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Introduction

Changes in technology, increased globalization, and a rapidly advancing knowledge-based economy force companies and organizations to adapt (Kozlowski & Bell, 2008). To deal with these changes and compete successfully, many organizations pursue creativity as their competitive advantage for innovation and sustainability (Amabile, 1988). Therefore, it is not surprising that research about organizational creativity has flourished in the last decades (Zhou & Shalley, 2011). In general, creativity is studied on three levels: the organization (Baer, 2012), the team (Paulus & Yang, 2000), and the individual (Oldham & Cummings, 1996). At the same time, the definition of creativity became more diversified. Rhode's (1961) early definition postulates that creativity can be seen as a product, process, person, or place. Amabile (1982) seized upon that notion and stated that creativity is an outcome that results in a novel and useful product, service, procedure, or process. Malik and Butt (2017) argued that creativity might be defined by a thought process, in terms of behavior performed, and in terms of a final product. All definitions above have in common that they describe creativity in the form of an outcome (e.g., a product), but they are unspecific about how this outcome might be achieved. Moreover, early research on creativity that seized upon these definitions of creativity predominantly focused on the individual and viewed teams and organizations as social contexts that facilitate or inhibit individual creativity (Reiter-Palmon et al., 2012).

However, the problems organizations face became more complex so that an individual does not possess all the knowledge and skills necessary to solve them (Reiter-Palmon et al., 2012). Therefore, organizations significantly depend on effectively combining different knowledge and information and turning these into new products and services (Chen, 2006). Consequently, some argue that the future success of many businesses relies on their ability to foster the creative potential of their teams (Barczak et al., 2010; Rego et al., 2007). Team creativity could be defined as: "Members working together in such a manner that they link ideas from multiple sources, delve into unknown areas to find better or unique approaches to a problem, or seek out novel ways of performing a task" (Gilson & Shalley, 2004; p. 454). In line with this definition, it is believed that collaboration in teams leads to increased idea quantity and quality (Coursey et al., 2018; Paulus & Yang, 2000), which was explained by cognitive stimulation due to the idea-sharing of team members (Nijstad & Stroebe, 2006). Indeed, a growing body of evidence confirms that

constructive team member interaction can lead to heightened creative performance compared to individual creative performance (Korde & Paulus, 2017; Pirola-Merlo & Mann, 2004).

On the contrary, a meta-analysis by Mullen et al. (1991) indicated that teams performing brainstorming tasks could be prone to productivity loss. The authors indicated that this might be especially evident when groups are large and adverse group effects such as social loafing come into play. Therefore, to understand team creativity more comprehensively. It is of utmost importance to shed more light on social processes that facilitate and avert team effectiveness.

Moreover, a team is comprised of individuals. It has been long argued that the most promising way in enhancing team creativity lies within the correct composition of its members (Coursey et al., 2018). While some researchers embrace the notion that team members should possess specific abilities and dispositions to work effectively on creative tasks (Rhodes, 1961; Tasa et al., 2011). Others suggested that team diversity might play an equally important role (Hülsheger et al., 2009). It has been argued that diverse teams benefit from different viewpoints and varied expertise. However, there appears to be contradictory evidence whether this might be limited to functional or expertise diversity and or demographic diversity (Bell et al., 2011; Paulus & van der Zee, 2015). After all, both views take the stance that a fixed individual characteristic of team members determines creative group performance. Nevertheless, a growing body of evidence emerged that malleable, personal beliefs about one's ability of creative performance might at least be equally important (Haase et al., 2018).

With attention to the aforementioned aspects of creative teams. Namely, individual characteristics and group dynamics. A team's creative performance might be best conceptualized by the Input-Process-Output (IPO) Model (Hackman, 1987; Kozlowski & Bell, 2008; Kozlowski & Ilgen, 2006). Whereby the team composition of individuals is viewed as the input. The process describes the tasks the team members engage in and how they interact with each other. The output is viewed as the outcome and, in this very context, team creativity. Drawing on this theoretical view of teams, the following paragraphs will follow the IPO-Model to determine and identify important antecedents and drivers of team creativity. As described above, the positive benefits of creative teams and team creativity were already discussed in detail. Therefore, the following paragraphs will delve more into individual factors and team processes as input and process variables. Furthermore, it will be analyzed how these jointly influence team creativity.

Input Variables

Earlier theorists' treated individual creativity as a stable trait (Ford, 1996; Rhodes, 1961). Some researchers argued that creative abilities might follow a normal distribution, and creativity research should identify and differentiate those who are creative from those who are not (Nicholls, 1972). Even more contemporary reports examined relationships between stable personality characteristics and trait creativity. Some providing insights that trait creativity might be linked to personality traits like openness to experience and extraversion (Li et al., 2015; Wolfradt & Pretz, 2001). Regardless, more focus shifted towards malleable individual and contextual factors that cultivate individual creativity.

Specifically, recent theories of work motivation established how satisfaction of fundamental needs could cherish workers' motivation over time (Deci & Ryan, 2012). Indeed, research in the field of Self-Determination Theory (SDT) indicated that need satisfaction results in positive work outcomes, including creativity. In specific, the theory states that fulfillment of the needs, competence, relatedness, and autonomy enhance autonomous motivation. Autonomous motivation can be further described as a continuum ranging from extrinsic motivation, characterized by a mere focus on external rewards, to intrinsic motivation, where an individual performs an activity out of interest accompanied by a feeling of satisfaction.

Since creative tasks require a certain degree of cognitive flexibility and freedom, it is somewhat unsurprising that autonomous intrinsic motivation could be successfully linked to creativity and innovation (Wang et al., 2020; J. Zhang et al., 2016). In addition, Kehr (2004) highlighted that autonomously motivated employees are more likely to persist on challenging tasks and master those tasks that require cognitive flexibility and abstract conceptualization. Therefore, working environments that foster autonomous motivation are critical while engaging in creative tasks. Moreover, work by Gagné and Deci (2005) demonstrated that highly autonomous motivated individuals are more goal-oriented, have higher job satisfaction, and overall more well-being. Furthermore, a positive correlation between individual psychological well-being, creativity, and innovation was found (Rasulzada & Dackert, 2009). Likewise, research about new ways of working such as teleworking found evidence that the satisfaction of the need for autonomy, mediated by intrinsic motivation, influences workers creative and innovative performance (Choi, 2004; De Spiegelaere et al., 2016; Liu et al., 2016; Vega et al., 2015). In essence, there appears to

be much evidence that autonomous work motivation might be fruitful for individual creativity across domains and work settings.

Despite the presented evidence, some aspects of SDT in creativity research seem to be heavily neglected. For example, some scholars merely focused on the relationship between intrinsic motivation and creativity (Prabhu et al., 2008). While others may also take the need for autonomy into account (Alge et al., 2006; De Spiegelaere et al., 2016; Wang et al., 2020). Nonetheless, it appears that the needs of competence and relatedness are vastly under-researched. This is somewhat surprising since a sense of competence might be notably crucial in complex and creative tasks. Similarly, the satisfaction of the need for relatedness should also be considered when studying creativity, at least in the context of groups. Accordingly, it will be shed more light on how the need satisfaction of competence and relatedness may serve as individual antecedents for team creativity.

Need for Competence

Deci and Ryan (2012) defined the basic psychological need for competence as an individuals' inherent desire to feel effective in interacting with their environment. They further state that satisfaction of that need enables the individual to adapt to complex and changing environments. In contrast, low levels of competence should result in a feeling of helplessness and diminished work motivation (Gagné & Deci, 2005; Van den Broeck et al., 2010). Considering that creative tasks are inherently complex, high levels of feeling of competence might be essential for such tasks. As stated by Rietzschel and Ritter (2018), a newly generated idea is by definition, novel and untested, causing a certain degree of uncertainty and ambiguity. In addition, individuals vary in their aptitude to deal with uncertainty and ambiguity (Furnham & Ribchester, 1995), and success in doing so was directly linked to creative behavior (Kornilova & Kornilov, 2010). Thus, feeling competent should make individuals more likely to persist and master complex and ambiguous tasks such as creative ones.

