CHAPTER 4

TRAIN THE LEADER OR THE TEAM? HOW LEADER LEARNING GOAL ORIENTATION INFLUENCES TRAINING TARGET’S EFFECT ON THE PERFORMANCE OF EDUCATIONALLY DIVERSE TEAMS

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ABSTRACT

In an experimental study with 42 teams, we tested the hypothesis that whether training a team’s members or its leader is more effective for promoting team performance depends on both characteristics of the leader and the team. Using a (diversity) training aimed at enhancing team performance, we examined how training target and leader trait learning goal orientation interact to influence the performance quality of educationally diverse teams. Our results were in general consistent with our hypotheses: While high leader learning goal orientation provided an optimal context for enhancing performance quality of educationally diverse teams when the leader was trained, training these teams was more beneficial when their team leader was low in learning goal orientation. This moderated effect was mediated by the salience and utilization of intrateam differences. Our findings clarify the importance of conducting an appropriate person analysis (Tannenbaum & Yukl, 1992) in form of acknowledging leader and team characteristics when determining the subject of training aimed at improving team performance.

KEYWORDS:

Leader training
Team training
Diversity training
Training-needs analysis
Team education diversity
Leader learning goal orientation
Team performance quality
INTRODUCTION

Given the relevance of teams for organizations’ success (Kozlowski & Bell, 2003), organizations make considerable financial investments into training interventions (Salas, Tannenbaum, Kraiger, & Smith-Jentsch, 2012) that aim to increase team performance (e.g., diversity training, team-interaction training, interpersonal processes training; cf. Marks, Zaccaro, & Mathieu, 2000; Salas et al., 2008). Based on the assumption that training the members in how to work together can foster effective functioning and team success (cf. Smith-Jentsch, Cannon-Bowers, Tannenbaum, & Salas, 2008), these training interventions are typically provided to the team members, as reflected in an abundance of work on team training (e.g., Salas et al., 2008).

Indeed, high team performance requires effective collaboration in teams (Cohen & Bailey, 1997), and training may help the members learn to do this more effectively (cf. Kozlowski & Ilgen, 2006). While this reasoning clearly points to training the team, this common practice may appear less self-evident when considering leaders’ powerful influence on team processes and outcomes, and their key role in leveraging team success (Zaccaro et al., 2009). The notion that team leaders’ function is to establish effective collaboration, to interpret and define external information for their teams, and to ensure its integration (Zaccaro et al., 2001) would rather suggest that relying on the leader as training subject is more effective when providing training as a means to enhance team performance. Surprisingly, the training literature has so far only considered the team (Salas et al., 2008), or, under specific conditions, its individual members (Kozlowski & Ilgen, 2006) as a subject of team training, but neither modeled nor examined the team leader as an alternative target of such training. Hence, although the latter has the potential to even better stimulate team performance, there is not yet an answer to the question whether training the leader or the team can better ensure team success. We propose that important boundary conditions help shed light on this critical issue.

Prior research (e.g., Tannenbaum, Mathieu, Cannon-Bowers, & Salas, 1993) has uncovered a variety of boundary conditions for training effectiveness. Among these factors, characteristics of the team (i.e., the trainees) have been shown to be important. When aiming to determine whether teams (rather than their leaders) are the more successful training target, one may thus consider the characteristics of the teams under study. We propose a team’s configuration of informational differences to be crucial in this regard, as it determines how much variety of unique views is present in a team (Harrison & Klein, 2007), and hence, how much potential teams have for heightened performance on the basis of exchanging and processing this diverse information. In fact, team diversity has been found to critically affect team processes and
outcomes (Van Knippenberg & Schippers, 2007), and has been theorized to be important for the outcomes of training aimed at enhancing team performance (Salas et al., 2008). Especially diversity with respect to a team’s educational resources figures prominently in the context of this study. Education diversity clearly entails a broadened pool of informational resources (Homan & Greer, 2013; Kearney et al., 2009), is highly relevant for team tasks requiring high-quality output by recombining different educational-professional views, and is especially salient in specific contexts, such as the university student sample studied here (Dahlin, Weingart, & Hinds, 2005). Hence, we focus on education diversity of teams as one determinant of whether training the leader or the team is more conducive to team performance.

In addition to the relevance of education diversity as a team characteristic, prior research has also pointed out the importance of leader characteristics for successfully implementing individual or team training (cf. Salas et al., 2008; Salas et al., 2012). A leader’s role in training aimed at enhancing team performance has to date nearly exclusively been viewed in a passive rather than active way (e.g., supervisory commitment and support for diversity training initiatives; DiTomaso & Hooijberg, 1996). Nevertheless, these notions of leader characteristics’ importance for training success can inform our search for determinants of whether making the leader the subject of such training may even better enable team performance than selecting the team. We propose that this is importantly influenced by how leaders approach learning-relevant tasks. More specifically, leaders’ trait learning goal orientation likely affects how well leaders use new learning opportunities (i.e., training) for promoting their teams’ performance and how thoroughly they apply task-related strategies to maximize training outcomes. Indeed, learning goal orientation predicts training success (Salas et al., 2012), and a leader’s goal orientation has been found to stimulate a team’s interaction and performance (Sonnentag et al., 1994). Hence, in addition to a team’s education diversity, we focus on leader learning goal orientation as a second factor determining whether training the leader or the team is more conducive to team success. In line with the study’s focus on education diversity and in light of an increasingly diverse workforce (Bezrukova, Jehn, & Spell, 2012; Rynes & Rosen, 1995), we rely on diversity training to exemplify training aimed at enhancing team performance. Hence, the training conveys knowledge on leveraging a team’s diversity for obtaining high team performance.

Concluding, we link the effects of training target, team education diversity, and leader trait learning goal orientation to team performance quality. Specifically, we posit that for educationally diverse teams a leader’s learning goal orientation determines whether training the leader or the team more favorably affects performance quality through enhancing the salience and utilization of educational differences (i.e., the degree to which members perceive and use
present informational differences within their team). By clarifying the relevance of both team education diversity and leader learning goal orientation for determining the leader’s capability to promote team performance on the basis of training, we contribute to the emergent literature on leadership and diversity as joint levers of team performance (e.g., Greer et al., 2012; Kearney & Gebert, 2009).

