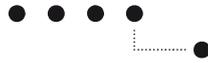


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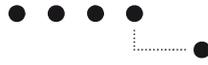
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Reflexivity and Social Stressors in Teams: An Empirical Study.

Abstract: Following West's (1996) conceptual discussion of reflexivity, this study adds to the growing body of literature on antecedents and effects of reflexivity in work groups by exploring the links among social stressors, team characteristics, reflexivity and team performance. Reflexivity is defined as the "extent to which group members overtly reflect upon the group's objectives, strategies and processes, and adapt them to current or anticipated endogenous or environmental circumstances" (West, 1996, p.559).

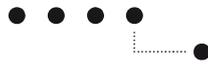
Whereas an open and constructive atmosphere for group discussion may foster reflexive communication among team members, the presence of social stressors may inhibit reflexivity. Social stressors include conflicts with other team members and supervisors, unfair behavior, and a negative team climate (Dormann & Zapf, 2002). However, the presence of conflicts and crises in a team could also be expected to trigger reflexive behavior in an attempt to solve or improve the situation. We expect indicators of real teams—stability, interdependence, and goal clarity—(Hackman, 2002) to moderate the links between social stressors, team reflexivity and individual and team level outcomes.

In a field study involving 220 teams (1039 members), we found no direct relationship between social stressors and team-level reflexivity. Reflexivity and individual outcome measures were positively related, but reflexivity and supervisor-rated team performance were not directly related. The moderating effects of the real team indicators member stability, task interdependence and goal clarity were diverse. Whereas high team stability negatively moderated the link between social stressors and reflexivity, this link was positively moderated by high task interdependence. Task interdependence positively moderated the link between reflexivity and superior rated team performance. Results are discussed in terms of theoretical and practical managerial implications.

Keywords: Reflexivity, Social Stressors, Real Teams, Satisfaction, Team Performance.

Introduction

Teams in today's organizations - facing a constantly changing environment – should take an active stance toward their environment and develop or adjust their performance strategies accordingly to achieve high performance (Hackman, 2002). However, empirical evidence shows that reflexive processes, such as planning and strategy development, are unlikely to arise naturally in groups (e.g. Hackman & Morris, 1975; Tschan, Semmer, Nägele, & Gurtner, 2000). West (2000) therefore proposes that reflexivity should be induced by team leaders or formal processes, such as by promoting a corresponding core norm of conduct (Hackman, 2002) or through reflexivity training (Bli-



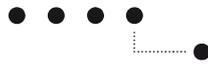
ckensderfer, Cannon-Bowers, & Salas, 1997; Gurtner, Tschan, Semmer, & Nägele, 2007; Schippers, Den Hartog, Koopman, & Wienk, 2003; Smith-Jentsch, Blickensderfer, Salas, & Cannon-Bowers, 2000). However, West (2000) expects also unplanned events within teams—such as conflicts and crises—to trigger reflexive behavior in an attempt to solve or improve the situation. However, conflicts and crises in a team can also threaten intragroup-safety, a concept that "refers to the sense of psychological or psychosocial safety group members feel in the presence of their fellow group members and especially during whole group interactions." (West, 2002, p.374).

Whereas an open and constructive atmosphere for group discussion may foster team-level reflexivity, things may be less unequivocal in the presence of social stressors: a general negative team climate or conflicts in the team may inhibit or trigger reflexivity. We believe with De Dreu (2002) that complex relations exist among team-related variables such as social stressors and reflexivity. In this study we explore two main research questions. Firstly, we explore the relationship between social stressors and reflexivity: Does a direct relationship exist between social stressors and reflexivity and is this relationship moderated by the real team characteristics member stability, task interdependence, and goal clarity (Hackman, 2002)? Second, based on West's (1996) argumentation that reflexivity is positively related to team performance and member satisfaction, we explore the relationship between reflexivity and the outcome measures job satisfaction, individual performance and member and supervisor-rated team performance: Do direct (positive or negative) relationships exist between reflexivity and outcome measures and are these relationships moderated by the real team characteristics?

Reflexivity

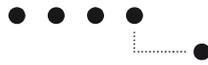
In modern organizations teams are increasingly involved in complex decision making processes or in interdependent task accomplishments. Not surprisingly, the potential benefits of reflexive processes in teams were discussed lately by several authors (Baird, Holland, & Deacon, 1999; Blickensderfer et al., 1997; Smith-Jentsch et al., 2000; West, 1996). It was especially West's (1996, p.559) conceptualization of reflexivity that has inspired a growing number of studies on antecedents and effects of reflexive behavior in teams.

West (1996) argues that reflexivity is positively related to team performance and mem-



ber satisfaction. Empirical evidence is still scarce and, to some degree, contradicting. Depending on the performance measure taken (see for example Hoegl & Parboteeah, 2006) or source (self-rated vs. supervisor ratings), direct relationships are found to be positive, lacking, or even negative. For example, in an early study, Carter and West (1998) found that reflexivity (task reflexivity and social functioning) predicted team effectiveness (audience appreciation and managers' ratings) better than team size or climate for innovation. However, only the model for manager ratings reached significance and correlations were only statistically significant between social functioning and audience appreciation. In a replication of with blue collar workers, Facchin (2002) found no significant correlations between reflexivity and production efficacy or self-evaluation of performance. Similarly, Hoegl and Parboteeah (2006) found in a field study with 145 software development teams a positive effect of reflexivity on manager rated effectiveness, but not on manager rated efficiency. There is also empirical evidence for negative as well as positive relationships between reflexivity and outcome variables. On the one hand, De Dreu found in two field studies (De Dreu, 2002; 2007) negative correlations between reflexivity and supervisor-rated team effectiveness. On the other hand Tjosfold, Tang, and West (2004) found a positive correlation between reflexivity and team innovation in a study involving 100 work teams in China. Schippers, den Hartog, Koopman, and Wienk (2003) found in a field study among 59 work teams that reflexivity correlated positively with self reported team performance, satisfaction and commitment. Finally, Schippers, Den Hartog, Koopman and Van Knippenberg found in a recent field study conducted among 32 intact work teams a positive direct relationship between reflexivity and team performance (2008).

Some studies suggest that reflexivity may not be generally advantageous, but only under specific conditions. Gevers, van Eerde and Rutte (2001) found in a study conducted among 22 student project groups that reflexivity only contributed to student project progress during the execution phase but not in the earlier orientation phase. De Dreu (2002) found in a field study with 32 heterogeneous organizational teams that reflexivity had positive effects on team innovation and team effectiveness only in teams with high minority dissent. Schippers and colleagues (2003) found in addition to direct effects among study variables various moderating and mediating effects among reflexivity, outcome interdependence, diversity, group longevity and outcome variables. Similarly, De Dreu (2007) found in a field study involving 46 teams reflexivity to moderate the link



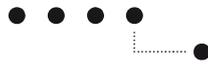
between outcome interdependence and team effectiveness. Thus, following this body of research we can conclude that relationships between reflexivity and outcome measures are often not straightforward, but moderated by context variables such as project phase, team composition and task structure.