However, somewhat surprisingly, just a handful of studies in creativity research integrated the need for competence. For example, Wang et al. (2020) explored whether need satisfaction of competence, relatedness, and autonomy jointly influence autonomous motivation and further predict innovative work behavior. Their results indicated that all three needs significantly predicted innovative work behavior, whereby need satisfaction of competence was found to be the strongest

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predictor. Pointing in the same direction, Edwards-Schachter et al. (2015) provided evidence that a competence-oriented approach in entrepreneur students was associated with creativity and innovative behaviors. Similarly, other research in the educational setting points into the direction that enhancing a sense of confidence and self-efficacy into creative abilities can positively impact subsequent creative behavior in students (Anderson, 2006; Ohly et al., 2017).

Despite the evidence that a strong belief in one's abilities is related to creativity, differences in conceptualizations make it difficult to compare these results. For this reason, a more detailed discussion about differences and similarities must be highlighted. As described earlier, the need for competence is defined as an individuals' inherent desire to feel effective in interacting with the environment (Van den Broeck et al., 2010). A high sense of competence enables the individual to explore and manipulate the environment and to engage in challenging tasks to test and extend one's skills (Deci & Ryan, 2012). Furthermore, the need for competence is fundamental, and satisfaction results in an affective experience of effectiveness that results from mastering a task. In contrast, self-efficacy, which is central to Bandura's (1991) Social Cognitive Theory (SCT), is defined as situation-specific self-confidence. Self-efficacy ought to influence the successful execution of tasks in differing circumstances. And more importantly, it is not related to the quality of the behavior but rather with behavioral persistence, which ought to be enhanced. In addition, self-efficacy is based on acquired cognitions concerning one's capacities to accomplish specific future tasks successfully. On the other hand, competence is an inborn need. Satisfaction of competence is an affective experience that follows successful mastery of a task (Van den Broeck et al., 2010). To put it differently, competence is closely tied to the person's level, whereas selfefficacy is more tied to the level of behavior (Rodgers et al., 2014).

Despite the theoretical differences between these constructs, some scholars claim that they are most likely highly correlated on the empirical level (Van den Broeck et al., 2010). For example, (Maddux, 1995) claimed that task self-efficacy (confidence for performing the fundamental aspects of behavior) might be stronger related than other forms of self-efficacy such as coping self-efficacy (beliefs about one's ability to cope with potential difficulty). This aspect is essential for work-related outcomes since task self-efficacy was found to be an important predictor for engaging and persisting on complex tasks (Chen et al., 2001; Mangos & Steele-Johnson, 2001). Nevertheless, empirical evidence exists that perceived competence and self-efficacy are conceptually different. For instance, Rodgers et al. (2014) investigated the discriminant validity of SDT needs on three

different self-efficacy beliefs (i.e., *task-*, *coping-*, *scheduling self-efficacy*). Two studies in the context of physical exercise were conducted. Confirmatory factor analysis (CFA) affirmed the conceptual and statistical distinction of perceived self-efficacy and competence as well as the other two SDT needs relatedness and autonomy.

Creative Self-Efficacy

As shown above, self-efficacy beliefs can be vital to pursue and persist on complex tasks (Mangos & Steele-Johnson, 2001; Stajkovic & Luthans, 1998). This again might be specifically vital in pursuing creative ones. Therefore, it is rather unsurprising that scholars drew attention to self-efficacy beliefs in the context of creativity. With attention to SCT, Tierney and Farmer (2002) pioneered the concept of creative self-efficacy (CSE), defining it as a degree of personal belief in one's ability to produce creative outcomes. Moreover, CSE is future-oriented, task-specific, and malleable (Beghetto & Karwowski, 2017). Especially the latter makes it interesting in creativity research. Hence, it is rather unsurprising that research on CSE experienced considerable attention across disciplines, including organizational research (Chong & Ma, 2010; Puente-Díaz, 2016), innovation (Abdullah et al., 2019; Michael et al., 2011), and education (Liu et al., 2021; Ohly et al., 2017; Sun et al., 2021). Furthermore, the effects of CSE on creative performance could be observed across different industries such as manufacturing (Tierney & Farmer, 2002), R&D (Zhang et al., 2016), and ICT (Huang et al., 2016).

Although a lot of evidence supports the effects of CSE on creative performance, studies vary strongly in their strength of association. While some report correlations up to .85 (Chuang et al., 2010), others could not find any significant or only weak associations (Richter et al., 2012; Simmons et al., 2014). This might be partly explained by different populations under investigation, whereby associations in student samples appear to be stronger (Sun et al., 2021).

In addition, different measurements of creativity and CSE might also contribute to varying effects. For example, Haase et al. (2018) examined 41 studies in a comprehensive meta-analytic review. They reported that CSE has a stronger association with creativity when it is measured via self-report (r = .53). In contrast, when more objective measures of creativity were applied, such as performance tasks and expert ratings, correlations between the two constructs were significantly lower (r = .25). Nevertheless, Haase et al. (2018) revealed that the overall mean relation between creativity and creative self-efficacy was of medium size (r = .39). It was further proposed that high

levels of CSE result in increased creative performance because the focus of attention on the current task and task-related efforts are improved (Zhang & Long, 2013).

In contrast, low levels of CSE may diminish creative performance due to lower levels of confidence in successful task completion (Hahn & Lee, 2017). Additionally, studies have found that CSE might serve as a mediator as well as a moderator in explaining creative performance (for an extensive review, see: Farmer & Tierney, 2017). Overall, the evidence that CSE serves as an essential determinant for creativity is quite promising, and these effects seem to be stable over time (Tierney & Farmer, 2011). Therefore, it is pretty remarkable that only a few studies explored the effects of CSE on the team level (Dampérat et al., 2016; Hon & Chan, 2013; S. J. Shin & Zhou, 2007).

Moreover, research on variables that potentially influence CSE has been vast. Some studies identified context factors that promote CSE, including job autonomy (De Spiegelaere et al., 2016; Mathisen, 2011) and supervisor support (Tierney & Farmer, 2004). Others explored within-person variables such as creative personal identity (Jaussi et al., 2007), openness to experience (Hsu et al., 2011), and intrinsic motivation (Zhou et al., 2012). Nonetheless, no study explored the need for competence as a potential antecedent of CSE up to this point. Only Hughes et al. (2011) explored whether competence precedes self-efficacy and self-confidence. They concluded that competence indeed serves as an important antecedent for self-efficacy. However, the link between competence and CSE has not been tested yet. To bridge this research gap, it will be probed whether competence serves as an antecedent of CSE. Accordingly, the following hypotheses had been proposed:

H1a: Perceived need for competence has a direct effect on creative self-efficacy

Achievement Motivation

When engaging in challenging tasks, individuals experience either the need to achieve or the need to avoid failure. Both needs may be triggered by difficult and challenging situations resulting in an approach-avoidance conflict (Atkinson, 1974). On the one hand, the need to achieve motivates to engage with complex and challenging situations. Fear of failure, on the other hand, pushes individuals to avoid these tasks. James (1998) argued that achievement motivation is the product of these conflicting needs. He defined achievement motivation as a person's tendency to approach and engage in challenging situations with interest and enjoyment. Since creative tasks

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can be challenging, high levels of achievement motivation might be necessary to engage in creative tasks successfully and consistently. Furthermore, James (1998) claimed that when high levels of fear of failure are experienced, individuals tend to make overly conservative decisions and experience novel tasks as aversive. This, in turn, leads to the development of less creative solutions. On the contrary, when achievement motivation is overall higher, people will take risks to be successful, promoting higher levels of creativity (James & Mazerolle, 2001).