**TRAINING TARGET AND TEAM PERFORMANCE**

With the growing reliance on teams (Kozlowski & Bell, 2003), the need for training interventions that enhance team effectiveness increases (Salas et al., 2012). Given the many costs associated with training (Salas et al., 2012) and the risk of even negative outcomes of training (Rynes & Rosen, 1995), ascertaining training effectiveness is crucial (Salas & Cannon-Bowers, 2001). The existent body of research on various forms of training aimed at enhancing team performance has demonstrated their general effectiveness (Salas et al., 2008), clearly showing that providing a training is better than providing no training. Yet, research has also revealed training effectiveness’ dependency on a number of factors, such as trainees’ intelligence or the training content (Salas et al., 2012). Among these factors, identifying the right training target has been stressed as crucial for training success (Salas et al., 2012). Determining who will most probably benefit from training requires a thorough person analysis in the context of a training-needs analysis (Salas & Cannon-Bowers, 2001). As an example of such approach, the team training literature has suggested conditions under which training the team as a whole or its singular members is required (Kozlowski & Ilgen, 2006). Albeit conducting a person analysis helps avoid “training targeted to an inappropriate level or to the wrong people” (Tannenbaum & Yukl, 1992, p. 403), systematic empirical research is missing (Salas & Cannon-Bowers, 2001).

Whereas it may seem self-evident to train those who most directly invest the effort and deliver the input needed for the joint task performance (i.e., the team members), the notion of leaders as critical levers of team performance might alter this unquestioned assumption. Leaders vitally affect a team’s processes and outcomes (Zaccaro et al., 2001), and training the most influential person in a team (i.e., the team’s leader rather than its members) may thus better ensure the training’s full implementation and subsequent team success. Although prior research has acknowledged the relevance of supervisory support for individuals’ training success and transfer (Aguinis & Kraiger, 2009; Salas & Cannon-Bowers, 2001), it has failed to discuss a leader’s role in team training and how team leaders can be made critical parts of such training (Salas et al., 2008). In sum, although the leader might be an equally or even more promising training target, the practice of targeting the team with training has remained unquestioned.
As a result, we do not know whether training the leader or the team better stimulates team performance. We state that considering important boundary conditions is required for being able to decide on this matter. On the basis of the well-established evidence of training’s general effectiveness (Salas et al., 2008; Salas et al., 2012), this research thus sets out to study the conditions under which training the team or the leader is more conducive to team performance.

**THE MODERATING ROLE OF TEAM EDUCATION DIVERSITY AND LEADER LEARNING GOAL ORIENTATION**

As introduced earlier, we propose team education diversity and leader learning goal orientation to be central when predicting a training target’s success in promoting team performance. We first delineate these two factors, and then establish how their combined effects determine whether training the leader or the team more favorably influences team performance.

**TEAM EDUCATION DIVERSITY**

Team education diversity goes along with a variety of educational resources (Harrison & Klein, 2007). Albeit one might primarily expect positive outcomes of informational diversity (Mannix & Neale, 2005), all kinds of diversity may in principal produce favorable or unfavorable effects (categorization-elaboration model of diversity; Van Knippenberg et al., 2004). To free diverse teams’ performance potential, harmful intergroup biases that limit productive collaboration need to be avoided (Polzer et al., 2002). This, however, is not enough: Teams also need to actively use their diversity by perceiving and working with their broadened pool of informational differences (Van Knippenberg & Schippers, 2007). If they are able to successfully utilize their informational differences, diverse teams are likely to outperform homogeneous teams. Given this potential for superior performance, education diversity is assumed to be highly relevant for the success of training aimed at enhancing team performance. This idea is supported by the call for studying the role of team composition in the training context (Salas et al., 2008). Thus, we focus on a team’s education diversity as the first of the two factors influencing training target’s success.

**LEADER LEARNING GOAL ORIENTATION**

Leader traits have regained in importance recently, and their validity in predicting outcomes has been demonstrated (e.g., personality, intelligence; DeRue et al., 2011; Judge et al., 2002). Among them, trait learning goal orientation has come to the fore of leadership research.
Learning goal orientation is a rather stable dispositional trait characterizing an individual’s belief that exploration, learning, and effort can improve one’s ability (Button, Mathieu, & Zajac, 1996; Dweck, 1986). The tendency to adopt competence-enhancing goals in achievement situations (Dweck & Leggett, 1988) helps individuals master new and challenging situations, and importantly relates to work- and training-related learning and performance (Brett & VandeWalle, 1999; Fisher & Ford, 1998; Kozlowski et al., 2001; Salas & Cannon-Bowers, 2001).

Given this specific functionality of learning goal orientation for promoting learning and quality outcomes and for leveraging training benefits, there is reason to believe that team leaders who score high on this trait may also entail specific learning-related benefits for their teams. To improve the team’s learning and work-related quality performance, these leaders likely provide their teams with all the knowledge, resources, and guidance needed, interpret task-relevant events in the environment for the team to ensure that the team can make appropriate use of this information, actively manage and distribute the team’s knowledge, and promote team interaction. All of these leadership functions are critical for ensuring a team’s successful collaboration (Morgeson et al., 2010; Zaccaro et al., 2001). Indeed, research has revealed leader goal orientation’s positive effects on a team’s interaction and quality output (Sonnentag et al., 1994). Moreover, these leaders’ learning-oriented approach to tasks likely also affects how the team members perceive and approach tasks, and how much effort they put into delivering high-quality performance (cf. Dragoni, 2005). Combining the knowledge on a leader’s powerful influence on teams (Van Vugt et al., 2008; Zaccaro et al., 2001) with the positive evidence regarding learning goal orientation, we propose that leader learning goal orientation is crucial for the success of training aimed at enhancing team performance. Thus, we focus on this leader trait as the second of the two factors influencing training target’s success.

**LINKAGES AMONG TRAINING TARGET, TEAM EDUCATION DIVERSITY, AND LEADER LEARNING GOAL ORIENTATION**

We argue that the interplay between education diversity and leader learning goal orientation - rather than each factor alone - helps unravel whether training the team or the leader is more conducive to team success. Drawing on functional leadership theory (McGrath, 1962; Morgeson et al., 2010; Zaccaro et al., 2001), leadership is effective when it provides the team with what it needs to accomplish the team’s mission (McGrath, 1962). Successful leaders supply their teams with what they cannot provide or manage themselves (Hackman & Walton, 1986).
Educationally diverse teams have an enriched body of unique educational views (Dahlin et al., 2005) which can be used for superior performance (Van Knippenberg et al., 2004). Such favored outcome of diverse members’ collaboration requires the active use of the team’s knowledge base (Van Knippenberg et al., 2004). However, this does not result automatically from the mere presence of diversity (Homan & Greer, 2013; Van Knippenberg & Schippers, 2007), but requires the team members’ shared understanding of the relevance of identifying and using their broadened array of knowledge (Van Ginkel & Van Knippenberg, 2008, 2009). Such shared mental model enables a team’s coordinated and goal-directed actions and streamlines team processes (Cannon-Bowers, Salas, & Converse, 1993; Kozlowski & Ilgen, 2006). Training aimed at enhancing team performance (e.g., diversity training) may help the team members develop a shared cognitive representation of the team (e.g., presence of various educational backgrounds) and task (e.g., relevance of using different education-specific insights for high quality performance) (Kozlowski & Ilgen, 2006). Whether training the leader or the team better enables the creation of a shared task representation and thus allows for fully utilizing these teams’ education diversity, depends on the learning goal orientation of their leader.