In these studies, reflexivity was always assessed on the team level and measured with the original or an adapted version of the Swift and West (1998) reflexivity questionnaire. An other approach was chosen by Gurtner and colleagues (2007). They introduced reflexivity in an experimental setting either on the individual or on the group level and found stronger effects on team process variables—strategy communication, shared mental models and strategy implementation—and team performance when members reflected individually on the team task than when they reflected together in the team. Thus, reflexivity may not only be related to team level processes, but also affect individual level processes and outcomes. Accordingly, earlier findings may also be interpreted under the aspect of measuring individual or group level outcomes. Schippers and colleagues (2003) for example found strong effects on individual level (although aggregated) variables such as satisfaction. We therefore have to consider that not only teams, but also individuals may profit from reflexivity. In this study, we examine direct and moderated effects of reflexivity on the individual level variables job satisfaction, individual performance and member-rated team performance as well as on supervisor-rated team performance.

Social stressors

Intragroup conflicts can have strong effects on processes as well as outcomes in teams (Jehn, Northcraft, & Neale, 1999). Whereas task conflicts were traditionally discussed in terms of positive outcomes, relationship conflicts were discussed in more negative terms. However, in their meta-analysis, De Dreu and Weingart (2002) found negative correlations between team performance and member satisfaction on the one hand and team as well as task conflict on the other. The negative impact of conflicts in teams was even stronger in teams confronted with more complex tasks.

Conflict management is therefore critical in teams performing complex task and working interdependently. If errors are not discussed or conflicts not solved, this may have long-term negative effects on team processes and performance. West (2000) expects that conflicts and crises are likely to induce reflexive behavior. Since teams often hesita-



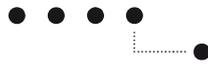
te to involve spontaneously into reflexive processes, such as planning and strategy development, but rather follow their habitual routines (e.g. Hackman & Morris, 1975; Tschan et al., 2000), it may be the leaders' role to create conditions that allow the team to be explorative and creative in solving conflicts (Hackman, 2002; Hirst, Mann, Bain, Pirola-Merlo, & Richver, 2004; Schippers et al., 2008). However, conflicts and crises in a team may also negatively affect the team climate and threaten the individuals' feeling of psychological safety in the interaction with other team members and thus negatively affect group processes and outcomes. If members do not feel that the team is safe for interpersonal risk taking (Edmondson, 1999), team members may not be willing to involve in reflexive processes. By disclosing thoughts and feelings related to team processes or task accomplishment, team members make themselves vulnerable (Cunliffe & Easterby-Smith, 2004). An open and constructive atmosphere for group discussion where members are open to feedback, and questioning and critique are offered and accepted in a constructive way, may then support reflexive behavior.

Recent studies explored relationships between reflexivity and conflict. Tjosfold, Hui, and Zu (2003) showed that not the conflicts itself, but how they are managed—namely relying on a cooperative approach—contributed to reflexive behavior. Cooperative conflict management was positively related to reflexivity, and reflexivity in turn positively related to team performance. Whereas Schippers and colleagues (2003) did not find a direct relationship between diversity—a measure that could indicate social stress in a team (Pelled, 1996)—and reflexivity, they found the relationship to be moderated by outcome interdependence and group longevity. Finally, De Dreu (2002) found minority dissent to be positively related to team performance, when teams engaged in reflexivity.

Again, team characteristics may moderate the effect of conflict and social stressors on reflexive processes. In this study we analyze direct and moderated relationships between social stressors and reflexivity.

Real teams

Various attempts were made to define teams (Cannon-Bowers, Salas, & Converse, 1993; Kozlowski & Bell, 2003; Salas, Dickinson, Converse, & Tannenbaum, 1992) without concluding on a shared definition. However, many of these definitions share common attributes such as a team having an interdependent task and common goals. Hackman (2002) argues that co-acting groups—e.g. when people claim to be part of a



team but merely share the same work space—should be distinguished from real teams. According to Wageman, Hackman, and Lehman (2005) real teams have clear boundaries, moderate membership stability and are interdependent. Common goals—the second common feature of many definitions of teams— Hackman (2002) and Wageman and colleagues (2005) integrate in a second dimension of their model, compelling direction, with the sub-dimensions clear, challenging and consequential.

In this study, we adopt Wageman and colleagues' (2005) conceptualisation of real team indicators and explore the moderating effects of, stable membership, task interdependence and—to meet common conceptualizations of team features—goal clarity on the relationship between social stressors and reflexivity on the one hand and reflexivity and outcome measures on the other.

In accordance with the previously discussed findings of moderating effects of team variables on reflexivity, we believe, that processes that involve reflexivity are sensitive to real team indicators. We expect that teams with clear boundaries, high member stability, high task interdependence, and high goal clarity (Hackman, 2002) are more motivated to productively deal with conflicts and thus involve more in reflexive behavior than groups with loose ties and without goal clarity (see e.g. Schippers et al., 2003), since for them the stakes are higher. For the same reasons we also believe that real team indicators positively influence the relationship between reflexivity and individual and team level outcome measures. We formulated the following hypotheses:

Hypothesis 1a: Perceived social stressors are not directly related with reflexivity.

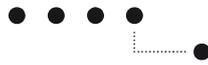
Hypothesis 1b: Real team indicators (clear boundaries, team stability, task interdependence and goal clarity) will moderate the relationship between social stressors and reflexivity.

Hypothesis 2a: Reflexivity is positively related to job satisfaction.

Hypothesis 2b: Real team indicators (clear boundaries, team stability, task interdependence and goal clarity) will moderate the relationship between reflexivity and job satisfaction, after controlling for social stressors.

Hypothesis 3a: Reflexivity is positively related to member-rated individual performance.

Hypothesis 3b: Real team indicators (clear boundaries, team stability, task interdependence and goal clarity) will moderate the relationship between reflexivity



and member-rated individual performance, after controlling for social stressors.

Hypothesis 4a: Reflexivity is positively related to member-rated team performance.

Hypothesis 4b: Real team indicators (clear boundaries, team stability, task interdependence and goal clarity) will moderate the relationship between reflexivity and member-rated team performance, after controlling for social stressors.

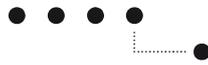
Hypothesis 5a: Reflexivity is positively related to supervisor-rated team performance.