However, research on achievement motivation and creativity has been mixed. While some studies about innovation and entrepreneurship provided evidence for achievement motivation being related to creative outcomes (Ghasemi et al., 2011; Yusuf, 2011). Other studies could not establish such evidence (Shalley & Perry-Smith, 2001; Zhou, 1998). Furthermore, Schoen (2015) investigated whether achievement motivation predicts creativity. The author assessed students' creative abilities in a laboratory setting and their response was rated following Amabile's Consensual Assessment Technique for assessing creativity (Amabile, 1982). In addition, they controlled for competence and CSE. The results indicated that achievement motivation could predict creativity. However, while competence and CSE seemed to be highly related (r = .64). No significant correlation was found between these variables and achievement motivation as well as the creative outcome. More importantly, it appears as if the author treated achievement motivation as a unitary variable, not taking competing effects of fear of failure into account. Accordingly, a more nuanced consideration is needed to understand how achievement motivation and its counterpart fear of failure may serve as antecedents for CSE. In addition, Du et al. (2020) found that achievement goal orientation, a concept closely related to achievement motivation, predicts creative outcomes and is mediated by CSE.

Moreover, it has been theorized that the need for competence might be essential for achievement motivation (Elliot & Dweck, 2005). One study indeed could establish a relationship between competence and achievement motivation assessing university students (Negovan & Bogdan, 2013). Another study in the context of sports and physical exercise could replicate these results (Conroy et al., 2007). Nevertheless, it appears that the relationship between the need for competence and achievement motivation had not been tested extensively in the context of team creativity. Therefore, replication of the previous results is needed.

In essence, achievement motivation might be considered as a construct that partly explains the effects of competence on CSE. Fear of failure on the other hand might inhibit the

mediational effect between competence and achievement motivation. To shed more light on how competence, CSE, and achievement motivation are related, the following has been hypothesized:

H1b: The need for achievement mediates the effects of competence on creative self-efficacy *H1c:* The mediational effect between competence and achievement motivation is moderated by fear of failure

Need for Relatedness

Drawing again on SDT, the need for relatedness appears to be essential for an individual's work motivation (Gagné & Deci, 2005). However, on the team level, the construct only received little attention in the organizational setting (Schreurs et al., 2014). This is somewhat surprising because the need for relatedness concerns the feeling of connectedness towards others in ones surrounding and a defining characteristic of teams is the interdependence among its members (Wageman, 2001). Hence relatedness might be vital for one's perception of being part of a team which in turn should contribute to team-related outcomes. For example, one study found that relatedness mediates the relationship between perception of inclusion and intrinsic motivation (Bidee et al., 2017). Another study by Schreurs et al. (2014) could establish that need satisfaction (i.e., need for autonomy, competence, and relatedness) fosters work engagement on the individual and team level. In addition, Auzoult (2013) provided evidence that a sense of relatedness in team members contributes to perceived team effectiveness and task cohesion. This again suggests that relatedness might be important when teams approach difficult tasks, where the perception of effectiveness and task cohesion might be of importance. Yet, it appears that no study so far investigated the need for relatedness in teams that follow a creative process.

Consequently, the need for relatedness appears to be an important basis for team processes. Therefore, it is proposed that it serves as an essential element for individuals to interact successfully with their team members. And more importantly, team processes that contribute to a team's creative ability.

Process Variables

Teams are characterized by members working interdependently toward collective goals (Hackman, 1987). With increasing interdependence the need for effective team interaction

increases (Hu & Liden, 2011). Although, successful team interaction might be fruitful when engaging in creative tasks collectively. Other factors might hamper the successful execution of these tasks. While first important individual characteristics had been identified. In the following, certain aspects will be explored in more depth that contribute to a team's creative process. Moreover, first, it will be emphasized how the individual need for relatedness acts as a precursor for the perception of team cohesiveness. Later there will be put more emphasis on how cohesion can impact the shared belief of team members in their creative abilities. Moreover, it will be discussed under which conditions intragroup conflict might interfere with a team's creative process.

Team Cohesion

According to Kozlowski and Ilgen (2006), team cohesion is one of the most studied constructs in the team literature. Based on their definition, team cohesion describes the extent to which team members feel attraction to the collective. A more elaborate definition of cohesion puts emphasis on the belief of group member's perception of closeness, similarity, and bonding between its members (Carron & Brawley, 2012). In view of these definitions, it might become evident how the need for relatedness and team cohesion could be intertwined. It can fairly be assumed that the feeling of connectedness (i.e., relatedness) mutually affects and is affected by the perception of bonding (i.e., team cohesion). Empirical evidence could support this assumption. One study found that team cohesion fosters connectedness influences and is influenced by team cohesion. Teams that display strong interpersonal bonds are expected to interact more efficiently. Especially at tasks requiring coordination and communication, team cohesion was an important predictor across a wide range of studies (Gully et al., 1995).

Given the importance of coordination and communication on creative tasks, team cohesion should be a strong predictor. A meta-analytic review by Hülsheger et al. (2009) could establish that this is the case. They found that team cohesion, internal communication, and vision are better predictors for team creativity than individual creativity. Based on their explanation, this might be the case because positive team interactions are fostered. Alike, Taggar (2002) reported that when groups displayed cooperative behavior, aggregated individual creativity was positively related to team-level creativity.

Moreover, Mathieu et al. (2015) argued that cohesive teams might express more cognitive conflict, which fosters thinking outside the box and increases creative performance over time. Teams that openly discuss new ideas might generate more creative solutions (Mumford & Gustafson, 1988). In accordance, when team members share a high degree of cohesiveness that encourages them to scrutinize ideas openly, the creative process might be improved.

On the contrary, Sethi et al. (2001) found a negative relationship between team cohesion and team creativity in product development teams. They argued that team cohesion may lead to rejection of criticism to preserve cohesion which in turn negatively impacts team creativity. Furthermore, Reiter-Palmon et al. (2012) noted that team cohesion might moderate the quality of internal communication and how task conflict is embraced. This, in turn, predicts whether the team's creative process is fostered or undermined, which suggests that cohesive teams perform better on creative tasks when members share an openness to criticism and embrace task conflict. Therefore, cohesiveness might be beneficial if, as a result, team members feel the confidence to express their views. Hence, results appear to be mixed whether team cohesion benefits team creativity. However, it might be reasonable to assume that high degrees of perceived team cohesion can be beneficial when a healthy degree of task conflict is embraced, resulting in richer discussions about how to address issues in novel ways.

Up till now, it has been unveiled how team cohesion might benefit a team's creative process. It was further presented how the satisfaction for relatedness might underly team cohesion. The following paragraphs will explore how team cohesion might contribute to team members' shared belief in their creative abilities and how different forms of team conflict might benefit or hamper these team processes.

H2a: The need satisfaction of relatedness mediates team cohesion.

Creative Collective Efficacy

Although a vast body of literature investigated how personal beliefs about one's creative abilities affect creative performance, very little is known about team members' shared belief in their creative abilities. Earlier research identified the concept of team potency, which refers to the collective belief in the ability of the team to be successful (Mathieu et al., 2008). At the same time, the term team efficacy was introduced, which is the "shared belief in a group's collective capability

to organize and execute courses of action required to produce given levels of goal attainment" (Kozlowski & Ilgen, 2006 p.90). Reiter-Palmon et al. (2012) pointed out that these two concepts have substantial overlap, with the slight distinction that efficacy is more task-specific and potency describes more general beliefs in one's abilities.

Moreover, Bandura (1991) extended the notion of self-efficacy beliefs to collective efficacy, indicating that those beliefs operate as a foundation for the performance and motivation of a group. Therefore, efficacy beliefs about a team's creative performance might be vital for team creativity. For simplicity reasons, the term *creative collective efficacy* (CCE) will be used to refer to efficacy beliefs on the team level since this denotation is more in line with Bandura's original definition of this construct.