We posit that high leader learning goal orientation stimulates diverse teams to work with their wealth of informational resources, and this trait may thus predestine leaders as subject of training aimed at enhancing team performance. The training feeds learning goal-oriented leaders’ motivation to learn (cf. Colquitt & Simmering, 1998), as it provides them with the knowledge on how unique views in diverse teams can be synchronized to enhance performance. Learning goal-oriented leaders will be keen to maximize learning, and thus to enhance the team’s quality output by using the training knowledge. Optimally prepared by the training, these leaders will foster team members’ shared understanding of the importance that using their diverse resources has for successfully accomplishing the team task (cf. Van Ginkel & Van Knippenberg, 2012). They will also be motivated to give all the support and guidance needed for enabling productive interaction (cf. Larson, Foster-Fishman, & Franz, 1998; Tannenbaum, Smith-Jentsch, & Behson, 1998). Hence, they will promote their teams’ learning, interaction, and development (Kozlowski et al., 1996), seek the members’ feedback and ideas (cf. VandeWalle, Ganesan, Challagalla, & Brown, 2000), and facilitate discussions, which enables high-quality solutions (cf. Sonnentag et al., 1994). In sum, given the functionality of a leader’s high learning goal orientation for promoting educationally diverse teams’ collaboration on the basis of relevant teamwork strategies, training the leader may better ensure these teams’ superior performance.

By contrast, training leaders who score low on learning goal orientation may not be functional for promoting team performance quality as they less likely match diverse teams’
specific need for appropriate stimulation: When these leaders receive critical knowledge on how
to capitalize on diversity, they will neither be specifically disposed (cf. Button et al., 1996) nor
motivated (cf. Colquitt & Simmering, 1998) to maximize learning on the basis of this training.
Hence, these leaders will be less keen to transmit the training knowledge to the team and to use
the strategies for stimulating discussions during team work. Given their neglect of crucial leader
functions, such as facilitating contributions, ensuring appropriate information use, and guiding
the team toward attaining high-quality solutions (e.g., Larson et al., 1998; Somech, 2006), teams
may not be able to maximize their performance on the basis of their educational variety (cf.
Kearney & Gebert, 2009).

Providing team members with the diversity training will thus better ensure that training
instructions are used for promoting diverse teams’ collaboration. On the grounds of receiving the
same training, the team members can develop a shared understanding of the potential inherent in
their diversity, and how it can be used for increasing performance quality (cf. Van Ginkel & Van
Knippenberg, 2008). As the members collectively coordinate their efforts toward accomplishing
their goal (Rico, Sánchez-Manzanares, Gil, & Gibson, 2008), the team itself fulfills the function
that otherwise would be fulfilled by effective leadership (Kearney & Gebert, 2009; Van Ginkel
& Van Knippenberg, 2012), and thus balances their leader’s low motivation to enhance team
quality output by promoting learning (cf. Button et al., 1996). As the training provides the skills
to substitute for the otherwise required leader input (cf. Kerr & Jermier, 1978), the team is also
less dependent on a leader’s goal-directed guidance. In sum, when leaders score low on learning
goal orientation, educationally diverse teams may be better able to deliver high performance
quality when being trained themselves compared to when their leader is trained. Hence, we posit:

Hypothesis 1: In educationally diverse teams, training target and leader trait
learning goal orientation have an interactive effect on team performance quality,
such that training the leader is positively related to team performance quality when
leader learning goal orientation is high rather than low, whereas training the team
is positively related to team performance quality, when leader learning goal
orientation is low rather than high.
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THE MEDIATING ROLE OF THE SALIENCE AND UTILIZATION OF INTRATEAM DIFFERENCES

We suggest two explanatory mechanisms of how training target and leader learning goal orientation interact to affect the performance quality of educationally diverse teams: the salience and utilization of intrateam differences. The salience of differences in a team (Homan et al., 2008) describes team members’ actual perceptions of a team’s differential expertise. Only when differences between members are salient to them, diversity can influence team functioning and performance (Homan & Greer, 2013; Homan, Greer, Jehn, & Koning, 2010; Homan et al., 2008; Van Knippenberg et al., 2004). Although salient differences might elicit harmful intergroup biases (Polzer et al., 2002), this is not necessarily the case. When team members perceive their differences as valuable (value-in-diversity beliefs; cf. Ely & Thomas, 2001; Van Knippenberg et al., 2007), more diversity might be viewed better than less diversity. Situational factors, such as leadership and training, may not only ensure the salience of differential expertise (Homan et al., 2008), but also its positive results (Homan & Greer, 2013; Van Knippenberg et al., 2004): The utilization of educational differences in a team. The latter describes the active use of intrateam differences by sharing and discussing them, which, when unique views are properly integrated, enables diverse teams’ superior performance (Van Knippenberg et al., 2004).

Training leaders who score high on learning goal orientation may create an optimal condition for enhancing the salience and utilization of differences in diverse teams. Given educationally diverse teams’ abundance of varied information (Dahlin et al., 2005), learning goal-oriented leaders will not only be motivated, but also especially able to apply their training knowledge on how diverse teams can be stimulated to perceive and use their enlarged pool of educational resources. Fulfilling their “information management role” in their teams (Larson et al., 1998, p. 485), these leaders will promote learning-oriented discussions by requesting each member’s education-specific ideas and insights on solving the task (cf. Tannenbaum et al., 1998) and by making all other members reflect on and learn from a member’s unique information. Indeed, a focus on “integration-and-learning” from diversity has been shown to increase diverse teams’ performance (Ely & Thomas, 2001). Similarly, in diverse teams in which the members were known and valued for their idiosyncratic qualities (i.e., congruency between self-view and others’ view), team members openly shared, discussed, and integrated their unique knowledge, thereby enhancing team performance (Polzer et al., 2002). We posit that learning goal-oriented leaders promote the self-disclosure and open communication needed for enabling diverse teams’ “integration-and-learning” (Ely & Thomas, 2001) and interpersonal congruency (Swann Jr, Polzer, Seyle, & Ko, 2004) as they value, stimulate, and work with each team member’s unique
input. Indeed, a leader’s tendency to see diverse team members as individuals has been found to bring a team to value and use its educational diversity (Homan & Greer, 2013). In sum, learning goal-oriented leaders likely foster team members’ perception and use of their non-redundant educational information which helps increase performance quality.