Hypothesis 5b: Real team indicators (clear boundaries, team stability, task interdependence and goal clarity) will moderate the relationship between reflexivity and supervisor-rated team performance, after controlling for social stressors.

Method

Sample and data collection

Teams were recruited by phone and email. Following Hackman (2002) we contacted teams whose tasks required them to work together to accomplish their task and who considered themselves and were seen by others as an interdependent social entity. A cover letter described the purpose of the study and guaranteed confidentiality. When the team supervisors agreed to participate in the study, researchers handed the questionnaires directly to the team members and supervisors and collected them again one week later. Members from 238 teams—mainly from the banking and insurance sector, and from government—filled in the questionnaires. The teams included management, service and support teams, and to a lesser extent also production teams. Only when the response rate was higher than 50 percent, the team was included into the study. The response rate within the remaining 220 teams was 82%. The team size ranged according the information given by the team supervisors from 3 to 19 members with an average of 6.58 per team. The mean age of the included 1039 team members was 33.9 years (SD = 11.0), 42.8% were women, 47.6% were men; 157 respondents gave no information concerning their age, 100 respondents gave no information concerning their sex. Team member tenure varied from less than 6 months (20.1%), to 6 to 12 months (12.3%) and to more than 12 months (57.6%). Again, 104 respondents ga-



ve no information concerning their team tenure. Team leaders' mean age was 39.8 years ($SD = 8.8$), 20.5% were women, 72.7% were men; 22 team leaders gave no information concerning their age, 15 team leaders gave no information concerning their sex. Team leader tenure varied from less than 6 months (15.0%), to 6 to 12 months (8.6%) and to more than 12 months (68.6%). Again, 17 team leaders gave no information concerning their team tenure.

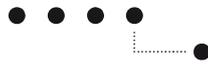
Measures

Control variables. We calculated demographic measures based on the information available for team tenure, sex, and age and a composite diversity measure (for the procedure see Schippers et al., 2003; Teachman, 1980). Analyses involving either all three measures on the individual level or the composite measure for diversity on the team level, yielded no effects on outcome variables. In the final analyses, we did not include the three individual level measures for reasons of power, however we included the diversity measure, since in earlier research relationships with reflexivity were found.

Reflexivity was measured with the eight (task reflexivity) items reported by Carter and West (1998) in the German translation of van Dick & West (2005). This questionnaire includes items directed to measure reflexive behavior as well as items directed to measure changing ways of acting. Team members were asked to what extent they agreed with items such as "The team often reviews its objectives"; "We regularly discuss whether the team is working effectively together", "In this team, we modify our objectives in the light of changing circumstances", and "Team strategies are often changed". Items were rated on a 5-point scale from (not at all true) to 5 (absolutely true), $\alpha = .79$.

Social stressors were measured with eight items referring to the social climate in the work group, and conflicts with colleagues and supervisors (Frese & Zapf, 1987), thus referring to intragroup safety as well as conflicts in the team. Team members were asked to what extent they agreed with items such as "I have to work together with people who do not understand fun", "My supervisor always assigns the pleasant tasks to particular people", and "One has to pay for the mistakes of others". All items were rated on a scale from 1 (not at all true) to 5 (absolutely true), $\alpha = .77$.

Real Team characteristics items were derived from the Team Diagnostic Survey (Wageman et al., 2005) in a German translation. Team stability was measured with two items: "Different people are constantly joining and leaving this team" (reverse coded)

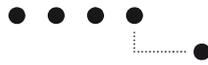


and "This team is quite stable, with few changes in membership". Task interdependence was measured with three items: "Members of this team have their own individual jobs to do, with little need for them to work together" (reverse coded); "Generating the outcome or product of this team requires a great deal of communication and coordination among members" and "Members of this team have to depend heavily on one another to get the team's work done". Goal clarity was measured with two items: "There is great uncertainty and ambiguity about what this team is supposed to accomplish" (reverse coded) and "This team's purposes are specified so clearly that all members should know exactly what the team exists to accomplish", Team members rated all items on a scale from 1 (totally agree) to 5 (totally disagree). Principal component analysis with Varimax rotation revealed the presence of three factors with eigenvalues exceeding 1, explaining together 67.2% of the variance. These factors corresponded to the three initial scales with all factor loadings exceeding accepted standards of $>.5$. The first factor explained 26.2%, and was composed of the three task interdependence items (minimal factor loading was $.63$, $\alpha = .64$). The second factor explained 24.2%, and was composed of the team stability items (minimal factor loading was $.87$, $\alpha = .80$). The third factor explained 16.8%, and was composed of the goal clarity items (minimal factor loading was $.78$, $\alpha = .63$).

Job satisfaction, individual and team performance. Job satisfaction was measured with eight items (Baillod & Semmer, 1994). One of the items is a Kunin-item asking "How satisfied are you in general with your work?", ranging from 1 (exceedingly unsatisfied) to 7 (exceedingly satisfied). Other items ask for example how often participants had the following thoughts about their work: "I hope my job situation will always remain as good as it is now", or "Unless some aspects of my work change, I will look for another job", ranging from 1 (never) to 7 (always), $\alpha = .78$.

Individual performance was measured with 6 items (Tschan & Pickering, no year). An example is "Do you succeed in organizing your work efficiently?". Items were rated on a 5-point scale ranging from 1 (not at all) to 5 (very much), $\alpha = .73$.

Perceived team performance was measured with 9-items (Roe, Dienes, TenHorn, & Zinovieva, 1995) in a German translation. An example is "I think our team deserves a good evaluation". In order to control for possible common source bias, team members as well as team leaders filled in the scale. Items were rated on a 5-point scale ranging from 1 (totally disagree) to 5 (totally agree), $\alpha = .77$.

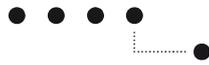


We used Hierarchical Linear Modeling (HLM) to preserve the original data structure while accounting for the hierarchical nature of teams. This allowed us to simultaneously examine the effects of variables at both the individual and the group level, including cross-level interaction effects (Hofmann, Griffin, & Gavin, 2000). Inspection of the raw data revealed that less than 5% of the data points were missing in a random pattern. Missing values were substituted with expectation maximization (EM) methods for randomly missing data. This procedure has the advantages of avoiding overfitting and producing realistic estimates of variance (Tabachnick & Fidell, 2000).

To be able to perform analyses including supervisor-rated team performance we had to aggregate the measures on the team level. Items regarding real teams were formulated focusing on the team as unit of analyses. However, before aggregating the viability of this procedure had to be examined. ICC(1) ranged from .21-.40, and rwg ranged from .77-.82. Because all values exceed the cut-off criterion for ICC(1) of .12 and for rwg of .70 (James, 1982) (James, Demaree, & Wolf, 1984), aggregating the measures of team stability, task interdependence and team goal clarity to the team level was appropriate. Similarly, social stressors, reflexivity, job satisfaction, individual performance and self-rated team performance were aggregated to the team level after the examination of ICC(1) and rwg to allow correlations with the team supervisors' assessments of team performance. ICC(1) ranged from .14 (individual performance) to .25 (team performance), and rwg ranged from .76-.93.