Previous research on the relationship between CCE and team creativity delivered promising results. For example, Shin and Zhou (2007) examined 75 R&D teams and tested whether CCE was positively related to team creativity and if CCE mediates the effects of transformational leadership and educational specialization heterogeneity on team creativity. Their results did confirm that CCE has direct effects on team creativity and mediates the relationship between transformational leadership and educational specialization heterogeneity.

In addition (Shin & Eom, 2014) investigated whether team proactivity serves as a mediator for the relationship of CCE on team creativity. Their results could indeed establish moderate direct and indirect effects of CCE on team creativity. Similar results were found in a study of cooperative group norms and positive group affect, indicating the mediating role of CCE on team creativity (Kim & Shin, 2015). Overall, previous research could establish direct effects of CCE as well as mediation effects on team creative performance.

However, with few exceptions, very little is known about variables that precede and influence CCE on an individual and the team level. One study by (Cheng & Yang, 2014) investigated whether team knowledge, achievement motivation, and knowledge integration capability can predict CCE. They also tested whether project complexity weakens these relationships and if team member interaction strengthens the relationship between team knowledge and CCE. The reported results did indeed indicate that team knowledge, achievement motivation, and knowledge integration capability can predict CCE. Furthermore, interpersonal interaction had a positive influence on the relationship between team knowledge and CCE. On the contrary, project complexity weakened that relationship and displayed a negative effect on knowledge

integration capability. However, the relationship between achievement motivation and CCE appeared to be strengthened by project complexity.

More importantly, it is worth mentioning that only one study so far has examined how efficacy beliefs on an individual level contribute to CCE. Dampérat et al. (2016) developed and scrutinized an integrative model of CSE and CCE. In specific, they tested engineering students' performance on a creative task and analyzed the joint influence of CSE and CCE on team creativity. As an outcome measure for team creativity, they focused on perceived originality, which was rated by the students' teachers. Their results gave a strong indication that beliefs about the creative abilities of a team are enhanced by a person's self-belief of having creative abilities. Furthermore, the tested model confirmed the predictive validity of CCE on perceived originality.

Altogether, the presented evidence suggests that when team members are confident in achieving creative tasks individually, they tend to feel more confident and make more effort to succeed collectively (Gibson & Earley, 2007). Regardless, CCE and more specifically its antecedents, appear to be under-researched with very few exceptions as presented above.

In that manner, this research aims to shed more light on which variables might contribute to CCE. On the process level, team cohesion and its potential benefits for team creativity have been identified. Again, cohesive teams might benefit from open communication and positive social interaction, which in turn contribute to creative performance (Hülsheger et al., 2009). As stated earlier, CCE might be fostered by positive social interaction (Cheng & Yang, 2014). Therefore, there is reason to assume that team cohesion may unfold its effects on team creativity by directly contributing to CCE. Thus far, no study has investigated the relationship between team cohesion and CCE. However, some studies point into the direction that team cohesion influences more general efficacy beliefs (i.e. collective efficacy) (Jung & Sosik, 2002; Paskevich et al., 1999). Therefore, the following hypothesis has been proposed:

H2b: Team cohesion positively predicts creative collective efficacy

Intragroup Conflict

When teams encounter challenging situations, conflict between their members might originate which is broadly referred to as intragroup conflict. Some forms of conflict during specific project phases might be beneficial when they foster cognitive stimulation (Mathieu et al., 2015). On the contrary, repeated personal conflict was found to be rather detrimental (Jehn & Mannix, 2001). In general intragroup conflict was defined by De Dreu & Weingart (2003) as "the process resulting from the tension between team members due to real or perceived differences" (p. 3). Research about intragroup conflict identified mainly two prominent forms of conflict. Firstly, task conflict, which concerns cognitive conflict about how to engage and pursue a task. Secondly, relationship conflict which might become evident in the form of personal differences in taste, political opinions, and values that can result in negative emotions (Jehn, 1995). While both forms of conflict have different consequences, some scholars argued that the two can be related. Whereby task conflict may lead to relationship conflict and vice versa (Jehn & Mannix, 2001).

Generally speaking, research on conflict indicates that it negatively affects teams by diminishing information transfer and consequently task execution (De Dreu & Weingart, 2003; De Wit et al., 2012). Early research on conflict assumed that all forms of conflict are negative and dysfunctional. Hence, scholars were more concerned with identifying causes to prevent conflict (Passos & Caetano, 2005). In contrast, the interactionist view declared that a minimum amount of conflict is necessary to keep the team self-critical and innovative (Lewicki et al., 1992). Despite that new view, empirical evidence on conflict and team performance had been fairly mixed (Jehn, 1995; Jehn & Mannix, 2001; Passos & Caetano, 2005). Nevertheless, by drawing on Jehn's (1995) differentiation of task and relationship conflict, scholars had been able to establish a more fine-grained picture. For this reason, both forms of conflict will be explored in more detail.

De Dreu and Weingart (2003) conducted one of the first comprehensive meta-analyses on this topic. Their results showed that relationship conflict is negatively related to team performance and team member satisfaction. Similarly, task conflict had a negative relationship with team performance and team satisfaction. Hence, the latter observation contrasted with what was theorized because scholars had postulated that a certain degree of task conflict might be positively related to team performance. In addition, De Dreu and Weingart (2003) revealed that both forms of conflict were more strongly negatively correlated with team performance in complex tasks than in more repetitive production tasks.

A more recent meta-analysis by de Wit et al. (2012) revealed more nuanced results. In specific, they investigated 116 studies and controlled different moderator variables. In contrast, De Dreu and Weingart (2003) only included 25 studies for task conflict and 24 on relationship conflict to investigate the relationship on team performance. De Wit et al. (2012) reported stable

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negative relationships between relationship conflict and viability of group processes (e.g., cohesion, satisfaction, commitment). However, compared to De Dreu and Weingart (2003), they did not find a strong correlation between task conflict and group performance variables. More importantly, task conflict and group performance were more positively related among studies where relationship conflict appeared to be low. This is in accordance with the previous notion of the interactionist view that relationship conflict and task conflict are in a reciprocal relationship, and the effects of task conflict on team performance can be beneficial when relationship conflict is low.

As shown above, intragroup conflict can have positive and negative effects on group performance. While overwhelming evidence shows that relationship conflict is detrimental. The effects of task conflict are more mixed. Moreover, as indicated earlier, task conflict might be even beneficial for team creativity because it advances discussion on different opinions and multiple viewpoints, which are incorporated into the creative process (Kurtzberg & Amabile, 2001). Yet, evidence concerning task conflict and creativity has been scarce and mixed. For example, one study by Yong et al. (2014) found a positive correlation between creativity and task conflict and a negative correlation for relationship conflict. On the contrary, one study found a negative relationship between task and relationship conflict on team creativity (Mortensen & Hinds, 2001), and a meta-analysis by Hülsheger et al. (2009) revealed no significant relationships at all. Again, like team performance in general, it appears that evidence about the effects of intragroup conflict on a team's creative performance seems to be quite mixed. This might be partly due to the amount of task and relationship conflict experienced.

Although this might be true, there is reason to assume that these types of conflict might act even independently on fundamental team processes. For example, Tekleab et al. (2009) reported that relationship conflict negatively affects team cohesion, an effect moderated by conflict management. The authors indicated that this effect persisted over time but was rather weak. This might be partly due to their study design in which conflict management was actively build in and engaging in conflict management was made salient. In addition, they tested a student sample over a period of three months, and participation was mandatory as part of the course requirements. Due to this rather artificial setting and short period to engage with team members and cultivate cohesiveness, the results might be obscured. Therefore, the results might not be generalizable to a professional context in which team members interact and bond over a longer period, and the effects of relationship conflict on team cohesion might become more evident. Another study found a stronger negative relationship between task and relationship conflict on team cohesion in team sports (Sullivan & Feltz, 2001). But again, this might not be generalizable to teams performing creative tasks. Moreover, it appears as if the effects of relationship conflict on the need for relatedness have not been investigated yet. For this reason, testing this relationship in a professional sample is needed.