By contrast, leaders low in learning goal orientation will not be very motivated to activate team members’ perception and use of their educational differences when provided with diversity training. By transmitting their own view of the value that elaborating on a team’s broadened knowledge base has, leaders powerfully shape their teams’ representation of the importance of using informational differences (Van Ginkel & Van Knippenberg, 2012). Leaders low in learning goal orientation will not engage much in stimulating contributions of unique information for obtaining high quality output (Larson et al., 1998). Hence, they will only unlikely be able to elicit the team’s shared understanding that identifying and using distributed knowledge in their team is key for obtaining high performance quality (Van Ginkel & Van Knippenberg, 2012). As a result, the team members may mostly limit themselves to sharing and discussing well-known information for obtaining consensus on the task solution (Stasser & Titus, 1985, 1987). This will be especially harmful for diverse teams, as their unique views remain unseen and unused (cf. Dahlin et al., 2005; Kearney et al., 2009). Training these leaders will thus not enable capitalizing on these teams’ diversity (cf. Greer et al., 2012; Kearney & Gebert, 2009).

Transferring the training knowledge to the team may better foster the members’ collective understanding of how their educational differences can be utilized for high-quality output. On the grounds of the same cognitive representation of how to approach the team task, the members can identify and “map” the various educational backgrounds in their team, and request each other’s input when it comes to integrating diverse views for high-quality decisions. As all members have learnt about the importance of contributing unshared information to discussions, they will make sure to exchange and discuss new knowledge (Van Ginkel & Van Knippenberg, 2008, 2009), and will not spend too much time on well-known ideas (cf. Stasser & Titus, 1985). In sum, when leaders score low on learning goal orientation, providing their educationally diverse teams with diversity training will better increase the salience and use of intrateam differences, and lastly better promote team performance quality. Hence, we posit:

*Hypothesis 2: Both the salience and utilization of intrateam differences mediate the interactive effect of training target and leader trait learning goal orientation on team performance quality in educationally diverse teams.*
UNLOCKING THE POTENTIAL OF TEAMS

METHODS

PARTICIPANTS AND PROCEDURE

Our experimental sample consisted of 168 students (50% male; mean age = 21.22 years, \(SD = 2.82\); 22% German) of an English-speaking university in Germany. The data were collected as part of a larger study. Students were invited to participate in an experiment investigating team work. Participants either earned class credit or were entered in a lottery for various prizes, and were randomly allocated to 42 four-person teams\(^\text{19}\), either as the leader or as one of the three members of each team. The leaders received instructions on the role as a team leader and the supervisory tasks in oral and written form, but were also part of their teams during the team task. Teams were randomly\(^\text{20}\) assigned to the leader training (17 teams; leaders watched a training video, members watched a control video) or the team training condition (25 teams; leaders watched a control video, members watched a training video). Leaders and team members watched the respective videos in two separate video rooms, but were reunited afterwards to perform the team task in the team interaction room. The task required the teams to come up with high quality solutions for improving online dating services from multiple perspectives.

EXPERIMENTAL MANIPULATION

Both training and control videos were developed according to the steps by Salas et al. (2012), presented by a native English-speaker, and had comparable structure and length (about 20 minutes). Whereas the training video comprised a training aimed at enhancing team performance, the control video was on how to maximize the efficient use of energy. The latter topic was chosen because it secured sufficient variation (individual rather than team focus; neutrality and independence) from the training video, but was equally relevant at the respective

\(^\text{19}\) In order to enhance task motivation, all groups were told that they could win voucher prizes ($20 per team member for the best performing team, $10 per member for the second best team, $5 per member of the team ending up in third place) depending on their performance in the team task. In fact, the experimenters conducted a prize draw to determine first, second, and third place (after the experiment).

\(^\text{20}\) Individuals in the two conditions did not differ significantly from each other with respect to gender ($\chi^2[2, 168] = 1.01, p = .61$), nationality ($\chi^2[53, 168] = 53.12, p = .47$), and university education course ($\chi^2[19, 168] = 9.49, p = .96$). The team leaders of the two conditions did also not differ with respect to gender ($\chi^2[2, 42] = .324, p = .57$), nationality ($\chi^2[23, 42] = 19.60, p = .67$), and university education course ($\chi^2[14, 42] = 9.10, p = .83$).
university. After a short introduction comprising real-live interviews with students on the relevance of each video’s topic, the first part of each video aimed to increase knowledge and awareness on the respective topic (Holladay & Quiñones, 2008). Then, role models displayed unfavorable and favorable behaviors to stimulate observational learning (Bandura, 1977), concluded by an explanation why the behaviors were unfavorable or favorable. Finally, key messages of the respective video were summarized.

The training video portrayed a diversity training based on the Categorization-Elaboration Model of Team Diversity and Team Performance (Van Knippenberg et al., 2004). The presenter explained how (diverse) teams can maximize team performance by utilizing their variety of task-relevant resources (e.g., from various educational backgrounds), and by promoting positive team processes that disable the emergence of dysfunctional intergroup biases. A diverse team of students of various educational backgrounds displayed ineffective and effective team interaction in the role play. The control video was on maximizing the efficient use of energy\textsuperscript{21}. The presenter delivered information on reasons for and means of conserving energy and maximizing the efficient use of energy, illustrated by examples from the students’ daily life. To be consistent with the role modelling in the training, unfavorable (i.e., environmentally-unfriendly) behaviors were displayed first, followed by favorable (i.e., environmentally-friendly) behaviors.

**Measures**

**Leader trait learning goal orientation.** Prior to the experiment, the leaders indicated their trait learning goal orientation using an eight-item measure by Button et al. (1996). They were for instance asked how much they agreed with “The opportunity to learn new things is important to me”, “When I have difficulty solving a problem, I enjoy trying different approaches to see which one will work”, or “The opportunity to extend the range of my abilities is important to me” (1 = completely disagree, 5 = completely agree, Cronbach’s $\alpha = .89$).

**Team education diversity.** As we conceptualized education diversity as variety of task-relevant resources (Harrison & Klein, 2007), the Blau’s (1977) index of heterogeneity

\[ 1 - \sum_{i=1}^{k} p_i^2, \]

where $p_i$ is the proportion of team members in the respective university education category) was used to measure the education diversity of the teams (including the leaders who

\textsuperscript{21} To exclude the possibility that potential effects on outcomes may be induced by how activating the respective video content was, we checked whether team members or leaders differed with respect to how active they felt after the manipulation. Neither leaders ($F[1, 40] = .22, p = .65, \eta^2 = .005$) nor individual members ($F[1, 124] = .15, p = .70, \eta^2 = .001$) indicated differences with respect to how active they felt depending on the manipulation.
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equally contributed to the team task). Eighteen university education courses were present in our sample, such as Social Sciences, Politics and History, International Management and Logistics, Computer Science and Electrical Engineering, Mathematics, or Biotechnology. Education diversity was on average .69 (SD = .07), with higher values indicating higher diversity.