Results

Table 1 shows means, standard deviations and intercorrelations among the study variables on the individual, not aggregated, level with $N = 1039$. Correlations with team supervisor-rated team performance are based on team-level aggregated variables, $N = 220$. In general, there are only moderate correlations between study variables. As expected, the correlation between social stressors and reflexivity is not significant. Out of the three real team indicators, only interdependence ($r = .25, p < .001$) and goal clarity ($r = .24, p < .001$) correlate significantly with reflexivity, whereas stability does not. The correlation between reflexivity and member-rated outcome measures is low, but significant (job satisfaction: $r = .15$, individual performance: $r = .12$; team performance: $r = .18$, all $p < .001$). Although aggregated team performance ratings of team members



and team supervisor ratings correlate highly with $r = .53$, $p < .001$ —the highest correlation among study variables—supervisor-rated team performance does not correlate with reflexivity.

Predictions for Hypothesis 1-4 were tested using hierarchical linear modelling. To test for direct and moderated effects of social stressors on reflexivity (Hypothesis 1a and 1b) we first explored the preconditions associated with hierarchical linear modelling. The t -test on the null model ($\chi^2 = 493.23$, $df = 219$, $p < .001$) and the intraclass correlation (ICC) for reflexivity (Hofmann et al., 2000) showed that 21.5% of the variance lied between teams, indicating considerable level-2 unit influence.

In model 1 we examined the relationship between social stressors and reflexivity and tested for remaining variance. We tested a level-1 random-coefficient regression model assuming that the effect of the predictor variable (social stressors) is the same across teams. As expected in Hypothesis 1a, there is no significant direct effect of social stressors on reflexivity ($\beta_s = -.09$, $t(219) = -1.75$, $p < .10$). Team members describe a tendency to less reflexive behavior in their teams if they feel the presence of more social stressors. The amount of variance in reflexivity accounted for by social stressors is 8.6%. The results also show that, across groups, there is significant variance in the intercept ($\chi^2 = 306.43$, $df = 217$, $p < .001$) and in the slope ($\chi^2 = 288.11$, $df = 217$, $p < .001$), supporting the preconditions for testing model 2.

The intercepts-as-outcomes model (model 2) explores whether real team indicators were significant predictors of the between-group variance in intercepts in reflexivity. With diversity included as a level 2 control variable, results indicate that stability is negatively, but not statistically significant associated with reflexivity ($\gamma_{01} = -.07$, $t(215) = -1.93$, $p = .055$), interdependence and goal clarity are positively associated with reflexivity, with $\gamma_{02} = .17$, $t(215) = 3.27$, $p < .01$ and $\gamma_{03} = .25$, $t(215) = 4.80$, $p < .001$, respectively. However, the real team indicators taken together do not account for a significant amount of variance. However, when the analyses were performed separately for each real team indicator, goal clarity accounted for 8.8% of the variance in reflexivity, whereas stability and interdependence did not contribute. The results also show that there is significant residual variance in the intercepts across groups ($\chi^2 = 315.68$, $df = 213$, $p < .001$) and in the slope term ($\chi^2 = 287.91$, $df = 217$, $p < .01$), supporting the preconditions for hypothesis 1b.



Table 1: Descriptive statistics and intercorrelations

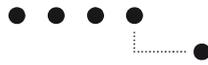
| | M | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |
|---------------------------------|------|------|-------|--------|--------|-------|-------|-------|-------|-------|------|
| Level 1 predictors | | | | | | | | | | | |
| 1 Reflexivity | 3.13 | 0.63 | | | | | | | | | |
| 2 Social Stressors | 1.74 | 0.52 | -.05 | | | | | | | | |
| Real Team Indicators | | | | | | | | | | | |
| 3 Stability | 3.85 | 0.98 | .01 | -.17** | | | | | | | |
| 4 Interdependence | 3.63 | 0.77 | .25** | -.01 | -.03 | | | | | | |
| 5 Goal Clarity | 4.41 | 0.71 | .24** | -.29** | .20** | .13** | | | | | |
| Outcome | | | | | | | | | | | |
| 6 Job Satisfaction1 | 5.50 | 0.79 | .15** | -.46** | .18** | .08** | .34** | | | | |
| 7 Individual Performance | 4.12 | 0.42 | .12** | -.28** | .09** | .02 | .20** | .27** | | | |
| 8 Team Performance (Self) | 3.73 | 0.51 | .18** | -.28** | .20** | .06** | .38** | .36** | .36** | | |
| 9 Team Performance (Supervisor) | 3.88 | 0.54 | -.04 | -.11 | .21** | -.13 | .15* | .20** | .19** | .53** | |
| Control | | | | | | | | | | | |
| 10 Diversity | 0.55 | 0.24 | .01 | .04 | -.28** | -.04 | -.12 | -.09 | -.16* | -.11 | -.09 |

N = 1039 for intercorrelations among team member-rated measures;

N = 220 for intercorrelations among supervisor-rated team performance and aggregated team member-rated measures.

1 Job Satisfaction was rated on a scale from 1-7, all other scales were rated from 1-5.

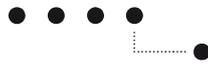
* $p < .05$, ** $p < .01$ (two-tailed).



In model 1 we examined the relationship between social stressors and reflexivity and tested for remaining variance. We tested a level-1 random-coefficient regression model assuming that the effect of the predictor variable (social stressors) is the same across teams. As expected in Hypothesis 1a, there is no significant direct effect of social stressors on reflexivity ($\beta_s = -.09$, $t(219) = -1.75$, $p < .10$). Team members describe a tendency to less reflexive behavior in their teams if they feel the presence of more social stressors. The amount of variance in reflexivity accounted for by social stressors is 8.6%. The results also show that, across groups, there is significant variance in the intercept ($\chi^2 = 306.43$, $df = 217$, $p < .001$) and in the slope ($\chi^2 = 288.11$, $df = 217$, $p < .001$), supporting the preconditions for testing model 2.