At the same time, the relationship of task conflict on creative processes deserves more scrutiny. It has been reported that low to moderate amounts of task conflict can be beneficial (Kurtzberg & Amabile, 2001; Yong et al., 2014). Nevertheless, this was not conclusively supported in a meta-analytical review (Hülsheger et al., 2009). Some argue that task conflict affects creativity in a curve linear fashion, whereby low to moderate amounts increase creativity and high amounts weaken it (Jehn, 1994; Kratzer et al., 2006). Then again, it might be argued that task conflict might not directly affect team creativity but rather underlying team processes. It could be theorized that task conflict affects the relationship between team cohesion and CCE and not team creativity directly. This would indicate that cohesive teams that regularly experience moderate levels of task conflict might still engage in fruitful discussion, thereby fostering creative efficacy beliefs in the team. To test this, the following has been hypothesized:

H2c: Effects of team cohesion on the need for relatedness are moderated by relationship conflict

H2d: Task conflict moderates the relationship between team cohesion and creative collective efficacy

Output Variables and Research Model

Creative teams profit companies by generating new value in the form of novel products and services. While a great deal of research supports this (Amabile, 1988; Chen, 2006; Coursey et al., 2018). There appears to be contradictory evidence about which variables foster or undermine creative performance (Reiter-Palmon et al., 2012). To bring more clarity into this field of research, a comprehensive model was built (see **Figure 1**) following the Input-Process-Output (I-P-O) Model (Hackman, 1987). As input variables, constructs concerning the individual level were identified. These include need-based constructs such as competence, achievement motivation, and fear of failure, as well as efficacy beliefs in the form of CSE. These variables were included because previous scholars noted that these constructs may be related, however still represent different entities (Rodgers et al., 2014; Van den Broeck et al., 2010), and their effects on each other needed more clarity. Specifically, there appears to be a lack of empirical evidence whether the need for competence positively affects CSE and if this effect might be mediated by achievement motivation. In addition, previous research did not account for the potential adverse effects of fear of failure on achievement motivation. Therefore, fear of failure was additionally added to the model. Furthermore, the need for relatedness was included as an input variable given the theoretical consideration that this construct might play a vital role for an individual to successfully interact with its team which further should affect team processes as described earlier.

As process variables, team cohesion, intragroup conflict, and CCE were selected. Given the lack of empirical evidence on which variable contribute to CCE, it was hypothesized that CCE might be positively affected by team cohesion. Likewise, the association between team cohesion and CCE was probed to be mediated by the input variable relatedness, given the theoretical consideration that a sense of relatedness might be vital to perceive cohesiveness within the team. Moreover, given the mixed results of previous studies on how intragroup conflict affect team processes (Hülsheger et al., 2009; Kratzer et al., 2006), it was probed whether relationship conflict has adverse effects on the relationship between team cohesion and relatedness and if task conflict might be beneficial for CCE when team cohesion was high. Therefore, the interaction between these constructs and potential mediation and moderation effects were hypothesized.

Although it had been repeatedly shown that CSE positively impacts creative performance (Farmer & Tierney, 2017; Haase et al., 2018), the way how CSE impacts CCE still has to be clarified. Thus, while Dampérat et al. (2016) could establish that CSE has a positive relation to CCE, it might still be worth investigating the nature of this relationship. It might be theorized that a person's belief in their creative abilities also explains the person's belief in the creative abilities of its group. Therefore, it will be probed whether CSE mediates the effects of CCE on team creativity.

Moreover, it will be investigated whether the underlying need for competence has a direct effect on perceived team creativity through CSE, to shed more light on how individual needs affect

team outcomes. Similarly, it will be explored if team cohesion has a direct effect on team creativity and if this effect will be mediated by CCE. This again should deepen our understanding of the role of cohesiveness in predicting team creativity.

H3a Creative collective efficacy predicts perceived team creativity
H3b Creative self-efficacy mediates creative collective efficacy
H3c Competence predicts perceived team creativity and is mediated by CSE
H3d Team cohesion predicts perceived team creativity and is mediated by CCE

Figure 1

Proposed structural model and hypotheses



Method

Participants and Procedure

To provide an initial examination of the posited relationships, a questionnaire-based crosssectional study was conducted. The vendor "SoSciSurvey.de" was used for the creation and distribution of the survey. The sampling timeframe was set from March to May 2021. The survey was distributed via e-mail distribution lists, and participants were encouraged to distribute the survey to colleagues further. At the beginning of the survey, participants were informed about their voluntary participation and had to sign the informed consent before participating.

At the end of the sampling period, the sample consisted of 129 participants. 11 participants had to be excluded because they did not meet requirements such as participating in teamwork regularly. Resulting in a sample of 118 participants (n = 53 male, n = 65 female). Participants' age ranged from 22 - 66 years (M = 38.88, SD = 11.51). 67 were from Germany, 48 from Austria, two from France, and one from Italy.

87.3% indicated that they completed a university degree, 7.6% a high school degree, and the remaining 5.1% an apprenticeship. 31.4% of the participants worked in consultancies, 18.6% in R&D, 15.3% in marketing, and 9.3% held a management position. The remaining 25.4 % held positions such as human resources, controlling, and business development. In addition, respondents had to state the size of the company they are working at. The majority of 41.5% of participants reported working at a company with more than 1000 employees. 10.2% worked in firms with 251-1000 employees, 13.6% in companies with 51-250 employees. 22.0% of participants were employed in companies with 1-50 employees and 12.7 % in companies with fewer than 10 employees. On average, participants were working at their company for 7.31 years (SD = 8.80). Participants were also asked to state their working hours. Most participants reported working more than 40 hours per week (n = 50). 42 indicated working 40 hours per week, and 26 said they work around 20 hours per week.

Measurement Scales

The variables were measured using previously validated scales and translated from English into German. All items can be found in Appendix Table 2 and all descriptive statistics and intercorrelations between the scales in Table 1 below.

Need for Competence and Relatedness

To measure the need for competence and relatedness, items were drawn from Van den Broeck et al. (2010). The response was measured on a 5-point scale (from 1 "*not at all agree*" to 5 "*strongly agree*"). To measure competence, four items were used (e.g., "*I feel competent at my job.*") with adequate internal consistency ($\alpha = .69$) and an average of 4.34 (*SD* = 0.49). The need for relatedness was measured with five items (e.g., "*At work, I feel part of a group.*") and similar internal consistency ($\alpha = .72$) with an average of 3.96 (*SD* = 0.76). Both scales displayed a weak correlation (r = .28).

Achievement Motivation and Fear of Failure

Items for the dimensions achievement motivation and fear of failure were drawn from the short version of the Achievement-Motivation Scale (Lang & Fries, 2006). Both dimensions were measured on a 4-point scale (from 1 "*strongly disagree*" to 4 "*strongly agree*"). Achievement motivation was measured by five items (e.g., "*I like situations, in which I can find out how capable I am.*") with high reliability ($\alpha = .86$) and an average of 3.09 (*SD* = 0.58). Similarly, fear of failure was measured by five items (e.g., "*I am afraid of failing in somewhat difficult situations when a lot depends on me.*") with good reliability ($\alpha = .78$) and an average of 3.25 (*SD* = 0.53). Both scales were moderately negatively correlated (r = .38).

Creative Self-Efficacy

For CSE 6 items from Brockhus et al. (2014) were used, which included the original items from Tierney and Farmer (2002). The scale included items such as: "*I am confident that I can develop creative ideas for almost any problem*". The scale had good reliability ($\alpha = .79$) and an average response of 4.20 (*SD* = 0.49).

Team Cohesion

Items for team cohesion were drawn from Salas et al. (2015) including six items on a 5point scale (from 1 "*not at all agree*" to 5 "*strongly agree*"). The scale included items such as: "*The members of my workgroup are cooperative with each other*" and had high reliability ($\alpha = .84$) with an average response of 3.95 (SD = 0.57).