**Salience and utilization of intrateam differences.** After the team task, all four team members answered three items which were adapted from a study by Greer et al. (2012) capturing the salience of intrateam differences in terms of the degree to which they had perceived task-related differences within their team (e.g., “When I would have to describe my team members, I would do that based on salient categories”; 1 “completely disagree” to 7 “completely agree”; Cronbach’s α = .71). Moreover, the teams also answered one item adapted from Schmidt and Wegge (2009) capturing the utilization of intrateam differences (e.g., “Different knowledge resources, based on (educational) expertise of certain individuals, have been openly addressed in our team”; 1 “completely disagree” to 7 “completely agree”).

As the salience and utilization of intrateam differences were conceptualized as team constructs, we needed to justify for aggregating these variables to the team-level. We computed the median $r^*_{wg[J]}$ or $r^*_{wg}$ (Lindell, Brandt, & Whitney, 1999), the intraclass correlation coefficients (Bliese, 2000) as the ratio of between-group to total variance (ICC[1]), the F-tests, and the reliability of team members’ average ratings (ICC[2]). The values were .76 ($r^*_{wg[J]}$), .13 (ICC[1]), $F(41, 126) = 1.58$, $p = .03$, and .37 (ICC[2]) for salience and .78 ($r^*_{wg}$), .13 (ICC[1]), $F(41, 126) = 1.58$, $p = .03$, and .37 (ICC[2]) for utilization of intrateam differences. Based on these values, we concluded aggregation to the team-level to be justified.

**Team performance quality.** Teams worked on a problem solving task designed for the purpose of this study (time frame: 30 minutes). The task required them to come up with solutions for various problems of contemporary online-dating services at the different steps of the online-dating process. The task description contained a reference to different educational perspectives and knowledge bases, such as sociology, psychology, marketing, management, IT, biochemistry, or mathematics. To obtain high-quality solutions, team members had to interact and share their ideas. Team performance quality was measured by comparing the overall quality of the team solution with an ideal solution that resolved the major issues associated with established online-dating services at once in that it provided an overarching, higher-order solution. This solution

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22 It is important to note that while the values indicating ICC(1) and $r^*_{wg[J]}$ or $r^*_{wg}$ indicate sufficient to high support for aggregation, the ICC(2) values are modest which is due to small team sizes in our sample (LeBreton & Senter, 2008). As noted in prior research (e.g., Liden et al., 2006), results obtained on the basis of variables with modest ICC(2) values represent rather conservative tests of the hypothesized effects.
was developed together with a task force that planned a start-up company on online-dating. Team performance quality was measured on a scale ranging from 1 (very low quality) to 5 (very high quality). Team performance quality was assessed by two independent raters (blind to the study condition). Interrater reliability was .90. Differences were resolved by discussion.

**Control variables.** We controlled for diversity of gender and nationality (also measured by Blau’s [1977] index) to eliminate the possibility that demographic diversity accounted for the hypothesized effects. To ensure that effects of leader learning goal orientation were independent of the three team members’ learning goal orientation, we controlled for their mean trait learning goal orientation (measured prior to the experiment by the same eight items that were used for the leaders; Cronbach’s $\alpha = .83$). For all further analyses, we controlled for these three variables.

**Manipulation check.** To check whether leaders and teams were aware of the content of their video, we asked them an open ended question (“What was the content of the video you saw”) after the team task. Three leaders as well as three team members from different teams (two of them were part of the teams in which the leader had not completed this question) did not fill in this question. As their team mates had watched the respective video with them and had indicated the correct content, we assumed that these team members were aware of the video, but forgot to fill-in this question.

**RESULTS**

Table 4.1 presents the means, standard deviations, and zero-order correlations among the study variables. Hierarchical regression analyses were conducted to test our hypotheses. Prior to calculating the required product terms, we standardized all study variables but the dichotomous training target variable (leader training: 0; team training: 1).

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23 More information on determining the ideal solution is available from the first author upon request.

24 In line with our reasoning, we found the same pattern of results for all our analyses when reanalyzing the data without these four teams (one team with missing answer from the leader, two teams with missing answers from the leader and one of the members, one team with missing answer from a member).
<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>s.d.</th>
<th>1</th>
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<td>1. Sex diversity</td>
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<tr>
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<td>4.09</td>
<td>0.30</td>
<td>0.29†</td>
<td>0.08</td>
<td></td>
<td></td>
<td>0.26†</td>
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<td>4. Training target</td>
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<td>0.01</td>
<td>0.08</td>
<td>0.26†</td>
<td>0.04</td>
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<td>0.07</td>
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<td>0.03</td>
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<td>6. Leader learning goal orientation</td>
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<td>7. Salience of intrateam differences</td>
<td>3.16</td>
<td>0.78</td>
<td>0.11</td>
<td>0.13</td>
<td>0.27†</td>
<td>0.16</td>
<td>-0.16</td>
<td>0.08</td>
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<td>4.25</td>
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<td>0.03</td>
<td>0.02</td>
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<td>-0.07</td>
<td>-0.15</td>
<td>0.04</td>
<td>0.14</td>
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<tr>
<td>9. Team performance quality</td>
<td>3.20</td>
<td>0.89</td>
<td>0.02</td>
<td>-0.16</td>
<td>0.28†</td>
<td>0.07</td>
<td>0.01</td>
<td>-0.01</td>
<td>0.38*</td>
<td>0.30†</td>
</tr>
</tbody>
</table>

*Note. N = 42 teams. †p < .10. *p < .05. **p < .01.*
To test Hypothesis 1, we entered the control variables in the regression equation in a first step, the independent variables (training target, education diversity, leader learning goal orientation) in a second step, the respective two-way interactions in a third step, and the three-way interaction (training target, education diversity, and leader learning goal orientation) in a fourth step. Adding the three-way interaction to the regression equation significantly changed the amount of explained variance ($\Delta R^2 = .13$, $F[1, 31] = 5.23$, $p = .03$; see Table 4.2), and the three-way interaction between training target, team education diversity, and leader learning goal orientation on team performance quality was significant ($B = -.59$, $t = -2.29$, $p = .03$).