The intercepts-as-outcomes model (model 2) explores whether real team indicators were significant predictors of the between-group variance in intercepts in reflexivity. With diversity included as a level 2 control variable, results indicate that stability is negatively, but not statistically significant associated with reflexivity ($\gamma_{01} = -.07$, $t(215) = -1.93$, $p = .055$), interdependence and goal clarity are positively associated with reflexivity, with $\gamma_{02} = .17$, $t(215) = 3.27$, $p < .01$ and $\gamma_{03} = .25$, $t(215) = 4.80$, $p < .001$, respectively. However, the real team indicators taken together do not account for a significant amount of variance. However, when the analyses were performed separately for each real team indicator, goal clarity accounted for 8.8% of the variance in reflexivity, whereas stability and interdependence did not contribute. The results also show that there is significant residual variance in the intercepts across groups ($\chi^2 = 315.68$, $df = 213$, $p < .001$) and in the slope term ($\chi^2 = 287.91$, $df = 217$, $p < .01$), supporting the preconditions for hypothesis 1b.

Finally we tested hypothesis 1b—whether real team indicators moderated the effect of social stressors on reflexivity—with the slopes-as-outcomes model. As shown in table 2, results indicated that stability and interdependence were indeed significant moderators of the association between social stressors and reflexivity, with $\gamma_{11} = -.23$, $t(216) = -2.99$, $p < .01$ and $\gamma_{12} = .29$, $t(216) = 3.32$, $p < .01$), however, goal clarity was not. Thus, hypothesis 1b is only partially supported with the negative parameter estimate for stability indicating that as stability increases, the slope relating social stressors to reflexivity becomes more negative. The positive parameter estimate for interdependence indicates that as interdependence increases, the slope relating social stressors to reflexivity becomes more positive. The amount of variance in the relationship between social



stressors and reflexivity accounted for by real team indicators is 24.5%. Again, when taken separately, stability accounted for 12.1% of the variance in the relationship between social stressors and reflexivity, interdependence for 27.7%, and goal clarity for 6.4%. The control variable diversity did not predict reflexivity, nor had diversity an effect on the relationship between social stressors and reflexivity.

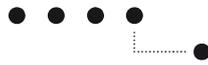
Table 2: Results of the level 2 analysis for slopes-as-outcomes: Moderation effects of real team indicators on the relationship between social stressors and reflexivity

| | Dependent Variable |
|---|--------------------|
| | Task Reflexivity |
| <i>Real Team Indicators as moderators</i> | |
| Stability γ_{11} (SE) | -0.23** (0.08) |
| Interdependence γ_{12} (SE) | 0.29** (0.09) |
| Goal Clarity γ_{13} (SE) | 0.07 (0.10) |

$N = 1039$. * $p < .05$, ** $p < .01$.

Hypotheses 2a, 3a, and 4a predicted direct effects of reflexivity on job satisfaction, individual performance, and member-rated team performance. Again, predictions were tested using hierarchical linear modelling. To control for direct effects of social stressors and real team indicators, we included social stressors as level 1 predictors and real team indicators as level 2 predictors in the equation. Again diversity was included as a level 2 control variable. Hypotheses 2b, 3b, and 4b predicted interaction effects of real team indicators on the relationship between reflexivity and job satisfaction, individual performance, and member-rated team performance, respectively. To test Hypotheses 2b, 3b, and 4b we calculated level 2 slopes-as-outcomes models.

The null model for job satisfaction indicated that there is systematic within and between groups variance. The χ^2 -test ($\chi^2 = 477.63$, $df = 219$, $p < .001$) showed that job satisfaction varied significantly among teams and the intraclass correlation for job satisfaction indicated that 20.1% of the variance lies between teams, indicating considerable level-2 unit influence. Similarly, the null model showed significant variance among teams for individual performance ($\chi^2 = 457.48$, $df = 219$, $p < .001$; ICC = 18.8%) and for member-rated team performance ($\chi^2 = 699.77$, $df = 219$, $p < .001$; ICC = 31.9%), again indicating considerable level-2 unit influence.



To test Hypothesis 2a we examined the relationship between reflexivity and job satisfaction in model 1, controlling for social stressors and testing for remaining variance with a level-1 random-coefficient regression model. As expected, there is a significant direct effect of reflexivity on job satisfaction ($\beta_1 = .18$, $t(219) = 4.351$, $p < .001$). This effect remains significant also after controlling for social stressors, with $\beta_1 = .13$, $t(219) = 3.550$, $p < .001$. The amount of variance in job satisfaction accounted for by reflexivity is 3.8%. The results also show that, across groups, there is some remaining variance in the intercept ($\chi^2 = 248.76$, $df = 206$, $p < .05$), but none in the slope for reflexivity ($\chi^2 = 216.72$, $df = 206$, ns).

To test whether the effect of reflexivity on job satisfaction still holds after controlling for real team indicators and diversity, we performed an intercepts-as-outcomes model (model 2) with real team predictors as level 2 variables. Results supported Hypothesis 2a, after controlling for social stressors on the individual level and real team indicators and diversity on the team level reflexivity still predicted job satisfaction ($\gamma_{10} = .11$, $t(219) = 2.94$, $p < .01$). Stability and interdependence were not significant predictors of job satisfaction, but, goal clarity predicted job satisfaction ($\gamma_{03} = .27$, $t(215) = 4.11$, $p < .001$). Again we tested for remaining variance to test hypothesis 2b that the effect of reflexivity on job satisfaction is moderated by real team indicators. The results show that, across groups, there is some remaining variance in the intercept ($\chi^2 = 248.25$, $df = 202$, $p < .05$), but none in the slope for reflexivity ($\chi^2 = 214.34$, $df = 206$, ns). To test hypothesis 2b we performed a slopes-as-outcomes model. As shown in table 3, results indicated that whether interdependence nor goal clarity moderated the effect of reflexivity on job satisfaction, but that stability did ($\gamma_{11} = .10$, $t(215) = 2.16$, $p < .05$). Thus, hypothesis 2b is only partially supported with the positive parameter estimate for stability indicating that as stability increases, the slope relating reflexivity to job satisfaction becomes more positive. The control variable diversity did not predict job satisfaction, nor had diversity an effect on the relationship between reflexivity and job satisfaction.

Similarly, to test hypothesis 3a, we performed a level-1 random-coefficient regression model with individual performance as the dependent variable. As expected, there is a significant direct effect of reflexivity on individual performance ($\beta_1 = .08$, $t(219) = 3.25$, $p < .01$). This effect remains significant also after controlling for social stressors, with $\beta_1 = .07$, $t(219) = 3.04$, $p < .01$. The amount of variance in individual performance accounted for by reflexivity is 6.9%. The results also show that, across groups, there is



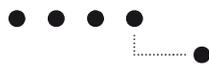
few remaining variance in the intercept ($\chi^2 = 234.11$, $df = 206$, $p < .10$) and some in the slope for reflexivity ($\chi^2 = 251.18$, $df = 206$, $p < .05$).