Intragroup Conflict

To measure intragroup conflict, the scales validated by Gamero et al. (2008) were administered. Task conflict and relationship conflict were measured on a 5-point scale (from 1 "*never*" to 5 "*quite frequently*"). The task conflict scale was comprised of six items (e.g., *How frequently do members of your team disagree about the way to complete a group task?*"). The scale had acceptable psychometric properties (M = 2.25, SD = 0.48, $\alpha = .77$). Relationship conflict was assessed by four items, including the item: "*How much emotional conflict is there among members of your team?*". Average response was 1.98 (SD = 0.55) with high internal consistency ($\alpha = .85$). The relationship between both scales was high (r = .58).

Creative Collective Efficacy

In total, five Items on a 7-point scale (from 1 "not at all agree" to 7 "strongly agree") were used to measure CCE. Two items were drawn from Dampérat et al. (2016), and three were from Tierney and Farmer (2002), adapted to describe team-level efficacy beliefs. Example items were "I have confidence in the team's ability to produce new ideas" and "When confronted with a problem, my team can usually find several solutions", respectively. Average response was 5.91 (SD = 0.98) with high reliability ($\alpha = .87$).

Perceived Team Creativity

To assess team creativity, respondents were asked how they perceive the quality of their teams' creative process. A 7-point scale was used from 1 "*not at all agree*" to 7 "*strongly agree*"). Items were adapted from Shin and Zhou (2007) and included items such as: "*The solutions my team finds are mature enough to implement*.". Average response was 5.21 (SD = 1.07) with adequate internal consistency ($\alpha = .76$).

Control Variables

The number of team members was found to be an influential factor for the team's creative processes (Shin & Zhou, 2007) and for this reason controlled for in this study. Participants had to indicate their team size in an open question format with an average of 9.35 (SD = 7.85). The response was recoded, and respondents were classified into three team sizes, small teams ("2-4"

members "), medium-sized teams ("5-8 *members*"), and large teams ("9 *and more members*"). Resulting in small teams (n = 23), medium sized teams (n = 50), large teams (n = 45).

Teamwork frequency was assessed by three items adapted from De Jong and Den Hartog (2010) on a 4-point scale (from 1 "*never*" to 4 "*always*") with questions such as: "*How often do you work with members of your team to improve current products or services*?". Response was averaged across the three items (M = 3.58, SD = 0.70, $\alpha = .61$) and was later added as covariate.

It has been found that team diversity in the form of demographic diversity (i.e., ethnic background) has an influence on teams but with mixed results. Some reported that it has positive effects (Curşeu, 2010), adverse effects (Kirkman et al., 2004), or no effect (Paletz et al., 2004). Thus, to control for any potential effects, one item was added ("*How often do you work with members of different nationalities (i.e., from another country)*?"). This item was measured on a 5-point scale (from 1 "*never*" to 5 "*always*") with an average of 3.08 (SD = 1.39).

Lastly, the amount of teleworking was assessed because regular virtual collaboration might affect team processes. One item was added where participants had to state how frequently they engaged in teleworking. The resulting in "*never*" (n = 13), "*1-2 days*" (n = 27), "*3-4 days*" (n = 37), "*5 days or more*" (n = 41).

Data Analysis

The data was cleaned and analyzed with the computer software IBM SPSS 27. Various descriptive analyses were performed. To test for potential group differences, an analysis of variance (ANOVA) was run. In addition, a confirmatory factor analysis (CFA) was performed to test the adequacy of the measurement model. This was done with the Program R Studio and the package R lavaan (Rosseel, 2012). All mediation and moderation analyses were performed by using the Andrew Hayes Plugin 3.5 (Hayes, 2017). All model assumptions were verified prior to analysis.

Table 1

Descriptive Statist	tics and	d Interc	correlat	ions							
Scale Variables	М	SD	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)

1. Competence	4.34	0.45	-								
2. Achievement Motivation	3.09	0.58	.37**								
3. Fear of Failure	1.74	0.54	50**	38**							
4. Creative Self-Efficacy	4.20	0.49	.41**	.44**	29**						
5. Relatedness	3.96	0.76	.28**	.18*	20*	.09					
6. Team Cohesion	3.96	0.57	.37**	.16	15	.26**	.43**				
7. Creative Collective Efficacy	5.91	0.98	.19*	.16	11	.22*	.41**	.48**			
8. Relationship Conflict	1.98	0.55	01	06	.05	.10	09	40**	23*		
9. Task Conflict	2.25	0.48	22*	01	.11	.01	10	34**	32**	.58**	
10. Team Creativity	5.21	1.07	.30**	.24**	29**	.31**	.35**	.38**	.71**	10	22*

* Correlation significant at p < .05

** Correlation significant at p < .01

Results

Assumptions

The distributions of all scales were tested for normality. The Koglomorov-Smirnov test was significant for all scales, indicating violations of normality. However, visual inspection of qq plots, as well as histograms, did not indicate severe violations of the normality assumption. Furthermore, given the large sample size, robustness against any minor deviations from normality can be assumed (Field, 2017). Several outliers were observed in scores of relatedness, relationship conflict, task conflict, and CCE. However, this might be due to the narrow distribution of scores in these scales and not measurements errors. Hence, no outlier was excluded. Visual inspection of all scatterplots of the residuals for all scales in the regression models indicated that homoscedasticity and linearity were given for all models. The Durbin-Watson statistic showed no problem with autocorrelation in any model. In case an ANOVA was conducted, Leven's test was performed. Levene's test showed that homogeneity of variances could be assumed for all tested models, which primarily concerned group differences of control variables (i.e., occupation, teleworking, team size, teamwork frequency, team diversity) on any of the scales. For moderation and mediation analysis the model assumptions linearity, normality, homoscedasticity, and independence were checked, and no violation could be observed. Given the cross-sectional study design, the assumption of temporal precedence between the independent variable, mediator, and dependent variable was violated in all models.

Evaluation of the Measurement Model

To assess the convergent and discriminant validity of the constructs multiple CFAs were performed. Specifically, all variables in the path model that were conceptually related to each other were tested and model statistics were assessed based on the indices and standards recommended by Hu and Bentler (1998). The discriminant validity of competence and CSE were probed first. It appeared that the model fit the data well ($\chi^2(34) = 51.13, p = .01$), Tucker-Lewis Index (TLI = .93), comparative fit index (CFI) = .95, root mean error of approximation (RMSEA) = 0.06. Then CSE was propped against achievement motivation ($\chi^2(43) = 100.65 \ p = .00$, TLI = .87, CFI = .90, RMSEA = 0.10), with less satisfactory model fit.

In addition, achievement motivation was propped against competence resulting in a sufficient model fit ($\chi^2(26) = 66.52$, p = .00, TLI = .86, CFI = .90, RMSEA = 0.11). Then, the factor structure of achievement motivation was tested against fear of failure with similar model fit ($\chi^2(34) = 91.56$, p = .00, TLI = .85, CFI = .89, RMSEA = 0.01).

Moreover, both forms of intragroup conflict were examined. Items of task and relationship conflict appeared to measure the constructs respectively, except for one item. But the overall model fit was acceptable ($\chi^2(34) = 65.79$, p = .00, TLI = .90, CFI = .92, RMSEA = 0.09). Items of the team cohesion scale and need for relatedness appeared to measure both constructs respectively ($\chi^2(43) = 96.66$, p = .00, TLI = .84, CFI = .88, RMSEA = 0.09). Model fit of the team cohesion

scale and CCE items were tested resulting again in a good model fit ($\chi^2(34) = 66.60, p = .00$, TLI = .92, CFI = .94, RMSEA = 0.01). Because of the high correlation between CCE and perceived team creativity it was verified whether the items measure different constructs. The model fit did not meet the recommended cutoffs ($\chi^2(19) = 89.69, p = .00, TLI = .80, CFI = .86, RMSEA = 0.18$), with indication that the constructs are highly related (Figure 2).