In line with the procedure by Nishii and Mayer (2009), the three-way interaction was further investigated by plotting the regression slopes (Figure 4.1; Aiken & West, 1991). This shows that the interaction’s direction is in line with our predictions: Whereas training the leader is positively related to the performance quality of educationally diverse teams when leader learning goal orientation is relatively high, training the team is positively linked with these teams’ performance quality when leader learning goal orientation is relatively low. Analyzing the simple slope difference on the basis of the procedure proposed by Aiken and West (1991) and Dawson and Richter (2006) further underlined our finding\textsuperscript{25}: The interaction between training target and leader learning goal orientation on the performance quality of educationally diverse teams was marginally significant ($t[31] = -1.74; p = .09$). Consistent with Hypothesis 1, when leader learning goal orientation was high, training diverse teams’ leaders was more positively linked to the outcome than training the teams, whereas training teams was more successful when leader learning goal orientation was low.

\textsuperscript{25} Albeit the general effect was significant, the corresponding simple slopes tests were unfortunately non-significant. The results of the simple slope tests can be obtained from the first author upon request.
### Table 4.2. Results of Hierarchical Regression Analyses

<table>
<thead>
<tr>
<th>Variable</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 1</th>
<th>Step 2</th>
<th>Step 3</th>
<th>Step 4</th>
<th>Step 5</th>
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<tbody>
<tr>
<td><strong>Salience of intrateam differences</strong></td>
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<tr>
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<td>.06</td>
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<td>-.04</td>
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<td>-.11</td>
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<tr>
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<td>.18</td>
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<td><strong>Utilization of intrateam differences</strong></td>
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<td>Training target</td>
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<td>-.06</td>
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<td>Education diversity</td>
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<tr>
<td>Training target × education diversity</td>
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<td>-.75*</td>
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<tr>
<td>Education diversity × leader learning goal orientation</td>
<td>.26</td>
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<td>.04</td>
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<td>-.09</td>
<td>-.16</td>
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<td><strong>Step 4: Three-way interaction</strong></td>
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<td>Training target × education diversity × leader</td>
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<tr>
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<tr>
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<td>( R^2 )</td>
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<td>.38</td>
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<td>.44</td>
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<tr>
<td>( \Delta R^2 )</td>
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<td>.05</td>
<td>.16†</td>
<td>.08*</td>
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<td>.03</td>
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<td>.20*</td>
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<tr>
<td>( \Delta F )</td>
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<td>2.43†</td>
<td>4.23*</td>
<td>.36</td>
<td>.40</td>
<td>2.89†</td>
<td>3.30†</td>
<td>1.49</td>
<td>.05</td>
<td>.04</td>
<td>5.23*</td>
<td>5.08*</td>
</tr>
</tbody>
</table>

Note. \( N = 42 \) teams. Standardized coefficients (\( \beta \)s) are reported. \( \dagger p < .10 \). \( \ast p < .05 \). \( ** p < .01 \).
Figure 4.1. Team Education Diversity and Leader Learning Goal Orientation as Moderators of the Relationship between Training Target and Team Performance Quality.
In Hypothesis 2, we predicted the interactive effect of training target and leader learning goal orientation on the performance of educationally diverse teams to be mediated by the salience and the utilization of intrateam differences. Hence, we first examined the three-way interactive effect of training target, education diversity, and leader learning goal orientation on the salience and utilization of intrateam differences. Adding this interaction term to the two-way interactions, the main effects, and the control variables explained unique variance of the salience ($\Delta R^2 = .08, F[1, 31] = 4.23, p = .048$) and utilization ($\Delta R^2 = .07, F[1, 31] = 3.30, p = .08$) of intrateam differences (see Table 4.2). Moreover, the three-way interaction significantly predicted salience ($B = -.48, t = -2.06, p = .048$), and was associated with the utilization of intrateam differences at the .10 level ($B = -.44, t = -1.82, p = .08$).

Figures 4.2 and 4.3 show that, in line with our propositions, the salience and utilization of intrateam differences in educationally diverse teams were increased when the leader was trained and leader learning goal orientation was high. By contrast, the utilization of intrateam differences in educationally diverse teams was slightly increased when the team was trained, and leader learning goal orientation was low. However, this increase did not appear for the salience of intrateam differences. We then regressed team performance quality on the described set of variables while accounting for the two hypothesized mediators (see Table 4.2, Step 5). In this model ($\Delta R^2 = .20, F[2, 29] = 5.08, p = .01$), the salience ($B = .38, t = 2.12, p = .04$) and utilization ($B = .40, t = 2.36, p = .03$) of intrateam differences were positively linked to team performance quality whereas the three-way interaction of training target, education diversity, and leader learning goal orientation was not significant anymore ($B = -.24, t = -.92, p = .37$).

Given that the pattern of findings supported Hypothesis 2, we followed the procedure by Preacher, Rucker, and Hayes (2007) and Preacher and Hayes (2008) and used a bootstrapping approach to test for mediated moderation. The conditional indirect effects were considered significant when the respective confidence intervals obtained from 5,000 bootstrap samples excluded zero. Given the small sample size and the resulting difficulty to obtain significant findings when testing moderation effects (i.e., the inherently low power of statistical moderation testing; McClelland & Judd, 1993), we decided to relax the significance level to .10. Supporting our Hypothesis 2, the three-way interactive effect of training target, education diversity, and leader learning goal orientation affected team performance quality through both the salience ($B = -.22, 90\% \text{ CI} [-.97, -.04]$) and utilization ($B = -.22, 90\% \text{ CI} [-.92, -.02]$) of intrateam differences.
**Figure 4.2.** Team Education Diversity and Leader Learning Goal Orientation as Moderators of the Relationship between Training Target and the Salience of Intrateam Differences.
FIGURE 4.3. Team Education Diversity and Leader Learning Goal Orientation as Moderators of the Relationship between Training Target and the Utilization of Intrateam Differences.
**DISCUSSION**

Identifying the “right” training target is essential for ascertaining training effectiveness (Salas et al., 2012). Our study shows that whether training the leader or the team better enables team performance quality is contingent upon levels of leader learning goal orientation together with team education diversity: Training the leader is more fruitful when the leader’s learning goal orientation is perfectly aligned with the team’s education diversity (i.e., when leaders can leverage diverse teams’ potential on the basis of their learning goal orientation). Training the team is more advisable when these two factors are not aligned (i.e., when leaders cannot provide adequate levels of learning goal orientation to stimulate diverse teams’ interaction). The salience and utilization of differential resources mediate this moderated effect on performance quality.