Table 3: Results of the level 2 analysis for slopes-as-outcomes: Moderation effects of real team indicators on the relationship between reflexivity and outcome measures, controlled for social stressors

| | Dependent Variables | | |
|---|---------------------|------------------------|----------------------|
| | Job Satisfaction | Individual Performance | Team Performance |
| <i>Real Team Indicators as moderators</i> | | | |
| Stability γ_{11} (SE) | 0.10* (0.05) | -0.02 (0.02) | 0.06 (0.04) |
| Interdependence γ_{12} (SE) | 0.03 (0.07) | -0.13** (0.05) | 0.03 (0.05) |
| Goal Clarity γ_{13} (SE) | -0.07 (0.07) | -0.01 (0.05) | -0.10* (0.05) |

$N = 1039$. * $p < .05$, ** $p < .01$.

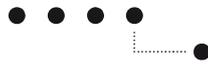
To test whether the effect of reflexivity on individual performance still holds after controlling for real team indicators, we performed an intercepts-as-outcomes model (model 2) with real team predictors and diversity as level 2 variables. Results support Hypothesis 3a, since reflexivity still predicted individual performance ($\gamma_{10} = .06$, $t(219) = 2.83$, $p < .01$), after controlling for social stressors on the individual level and real team indicators and diversity on the team level. Stability was not a significant predictor of individual performance, whereas interdependence and goal clarity predicted individual performance ($\gamma_{02} = -.07$, $t(215) = -2.16$, $p < .05$; $\gamma_{03} = .11$, $t(215) = 3.48$, $p < .01$). Again we tested for remaining variance. The results show that, across groups, there is few remaining variance in the intercept ($\chi^2 = 234.28$, $df = 202$, $p < .10$) but some in the slope for reflexivity ($\chi^2 = 252.50$, $df = 206$, $p < .05$). Thus, to test hypothesis 3b we performed a slopes-as-outcomes model. Results indicated that whether stability nor goal clarity moderated the effect of reflexivity on individual performance, but as shown in table 3 interdependence did ($\gamma_{12} = -.13$, $t(215) = -2.91$, $p < .01$). Hypothesis 3b is only partially supported with the negative parameter estimate for interdependence indicating that as interdependence increase, the slope relating reflexivity to individual performance becomes more negative. The control variable diversity was a significant predictor of individual performance ($\gamma_{04} = .15$, $t(215) = -2.28$, $p < .05$), but had no effect on the relationship between reflex-



ivity and individual performance.

Finally, to test hypothesis 4a, we performed a level-1 random-coefficient regression model with member-rated team performance as the dependent variable. As expected, there is a significant direct effect of reflexivity on member-rated team performance ($\beta_1 = .16$, $t(219) = 6.24$, $p < .001$). This effect remains significant also after controlling for social stressors, with $\beta_1 = .139$, $t(219) = 5.377$, $p < .001$. The amount of variance in member-rated team performance accounted for by reflexivity is 11.0%. The results also show that, across groups, there is few remaining variance in the intercept ($\chi^2 = 234.11$, $df = 206$, $p < .10$) but some in the slope for reflexivity ($\chi^2 = 251.66$, $df = 206$, $p < .05$). To test whether the effect of reflexivity on member-rated team performance still holds after controlling for real team indicators and diversity, we performed an intercepts-as-outcomes model with real team predictors and diversity as level 2 variables. Results supported hypothesis 4a, reflexivity still predicted member-rated team performance ($\gamma_{10} = .14$, $t(219) = 5.32$, $p < .001$), after controlling for social stressors at the individual level and real team indicators and diversity on the team level. Stability was a significant predictor of member-rated team performance ($\gamma_{01} = .11$, $t(215) = 3.76$, $p < .001$), as well as goal clarity ($\gamma_{03} = .15$, $t(215) = 3.65$, $p < .01$). However, interdependence did not predict member-rated team performance. Again we tested for remaining variance to test hypothesis 4b that the effect of reflexivity on member-rated team performance was moderated by real team indicators. The results showed that, across groups, there is remaining variance in the intercept ($\chi^2 = 290.15$, $df = 202$, $p < .001$) and in the slope for reflexivity ($\chi^2 = 250.17$, $df = 206$, $p < .05$). Thus, to test hypothesis 4b we performed a slopes-as-outcomes model. Results indicated that whether stability nor interdependence moderated the effect of reflexivity on member-rated team performance, but as shown in table 3 goal clarity did ($\gamma_{12} = -.10$, $t(215) = -2.14$, $p < .05$). Again, hypothesis 4b is only partially supported with the negative parameter estimate for goal clarity indicating that as goal clarity increases, the slope relating reflexivity to member-rated team performance becomes more negative. The control variable diversity did not predict member-rated team performance, nor had diversity an effect on the relationship between reflexivity and member-rated team performance.

We tested Hypotheses 5a and 5b, that reflexivity is positively related to supervisor-rated team performance and that real team indicators moderate this relationship with a multiple regression analyses based on aggregated variables. To calculate moderator effects,

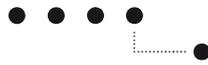


we centered the variables. In the first step we entered as control variable social stressors, in the second step we entered reflexivity. As table 4 shows, reflexivity does not significantly predict supervisor-rated team performance, $F(2, 217) = 1.51$, ns, thus hypothesis 5a has to be rejected. In the third step we entered all three real team predictor variables. Together they explained additional variance with $\Delta R^2 = .07$, $p < .01$ and $F(6, 213) = 3.03$, $p < .01$. Only team stability contributed significantly to supervisor-rated team performance, $\beta = .17$, $p < .05$. Finally we entered the interaction terms one by one. Only the interaction between reflexivity and task interdependence ($\beta = .21$, $p < .05$) contributed to additional variance, $\Delta R^2 = .02$, $p < .05$ and $F(7, 213) = 3.21$, $p < .01$. Team performance was rated highest by supervisors when reflexivity was low and interdependence was low. Hypothesis 5b is only partially supported. The final model

Table 4: Regressions of supervisor-rated team performance on reflexivity (TR), real team indicators and their interaction terms

| Independent Variables | Dependent variable | | |
|-------------------------------------|-----------------------------------|-----------|-----------------------|
| | Supervisor-rated team performance | | |
| | <i>B</i> | <i>SE</i> | <i>F</i> ² |
| <i>Step 1: Control variable</i> | | | |
| Social stressors (ST) | -0.16 | 0.10 | 0.01 |
| <i>Step 1: Main effect</i> | | | |
| Reflexivity (TR) | -0.07 | 0.09 | 0.003 |
| <i>Step 3: Real team indicators</i> | | | |
| Team Stability(TS) | 0.17* | 0.05 | 0.07** |
| Task interdependence (TI) | -0.12 ⁺ | 0.07 | |
| Goal Clarity (GC) | 0.12 ⁺ | 0.08 | |
| Control: Diversity (DI) | -0.03 | 0.16 | |
| <i>Step 4: Interaction effects</i> | | | |
| TR x TS | 0.07 | 0.12 | 0.001 |
| TR x TI | 0.31* | 0.16 | 0.02* |
| TR x GC | 0.15 | 0.18 | 0.003 |
| TR x DI | -0.29 | 0.40 | 0.002 |

$N = 220$. ⁺ $p < .10$, * $p < .05$, ** $p < .01$.