Figure 2

Results of the confirmatory factor analysis: creative collective efficacy and perceived team creativity



Evaluation of Control Variables

Multiple ANOVAs were conducted to test whether any differences on the measurement scales can be observed. In addition, post-hoc group comparisons with Bonferroni correction were performed. There seemed to be no statistical differences between different occupations on any of the scales. Also, groups formed by team diversity did not differ on any of the scales. Similarly, there was no statistical difference observed between teleworking groups, except for the team cohesion scale (F(3,115) = 3.45, p = .02, $\eta^2 = .08$). However, this effect became non-significant during post-hoc testing and adjusting for multiple comparisons. Team size appeared to be statistically different only for task conflict (F(3,115) = 4.85, p = .01, $\eta^2 = .06$) and relationship conflict (F(3,115) = 3.70, p = .03, $\eta^2 = .08$) and was still significant after correction for multiple comparisons. Post-hoc comparisons revealed that large teams differed significantly from small teams. Where large teams reported more task conflict (MD = 0.37) and relationship conflict (MD = 0.38). The teamwork frequency scale appeared to be only significantly correlated to CCE (r(118) = .18, p < .05) and relationship conflict (r(118) = .20, p < .05).

Mediation and Moderation Analysis

For testing potential moderation and mediation effects Hayes PROCESS macro version 3.5 was used (Hayes, 2017). To test hypotheses H1a-H1c Model 5 was computed. Results showed that need for competence had a total direct effect on CSE ($\beta = .41$, t(118) = 4.91, p = .00) which confirmed H1a. After entering the mediator achievement motivation to the model, competence predicted the mediator significantly ($\beta = .38$, t(118) = 4.40, p = .00). The mediator achievement motivation predicted in turn CSE ($\beta = .33$, t(118) = 3.81, p = .00). It was found that the relationship between competence on CSE was partially mediated ($\beta = .29$, t(118) = 3.35, p = .00). Therefore, H1b could be confirmed. Lastly, the moderator fear of failure was entered, to test whether the relationship between competence and achievement motivation might be moderated. The results were non-significant and H1c had to be discarded.

Hypotheses H2a-H2b were probed by different models. First, a simple mediation model was performed (see Hayes Model 4). Team cohesion had a total direct effect on CCE (β = .48, t(118) = 5.59, p = .00). Hence, H2a could be confirmed. The mediator need for relatedness was significantly predicted by team cohesion (β = .43, t(118) = 4.01, p = .00). Need for relatedness in turn predicted CCE (β = .26, t(118) = 2.55, p = .01). In addition, it was found that the relationship between team cohesion and CCE was partially mediated (β = .37, t(118) = 4.39, p = .00). Given these results, H2b could be confirmed. Furthermore, the moderator relationship conflict was added to test whether it affects the relationship between team cohesion and the need for relatedness (see Hayes Model 7). There was no statistical interaction effect found, and H2c was refuted. Lastly, it

was tested whether task conflict moderates the relationship between team cohesion and CCE (see Hayes Model 5). The interaction effect did not reach statistical significance, and hypothesis H2d was rejected.

Finally, hypotheses H3a-H3d were examined by simple mediations (see Hayes Model 4). CCE had a strong total effect on perceived team creativity ($\beta = .71$, t(118) = 11.43, p = .00). Hence, H3a was confirmed. The mediator CSE was significantly predicted by CCE ($\beta = .22$, t(118) = 2.56, p = .01). Moreover, CSE predicted perceived team creativity ($\beta = .16$, t(118) = 2.30, p = .02). In addition, it was found that the relationship between CCE and perceived team creativity was partially mediated ($\beta = .68$, t(118) = 10.46, p = .00). Hence H3b could be confirmed In addition, results showed that competence predicts perceived team creativity ($\beta = .24$, t(118) = 2.58, p = .01) and this effect was partially mediated by CSE, this again provided evidence for hypothesis H3c. Moreover, effects of team cohesion on perceived team creativity were non-significant when CCE was added as a mediator, hence the effect was fully mediated and confirmed H3d. For a full visual depiction of the significant standardized regression coefficients see Figure 3.

Main Effect of Moderators

Following the advice by Hayes and Little (2018), the interaction term for the nonsignificant moderations were excluded and instead simple effects models computed. Results showed a significant effect of fear of failure on achievement motivation ($\beta = -.25$, t(118) = -2.63, p = .01). Effects of relationship conflict on relatedness appeared to be still insignificant ($\beta = .09$, t(118) = 1.02, p = .36). Task conflict negatively predicted CCE significantly ($\beta = -.17$, t(118) = -2.04, p = .04).

Figure 3

Results of the structural model



Discussion

New product development, process redesign, and conceptualization of new strategies depend increasingly on a teams' ability to generate and integrate new ideas. The current research used the I-P-O Model (Hackman, 1987) to provide better insights into how the individual as an input and the team level as the process interact in predicting the output - team creativity. Data was conducted from a broad range of professionals from different industries who indicated that they worked frequently in their teams to generate and implement new solutions. Results showed no statistical difference between different occupations on any of the variables of interest. This might indicate that the presented model could be generalizable to creative teams working on different

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tasks and different vocations. The analysis also revealed that a sense of team cohesion might be diminished when engaging in teleworking very frequently. Even though this result became nonsignificant when post-hoc tests were performed, and only a small effect size was found, there is reason to believe that engagement in teleworking over a more extended period might have adverse effects on team cohesion. Therefore, further research might be needed that investigates the effect of excessive teleworking on team cohesion over a longer time.

Team size appeared to affect intragroup conflict. Participants that indicated working in large teams reported more task and relationship conflict than those who worked in small teams. This result is in line with previous research (Sidorenkov et al., 2018) and indicates that intragroup conflict can become more frequent in somewhat large teams that comprise more than eight individuals. Moreover, participants that reported working in ethnically diverse teams did not differ significantly on any of the scales. Thus, this form of team diversity appeared to be non-influential in this study. In addition, teamwork frequency seemed to be somewhat positively related to CCE and negatively related to relationship conflict. Based on this it appears as if solving creative tasks frequently with team members, a higher sense of CCE might evolve. Moreover, frequent interaction with other team members appeared to be accompanied by a lower rate of relationship conflict, which in turn should equally benefit the team process.

Input Variables

This study tested and validated a range of variables that serve as essential precursors for team members to feel effective in engaging in creative tasks collectively. It was found that a fulfilled need for competence predicts a person's belief in their creative abilities (i.e., CCE). Given the argument that competence is hypothesized to be an essential precursor of self-efficacy beliefs (Rodgers et al., 2014), the present study added value by providing initial evidence that this is indeed the case.

Moreover, the effect between competence and CSE was partially mediated by achievement motivation. This indicates that individuals who are more inclined to engage in challenging and difficult tasks experience more confidence in their creative abilities. This is in line with a previous study that reported that achievement goal orientation is linked to CSE (Du et al., 2020b). However, the present research was the first that reported a significant relationship between achievement motivation and CSE. This finding contrasts a previous study that did not find a relationship

between those variables (Schoen, 2015). This can be explained by the fact that Schoen (2015) measured implicit achievement motivation via the Conditional Reasoning Test for Relative Motive Strength (CRTRM) and not via self-report. Hence, results might not be comparable due to the different measurement methods used.

Furthermore, the hypothesized moderation effect of fear of failure could not be established. However, the main effect between fear of failure and achievement motivation appeared to be significant and negative. This indicates that those who are more afraid of difficult tasks are less likely to be motivated to engage in them. This has two important implications. Firstly, it underlines the importance to treat both constructs independently and not in a unitary fashion as already highlighted elsewhere (James & Mazerolle, 2001). Secondly, it implies that those who fear failing on a somewhat difficult task will also be less likely to engage in them. Given the mediational effect of achievement motivation, this indicates that high degrees of fear of failure could have adverse effects on CSE. Therefore, individuals who experience fear of failure might experience weaker beliefs in their creative abilities.