**THEORETICAL IMPLICATIONS**

Our research integrates the literatures pertaining to training, leadership, team diversity, and the processes facilitating teams’ efforts to make optimal use of such training. With respect to the training literature, we examine the team’s leader and its members as two targets of a training aimed at enhancing team performance. Given the popularity of team training in general, and diversity training in particular, and the frequency with which these training forms are used in organizations (Marks et al., 2000; Rynes & Rosen, 1995), the question of whether the team is always the right training target is of crucial relevance. Surprisingly, appropriate person analyses are scarce, and systematic studies on this matter missing (Salas & Cannon-Bowers, 2001; Tannenbaum & Yukl, 1992). We follow these authors’ call for conducting a person analysis in the context of a systematic training study and probe the unquestioned practice of targeting the team with such training. Against the seemingly natural intuition that the team needs to be addressed by training designed to enhance team performance, our study shows that there are contra-indications for such practice: Training the leader might not only be equally appropriate, but sometimes even more apt to promote a team’s quality output. Only when the leader cannot provide the team with what it needs to successfully fulfill the team task, training the team rather than its leader is the more favored option. In sum, by examining the leader as a previously neglected, but crucial training target, our study importantly enriches training literature’s understanding of conditions leading to training effectiveness, and helps ensure training success.

With respect to leadership, we bolster the body of knowledge on the relevance of leader traits (Judge et al., 2002) for successful collaboration in teams (Sonnentag et al., 1994). When encountering “fertile soil” in form of an enlarged informational potential (education diversity), a
leader’s task-relevant trait (learning goal orientation) can help leaders transform their previously acquired knowledge (training) into stimulating team members’ perceptions and behaviors which then increases team performance. Nevertheless, our findings also put the overly positivistic notion of learning goal orientation’s value into perspective: Although leader learning goal orientation may be crucial in many situations (e.g., leader training), its arrangement with other decisive factors that increase teams’ receptiveness to the arising stimulation (e.g., team diversity) seems to decide on whether this powerful leader trait is steered in the right or wrong direction, and whether training these leaders entails beneficial or even harmful results. Whereas training these leaders yields positive outcomes when their teams are high in education diversity, learning goal-oriented leaders’ emphasis on fully applying the training seems to harmfully affect teams with relatively low education diversity (see Figure 4.1). As less diverse teams may also benefit less from fully applying the strategies from the training, but are bound to the leader’s direction, responding to the leader’s demands may harmfully interfere with their functioning.

Adding to the diversity literature, we follow van Knippenberg et al.’s (2004) and DiTomaso and Hooijberg’s (1996) call for studying leadership as lever of diversity’s potential, and show how these two interact to reveal a diversity training’s most promising target. Building upon the still limited number of studies linking leadership and diversity (e.g., Greer et al., 2012; Homan & Greer, 2013; Kearney & Gebert, 2009; Klein et al., 2011), we add knowledge on how leaders who are motivated to learn and enhance their competencies can promote diverse teams’ collaboration when these leaders have received the respective strategies to effectively do so.

Related to this contribution, our study also speaks to this finding’s underlying processes and shows aspects of both team members’ perceptions and actions with respect to informational differences in a team to be important in this regard. By simultaneously studying the salience and utilization of intrateam differences as mediators, we add to the body of knowledge on the intervening mechanisms enabling teams to deliver high team performance. Our study shows that high performance quality requires both the salience of intrateam differences (Polzer et al., 2002) and their active use (Dahlin et al., 2005). More specifically, our study illuminates how diverse teams may be capable of capitalizing on their potential (Ely & Thomas, 2001; Homan & Greer, 2013; Polzer et al., 2002), even when not being the ones to receive a diversity training, provided that they are adequately supported by their leaders’ learning-related disposition.

Moreover, based on the notion that diversity training is most meaningful for diverse teams, we clearly directed our hypotheses to the case of educationally relatively diverse teams. Although we did not have any clear predictions with respect to the most promising training target for the case of relatively low education diversity, it is nevertheless worthwhile examining our
findings for low team diversity (Figures 4.1, 4.2, and 4.3): Training teams with low education diversity (compared to training their leader) seems to increase the salience and utilization of intrateam differences as well as the performance quality when the leader scores relatively high on learning goal orientation. As a cautious interpretation of this result, training learning-goal oriented leaders may result in high demands with respect to maximally utilizing diverging views (see the above reasoning). When these leaders pressure their teams to do something they cannot comply with (as their pool of educational differences is not very large) this may harmfully affect their quality output. Training the team might prevent these leaders’ excessive demands of fully using the training strategies, irrespectively of how applicable they are to the team, and allow the team to decide what strategies are important to them and how they want to approach the task.

Whereas the increased salience and use of informational differences may hint at the possibility that training less diverse teams may induce members to perceive more differences than are actually present, examining the education diversity in our student sample may shed more light on this finding: Education diversity ranged from moderate to high, with no team having absolutely no education diversity. Relatively low levels of education diversity in our sample (calculated by 1 SD below the mean; Aiken & West, 1991) therefore actually represent moderate diversity levels. This may allow for the cautious interpretation that the stimulation arising from training learning goal-oriented leaders induces moderately diverse teams to express and discuss views, even when their educational content is not unique. However, teams cannot benefit much from discussing already well-known information (cf. Stasser & Titus, 1985), and spending time on this may also undermine the team’s capacity to realistically analyze and actually work with those aspects from their educational expertise pool that are unique. Training the team may ensure that the team can fully concentrate on using its moderate education diversity for finding high-quality solutions. Moreover, learning goal-oriented leaders who lack the training knowledge will be very open to team members’ suggestions on how to approach the task. The leader’s motivation to learn from the members and the subsequent questions aimed at increasing learning will induce team members to better perceive and use their moderate levels of intrateam differences, without being too attached to the ideal of needing high team diversity to do well. Hence, leaders’ learning goal orientation also seems to be crucial when it comes to supporting moderately diverse teams in making use of teamwork-related training knowledge.
MANAGERIAL IMPLICATIONS

Training allows organizations to adapt to an increasingly fast-paced, competitive environment, and is thus important for organizational effectiveness (Aguinis & Kraiger, 2009). Despite meaning a considerable financial investment to organizations, training effectiveness is not at all self-evident, but dependent on a variety of factors (Salas et al., 2012), starting with the question whether the right training target has been identified. Evidence-based guidance on the most appropriate training target is therefore vital for organizations and their sustainable success.

Three managerial recommendations can be derived from our study: First, the question whom to train when aiming at increasing team performance is crucial, but can only be answered on the basis of carefully assessing a leader’s disposition and a team’s composition. Second, addressing the leader is more conducive to team success when a team’s variety of informational perspectives is complemented by a leader’s orientation towards learning from this variety, for instance by seeking challenging ideas and encouraging uncommon input. If leaders cannot provide such learning-related benefits to diverse teams, addressing the team is more promising. Third, the finding that transferring the training knowledge to the leader rather than the team is sometimes more recommendable is counterintuitive and against common practice. Providing those responsible for training implementation with the tools for assessing these team and leader factors in the framework of an appropriate person analysis (Salas et al., 2008) may save valuable resources arising from choosing an inappropriate target, and ensure the effectiveness of training.

