams that came from different organizations and sectors.

However, this study also has some limitations that need to be noted. This research has a cross-sectional design; accordingly, no causal relationships can be drawn from the conclusions. Therefore, longitudinal studies on team reflexivity would be advantageous to see if team performance indeed increases over time when teams reflect. In addition, the fact that the data collection took place during the start of the COVID-19 pandemic, which resulted in a lot of remote work for the teams, has to be taken into account. It resulted in a smaller than expected sample size, some team leaders agreed in advance and later indicated that they had other priorities at that time. The design of this survey gives sufficient grounds to assume that the COVID-19 pandemic had no, or limited, impact on the responses, since the team members were asked about the team in general. As all data were collected in the same period, no further differences between teams are expected. Finally, some notes need to be made about Cronbach's alpha of .67 on team performance. Some scholars consider an α <.70 as unreliable (Gliem & Gliem, 2003). Although, a lower alpha can be caused by a low number of items. Therefore, it was checked for heterogeneous constructs and inter-item correlations (Tavakol & Dennick, 2011). They all appeared to be above .30, thus this scale could be considered as reliable (Field, 2013).

The following subjects are recommended for future studies. The findings of this study contribute to the statement that boundary conditions of team reflexivity can be complex and further research on moderators in the future would be advised. For example, testing different leadership styles and taking into account the team characteristics, such as different levels of diversity.

Second, this study revealed a significant correlation between goal clarity and participative leadership as well as participative leadership and team performance. It is suggested to test a

mediating effect of goal clarity in participative leadership leading to better performance. When a leader actively invites all team members to speak out in the collective reflection, it is likely that there will be a better understanding of all the group's task experiences and knowledge, resulting in a better understanding about the work that needs to be done (Marks et al., 2001). A participative leader can encourage the team to set its own goals and involve it in decisions that affect team members, which is expected to increase goal clarity and thus improve team performance.

Moreover, the methods and content of team reflexivity have not yet been extensively researched and calls for further research have already been made (Seidel & Fixon, 2013; Gurtner et al., 2007). This study proposes to test whether certain procedures work better than others. This will give managers more direction for the application of reflexivity in the workplace.

Ultimately, given the expectations that remote working will become more of a new standard in the future, it might be sensible to explore what this means for team reflexivity. Ensuring a safe environment, which is a condition for team reflexivity (Edmondson, 2004), can be experienced as challenging along with the non-verbal feedback that is lacking through video calls (Green, 2007). On the other hand, because the team members are separated from each other, they can experience less goal clarity as a team. It may be interesting to investigate whether team reflexivity can bridge this gap.

Conclusion

In a time of rapid change and the considerable pressure to work cost-efficiently, the performance of the team and the organization is even more important. This study advances theoretical and empirical understanding of when team reflexivity leads to better performance. As it illustrates that in the reflexivity process for high (low) levels of goal clarity and low (high) levels of participative leadership team performance increases. It is hoped that this study will stimulate interest in the quality of team reflexivity and provide a stimulus for future research into the complexity of the effect of team reflexivity boosting team performance in different circumstances.

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