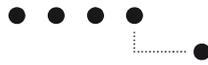


explained 9.6% of the variance in supervisor-rated team performance. Again, the control variable diversity did not predict supervisor-rated team performance, nor had diversity an effect on the relationship between reflexivity and supervisor-rated team performance.

Discussion

The present study further sheds light on the role of reflexivity in teams by exploring the relationship between perceived social stressors in teams and reflexivity and between reflexivity and outcome variables. Special attention was given to the exploration of the role of real team indicators (Hackman, 2002) as moderators in these relationships.

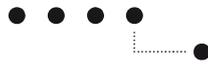
We expected no direct relationship between social stressors and reflexivity, but the relationship being moderated by team variables, since social stressors in teams on the one hand call for reflexive processes to discuss errors within the team or to solve conflicts between members, but on the other hand also trigger a climate where members perceive little psychological safety and may not feel ready to share their ideas and opinions. Our results were in accordance with this expectation. We found that social stressors did not directly foster or inhibit reflexivity. In a real team (Hackman, 2002), where members perceive membership stability, task interdependence and goal clarity, much more is at stake than in a loose group of people merely sharing the same workplace. Results revealed that teams with high levels of task interdependence also involve more in reflexive behavior. This result is in accordance with earlier results suggesting that when team members needed each other more for task completion, due to more task interdependence (De Dreu, 2002) teams with more complex tasks, or cooperative goals (Tjosvold et al., 2004), also reflected on task issues more often. In accordance with our expectations, we also found that in teams with high task interdependence the relationship between social stressors and reflexivity was positively influenced. Again, this result reflects earlier findings: Schippers and colleagues (2003) found outcome interdependence to be a moderator of the relationship between diversity and reflexivity. Teams feeling a higher level of interdependence thus seem more ready to involve in reflexivity when confronted with a more demanding social situation—such as high diversity or in the presence of social stressors—than teams with a lower level of interdependence. This result is in accordance with the notion of conflicts and social



stressors as triggers of reflexivity (West, 2000).

Higher membership stability, however, was negatively related with reflexivity, and also with the relationship between social stressors and reflexivity. Members of stable teams reported less reflexive behavior, and especially so in the presence of social stressors. This result is contrary to our expectations and earlier results where group longevity—a measure that bears some similarity to team stability—was positively related to reflexivity (Schippers et al., 2003). We expected that in stable teams an unsolved conflict or other social stressors may be perceived as more threatening in the long term and thus motivate reflexive behavior to improve the situation. However, the negative direct effect of team stability on reflexivity and the negative interaction effect with social stressors inspire another interpretation. We earlier argued that with high interdependence a demanding social situation may support reflexive behavior. However, the contrary may be true in very stable teams. Team members may have got used to the stressful social situation and don't feel the need to discuss and improve it. They may have been resigned to the fact that the situation can't be improved. Or they may prefer a stressful but stable situation over a situation that could threaten team stability through reflexion. Stable teams involve less in reflexive behavior when social stressors are high. This result is in accordance with the notion that social stressors inhibit reflexivity when members feel that intragroup safety is threatened. However, when teams are less stable, they involve more in reflexive behavior when social stressors are high. These teams may be less threatened by conflicts but feel motivated to improve their situation. In less stable teams, social stressors therefore trigger reflexivity. However, since we don't have information relating to motivational factors of team members, these considerations are speculative until more research can shed light on the involved processes.

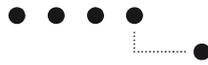
Finally, goal clarity was positively related with reflexivity. Reflection is characterized by the discussion of team goals, strategies, and processes (West, 1996). Goal clarity may facilitate this process. This is in accordance with Weingart's (1992) perspective, that detailed planning of task execution is useful for coordinating group activities only after clarity about goals is established. Since goal clarity may also refer to cooperative rather than to competitive and independent goals (Tjosvold et al., 2004) the direct positive results are in accordance with these earlier findings that established a positive link between cooperative goals and reflexivity. However, contrary to our expectations, there was no interaction effect of goal clarity and social stressors on reflexivity. Goal clarity



seems not to affect the perception of social stressors as a trigger or threat for reflexive behavior.

We resume the discussion of the results concerning our first research question, if social stressors trigger or inhibit reflexivity, as follows: The role of social stressors in relation to reflexivity depends on team level variables. In teams with interdependent tasks, social stressors seem to trigger reflexivity, but not in teams with less interdependent tasks. In stable teams, social stressors seem to inhibit reflexivity, but in less stable teams they again trigger reflexive behavior. Teams with clear goals involve more in reflexivity, independently from the presence or absence of social stressors.

Our second research question addressed the relationships between reflexivity and outcome variables, again also considering moderating effects of real team indicators. We found positive direct links between reflexivity and all three member-rated outcome measures, job satisfaction, individual performance and self rated team performance. The effect was strongest with self rated team performance. These results support earlier findings that established positive relationships between reflexivity and member-rated outcome variables (Schippers et al., 2003). However, reflexivity was not directly connected to supervisor-rated team performance, although member and supervisor-rated team performance were highly correlated. Thus again, we are left with the problem, that some outcome measures are positively related with reflexivity, whereas others are not. Of course we can not rule out same source effects. However, we also have to consider earlier findings, where reflexivity was not or even negatively (De Dreu, 2002) related to team performance. For example Carter and West (1998) found a positive relationship of reflexivity only with managers' ratings of team performance, but not with audience appreciation. Hoegel and Parboteeah (2006) similarly found positive effects with manager rated team effectiveness, but not with manager rated efficiency. They argue that reflexivity also has its costs, in terms of resources and time. Reflexive behavior includes questioning, planning, exploration and analysis, but also ongoing attention, awareness, monitoring, and evaluation of the relevant environment (West, 1996). Thus reflexivity requires additional time and resources from team members that could slow down team efficiency. Hoegel and Parboteeah argue that "any additional efficiency benefits gained from more reflexive teams may be offset by the additional cost and time use in more reflexive teams" (2006: 121). In addition, they point to the fact that reflexivity may not be effective or relevant in each phase of a project or of a team's lifespan, a fact that is sup-

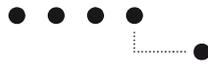


ported by the findings of Gevers and colleagues (2001). Team supervisors may therefore evaluate costs and benefits of reflexivity more critical than team members and include in their rating of team performance objectives concerning schedule or budget more prominently. A stronger focus on the costs of reflexivity by supervisors could be reflected by the finding that they rated team performance highest when reflexivity and interdependence were low. The positive direct relationship between team stability and supervisor-rated team performance could be interpreted similarly: Stable teams could be perceived by supervisors as triggering fewer costs than teams where people are constantly joining and leaving.