LIMITATIONS AND FURTHER RESEARCH

We acknowledge several limitations of our study that provide an opportunity for further research. Our results are based on an experimental design in which we composed teams for the purpose of this study, and we relied on an interdisciplinary sample of university students. As the generalizability of our findings might be constrained, future studies may test our results’ external validity on the basis of a field experiment with real work teams in an organizational setting. We also conceptualized the leader as part of the team when performing the team task, but with additional tasks such as structuring, guiding, and ascertaining team functioning (cf. Morgeson et al., 2010). Though this might differ for some leaders with low involvement into the team tasks, in many organizational teams (e.g., R&D teams, top management teams, action teams) leaders are also seen as part of the team. Given that team performance requires leader and members’ joint effort, we believe that our conceptualization is appropriate. Nevertheless, it is an important
venue for further research to examine the question on how these findings translate to more external and formalized leadership roles and to leaders who are leading more than one team.

Future research may study whether leaders high in learning goal orientation (on the basis of training) are also capable of stimulating performance quality of teams characterized by other diversity forms than education diversity. In this respect, it would also be insightful to determine whether leader learning goal orientation also appropriately facilitates diverse teams’ functioning when diversity faultlines arise from converging diversity dimensions in a team (e.g., female Social Science students, male IT students). Diversity faultlines may be especially disruptive to a team’s actual use of informational differences as these likely engender unfavorable social categorization processes and subgroup formation (Homan, Van Knippenberg, Van Kleef, & De Dreu, 2007; Thatcher & Patel, 2011). Future research might also focus on diversity of attitudes, values, or personality as this most commonly reflects a team’s separation with respect to different opinions or attitudes rather than a variety of informational differences (Harrison & Klein, 2007). Deep-level diversity may thus require more intense and longer training to make the underlying differences salient and usable, and thus to enable this diversity’s potential positive effects. At the same time, it may require intensified efforts to also keep the potential negative effects of separation (Harrison & Klein, 2007) in check that may arise from subgroup formation processes (cf. Homan & Greer, 2013; Polzer et al., 2002), especially as deep-level diversity requires more time to become salient (Price, Harrison, Gavin, & Florey, 2002).

A related limitation is that the training used in our study was rather short and did not allow for actual interaction within teams which may limit the effectiveness of training. However, our study’s reliance on video-based training is consistent with another study that used a relatively short team-interaction training (Marks et al., 2000). Indeed, our findings show that already after twenty minutes of training, differential effects on performance quality arose from either training the team or the leader. Future research may test our hypothesized relations on the basis of an interactive and more extensive form of training, and include longitudinal and training transfer measures as performance criteria.

Whereas our study focuses on learning goal orientation as a leader trait, examining other, also specifically task-related leader traits may provide additional insights that can be used for maximizing training outcomes. Need for cognition, which is defined as an individual’s tendency to engage in and enjoy effortful cognitive endeavors (Cacioppo, Petty, Feinstein, & Jarvis, 1996, p. 197), may constitute such alternative leader trait. Need for cognition has been shown to be positively related to seeking out, challenging, and using relevant information in decision-making and problem-solving processes (Cacioppo et al., 1996). All of these factors are assumed to be
especially important for leveraging diverse teams’ potential (cf. Van Knippenberg et al., 2004), and diverse teams’ need for cognition has indeed been found to importantly determine their performance (Kearney et al., 2009). As need for cognition may provide similar benefits than learning goal orientation, and has also been shown to be relevant for training outcomes (Day, Espejo, Kowollik, Boatman, & McEntire, 2007), training leaders high in need for cognition may also be beneficial for stimulating diverse teams’ performance.

Another important topic for future research is to study how a leader’s trait learning goal orientation translates into actual leader behaviors. For instance, these leaders’ learning goal orientation may affect team members by stimulating them to challenge assumptions, to engage in increased cognitive processing, and to find new ways of approaching tasks which are behaviors pertinent to the transformational facet of intellectual stimulation (Bass & Riggio, 2006). Also, more specifically goal-related forms of leadership such as goal-focused leadership (Colbert & Witt, 2009) that zooms in on “a leader’s effectiveness in providing direction, and setting and clarifying goals” (cf. Piccolo & Buengeler, 2012, p. 361) may be an important candidate for behaviors through which leader learning goal orientation may affect team collaboration. Providing support for the link between leader trait and leader behavior (Hogan & Kaiser, 2005), leader traits have been shown to predict leader behaviors (Bono & Judge, 2004) which in turn affect individual and team outcomes (e.g., DeRue et al., 2011; Lim & Ployhart, 2004). More specifically, DeRue et al. (2011) found that leaders’ task-related (and other) traits predict change-oriented leader behaviors (e.g., transformational leadership). These findings further underline the importance of studying intellectual stimulation and related leader behaviors as more proximal mediators linking leader learning goal orientation, the salience and use of intrateam differences, and team quality performance in future research.

Given mastery (learning) goals’ positive relations with training outcomes, Kozlowski and colleagues (2001) call for interventions that incite trainees’ mastery goals, and that promote the leader to provide mastery goals to them. As leaders set the goals for the team and affect how team members approach tasks and results are achieved, we consider a leader’s trait learning goal orientation – when the leader receives the training, and the training is applicable to the team – to provide such benefits (without even having to train the team as such). This is underlined by the notion that a leader’s orientation toward development can evince team member state learning goal orientation (Dragoni, 2005). As we do not have any information on the emergence of mastery goals in team members during the team task, we cannot test this hypothesis. However, we included team trait learning goal orientation (measured prior to the manipulation) as a control which indicates that it is the leader’s (and not the team’s) learning goal orientation that co-
produces the effects on team performance. This finding is further underlined by results showing leader goal orientation, but not team goal orientation to predict team outcomes (Sonnentag et al., 1994). Nevertheless, future research might examine more explicitly whether training leaders with high trait learning goal orientation induces a state (situationally cued) learning goal orientation in team members, and whether the latter serves as mediator of our established relationship.

CONCLUSION

Whereas plenty of research has been devoted to study the effectiveness of training for teams, the alternative to provide the leader with training aimed at enhancing team performance has been neglected. By disentangling conditions under which training the leader is more recommendable, this experimental study heeds the call for research on systematic training-needs analysis (Salas et al., 2012) and challenges the unquestioned practice of targeting teams when aiming to promote team collaboration by means of training. Considering how leaders’ learning goal orientation relates to educationally diverse teams for identifying the right training target may help maximize the success of trainings aimed at enhancing team performance.