The positive relationships between reflexivity and job satisfaction and individual performance, respectively, could suggest that team members feel to benefit from reflexivity not only in task completion but also on a more general and personal level. They may be less critical of the costs of reflexive behavior than supervisors. This interpretation is supported by the fact that there is no direct effect of team stability on job satisfaction; however, there is an interaction effect. Job satisfaction is highest in stable and reflexive teams. Since there are no such interaction effects with interdependence and goal clarity, and we already established that stable teams involve in reflexive behavior when social stressors are low, we tend to interpret this result as an indicator of the above mentioned general positive evaluation of reflexive behavior by team members.

Individual performance is not related to team stability, it is negatively related to interdependence, but positively related to goal clarity. Team members seem to feel their individual performance threatened by the need to cooperate closely with other team members, but feel supported by clear goals. The relationship between reflexivity and individual performance is only moderated by task interdependence. But again, the interaction effect is negative. When interdependence is high, members don't feel their individual performance affected by reflexivity. Only when interdependence is low they report higher individual performance when involving in reflexivity. Thus again, reflexivity seems to support rather individual than team-level related goals.

Finally, member-rated team performance is positively related to team stability and goal clarity, but not related to interdependence. There is again only one significant interaction effect: goal clarity is negatively related to the relationship between reflexivity and team performance. Teams with already clear goals do not profit from reflexivity, whereas teams with less goal clarity do. This result supports the notion that there are situa-

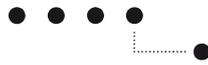


tions when reflexivity is not perceived as beneficial. This may also be the situations, when the costs of reflexivity are considered higher than its benefit, also by team members.

To conclude, we could show that reflexive behavior had a positive direct effect on all three team member-rated outcome measures, but not on supervisor-rated team performance. Although we can not rule out same source effects, we believe that the differentiated effects that the three real team indicators have on the link between reflexivity and outcome variables and the generally low correlations between the variables are indicators of specific processes that shed new light on the role of reflexivity in teams. Especially we argue that group reflexivity is perceived by team members as positive for their own job satisfaction and individual performance and thus they are more willing to account also for positive effects of reflexivity on team performance, whereas team supervisors may be more concerned with the costs of reflexivity.

Practical implications. Accumulating evidence shows that reflexivity is a key factor in team performance. Understanding the processes that support reflexive behavior in teams is therefore important for team supervisors and organizations. Since conflicts and social stressors on the other hand often have negative effects on group processes and performance, it is important for supervisors to understand the conditions which trigger reflexive behavior, and which tend to inhibit reflexive behavior to be able to guide teams accordingly. The present study clearly shows that conflicts and social stressors in a team do not per se induce or inhibit reflexive behavior but that teams only involve in reflexivity under certain conditions. Especially stable teams seem to shy away from reflexivity when conflicts arouse. This finding is important for practice: Stability is important for team performance, but stable teams also seem to make themselves at home in uncomfortable social situations, instead of adopting an active stance to change circumstances. These teams could possibly benefit from team leaders or formal processes that introduce reflexive processes, or from newcomers that are ready to shed new light on group processes.

Second, insight into effects of reflexivity on individual level outcome variables are important for practice, since team member satisfaction is related to relevant variables that may affect not only team performance, but also turnover, absenteeism, and organizational citizenship behavior (De Dreu & Weingart, 2002). We believe it therefore important for team supervisors and organizations to be aware not only of positive effects of refle-



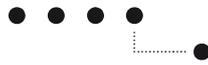
xivity on team performance, but also on effects on the individual level, such as job satisfaction and related more distal variables when considering costs of reflexivity versus positive outcomes of reflexivity.

Limitations and future research. This study has strengths and limitations. An important strength is the fact that our sample represents 220 teams with more than a thousand members and a broad variety of teams from different sectors, thus should probably allow some generalization. The results are not per se internationally transferable, but many teams belonged to internationally active organizations and to industries (banking, insurance) which are not country specific. However, there are also important limitations of this study. In the analyses with individual level outcome variables, we could not avoid common source bias. We analyzed our data following the procedures of hierarchical linear modelling which do not allow to test for team level outcome variables. Thus supervisor-rated team performance could not be included in the analyses involving individual level variables. Since the correlation among all study variables—with the important exception of member und supervisor-rated team performance—are rather low (between reflexivity and outcome measures $r < .18$), we have some confidence that the results are not only due to common source bias. We feel that we could add some important insights on the role of reflexivity in teams, especially for its members, by not aggregating all variables on the team level. Second, although we did include team performance ratings by the team supervisors, and also performed analyses on an aggregated team level, we were not able to include more objective measures. This was due to the fact that teams came from a broad variety of organizations and had very different kinds of tasks that could not easily be compared. Another important limitation of this study is its cross-sectional rather than longitudinal design that does not allow to fully establishing causality. A longitudinal design and analyses that allow including data from multiple informants would allow extending our knowledge of the role of social stressors and costs relative to benefits of reflexivity in specific phases of the project or the teams' lifespan. Finally, while we were able to shed some light on the role of real team indicators, further research should include also moderators on the individual level—that could account for motivational aspects related to reflexive behavior— and on the organizational level—such as organizational support for reflexive behavior.

Conclusion. This study makes an important contribution to the West's (1996) conception of reflexivity and to the growing literature on antecedents and effects of reflexivity.

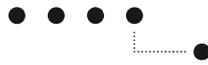


First we shed some light on the role of conflicts and social stressors as triggers or inhibitors of reflexivity in teams. The question was risen by West (2000) but was not yet empirically examined. We thus make an important contribution to West's theoretical conceptualisation of reflexivity. Second we examine the connection of reflexivity not only with supervisor-rated team performance, but also with individual level outcome variables. We contribute to the understanding of benefits of team reflexivity for individuals and thus to motivational factors related to reflexive behavior. Again we feel this is a considerable contribution to the theory, since this study is the first to show links between reflexivity and individually assessed variables and compares them to supervisor assessment. Finally we analyze the moderating effects of real team indicators, thus further shedding light on the question which teams could and do benefit from reflexivity and which don't.



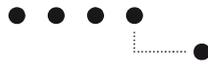
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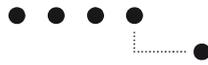


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