In essence, the presented results point to the direction that individuals who self-report a fulfilled need of competence and feel the need to achieve when confronted with a challenging task, are more likely to embrace CSE. In addition, adverse effects of fear of failure have been found but those did not moderate the relationships between competence and achievement motivation.

Process Variables

The main objective of this study was to probe critical team processes that affect the beliefs of a team member in the creative abilities of their team (i.e., CCE). Hence it was explored which variables contribute to and or hamper CCE. Although previous studies have investigated potential antecedents of CCE (Dampérat et al., 2016; Shin & Eom, 2014), this is the first that probed the effects of team cohesion and potential mediational effect of the need for relatedness. Both hypotheses could be confirmed. Hence, this study enriches the team creativity literature by revealing the importance of team cohesion in the creative team process that is linked to CCE. This finding is especially important since studies that investigated team creativity and team cohesion found mixed results. Some reported positive effects for team cohesion on team creativity (Hülsheger et al., 2009; Mathieu et al., 2015) others adverse effects (Sethi et al., 2001). Therefore, the findings of the present study suggest that team cohesion can be beneficial by increasing CCE,

with the latter being found to be essential for a team's creative performance as found in this study and reported elsewhere (Dampérat et al., 2016).

Moreover, since the need for relatedness mediates this relationship, it appears that feeling connected to one's workgroup is vital to experience the group as cohesive and hold strong beliefs in the team's creative capabilities. This again highlights that input variables on an individual level, in this case, the need for relatedness, partly explain dynamics observed on the team's process level.

Contrary to prediction, neither relationship conflict nor task conflict moderated any of the proposed relationships. In the case of relationship conflict, this is especially surprising since this type of intragroup conflict was repeatedly shown to have adverse effects (De Wit et al., 2012; Jehn & Mannix, 2001). Even though relationship conflict appeared to be negatively correlated to team cohesion. The effect on the need for relatedness appeared to be still insignificant. Thus, given the data of this research, a sense of relatedness to one's team members might not be adversely affected by relationship conflict. This finding might be partly explained by the fact that relationship conflict was rated on average very low and the need for relatedness was very high. Accordingly, it can be assumed that relationship conflict might only unfold its negative effects when experienced at high amounts.

Likewise, task conflict did not moderate the relationship between team cohesion and CCE. It was proposed that moderate amounts of task conflict should have positive effects on the relationship between team cohesion and CCE. However, results of the simple effects model only indicated adverse effects of task conflict on CCE. Therefore, potential beneficial effects of task conflict in creative teams as reported elsewhere (De Dreu, 2006; Kratzer et al., 2006) could not be established in this study. It might still be true that moderate amounts of task conflict can be beneficial for the creative process of a team, but data of this research indicates that CCE might not be the underlying variable positively affected by this type of intragroup conflict. In addition, some research suggests that not only the amount of task conflict is essential but also during which phase of the project lifecycle it is experienced. Farh et al. (2010) reported that positive effects of task conflict in team creativity are only found in the early phases of the project team's life cycle, and this effect vanishes during later phases. Given that the project phase was not assessed in this study and a cross-sectional design was used, the lack of moderation effects might be due to issues in design and data collection. Hence, potential beneficial effects of task conflict on CCE might become only visible in taking the project phase into account.

Moreover, it is important to consider how intragroup conflict is acted upon and dealt with within the team. There is evidence that different conflict management approaches might determine whether intragroup conflict has a negative, positive, or no effect on team creativity (N. Hu et al., 2017). Therefore, future research on conflict and creativity should also consider how conflict is dealt with and how different forms of conflict management moderate essential team variables such as team cohesion and CCE.

Output Variables

This research reported a strong relationship between team creativity and CCE. This indicates that a strong belief in the creative abilities of one's team indeed contributes to team creativity as a potential outcome. Therefore, based on the presented results, it can be concluded that fostering CCE will conversely contribute to team creativity.

In addition, CSE mediated that relationship partially. Hence, it can be assumed that creative beliefs in oneself also explain and contribute to the creative beliefs a person has in the creative capabilities of their team. This result is in line with previous research that found a direct effect of CSE on CCE (Dampérat et al., 2016). Even so, the finding that CSE mediates CCE is novel and hence enriches the literature by again stressing how essential variables on an individual level are in explaining team-level processes.

Furthermore, the need for competence had a direct effect on perceived creativity and was mediated by CSE. This again points into the direction that fundamental needs on the individual level can contribute to team-level outcomes. Therefore, highlighting the importance of investigating teams based on the proposed I-P-O framework.

In addition, the effect of team cohesion on team creativity was fully mediated by CCE. This finding is novel and has strong implications for creativity research. Firstly, it implies that cohesive teams that embrace CCE are more likely to engage collectively and successfully in creative tasks. Secondly, this finding might explain contradictory results in the literature because previous studies found positive and negative effects of team cohesion on team creativity. It was argued that team cohesion might contribute to team creativity by encouraging open discussions, which results in more cognitive conflict, thereby fostering creativity (Mathieu et al., 2015). On the contrary, it was stated that cohesive teams might be less inclined to scrutinize opinions openly, to preserve cohesiveness. Based on the findings of this research report there is reason to assume that

CCE is the underlying mechanism that explains whether er not team cohesion has beneficial effects on team creativity. In that sense, it might be theorized that cohesive teams in which CCE is evident in its members will perform better on creative tasks. On the opposite, when only team cohesion is high, but team members do not feel confident in the creative abilities of their team, cohesiveness might have no effect on team creativity or might be even detrimental when open discussions are discouraged.

Practical Implications

The presented study has several implications for team leaders and managers. First, the results highlight the importance of fulfilling psychology needs that cultivate beliefs of individual team members in their creative abilities. Furthermore, there appears to be some evidence that the fear of failure has adverse effects. Hence, leaders are encouraged to provide psychological safety for their employees and establish an organizational climate that embraces failure rather than punishing it. Based on the proposition that past success can strengthen efficacy beliefs (Bandura, 2007) leaders can reinforce CSE and CCE by making past achievements salient. Likewise, one study has shown that CSE and creative production can be increased by providing creativity training (Byrge & Tang, 2015). Based on the results of this research report it can be assumed that these effects also apply to team creativity and CCE.

In addition, this study also highlights the importance of team cohesion on CCE. Therefore, fostering cohesiveness between team members will most likely contribute to the team's creative performance. Correspondingly, data of this research report suggests that task conflict and relationship conflict display a negative correlation with most beneficial group processes. In that manner, successful conflict management might incrementally benefit the team's creative process and output.

Limitations and Directions for Future Research

Despite the theoretical and practical implications of this study, some severe limitations need further discussion. Firstly, it must be acknowledged that no causal interpretations can be drawn. This is due to the cross-sectional study design that does not allow cause and effect interpretations between variables. As reported by Maxwell and Cole (2007), cross-sectional data can yield highly biased regression coefficients of partial mediational analysis. The same bias was

also noted for complete mediations (Maxwell et al., 2011). The authors further stressed that crosssectional data generally yield higher regression coefficients that are lower or even insignificant compared to longitudinal data. Therefore, the results of this report should be replicated with a longitudinal study design to substantiate the presented results further.

More importantly, this report assessed individuals and not teams. As indicated by previous research, assessment from one source can yield to common method bias (Conway & Lance, 2010). This might be especially problematic for constructs that measure team-level processes like team cohesion, intragroup conflict, and CCE. Therefore, researchers are encouraged to investigate whole teams and not merely the perception of individuals on their team.

Likewise, it must be acknowledged that team creativity was assessed by participants themselves and via self-report. This approach is quite problematic because there is reason to believe that people who report a certain level of CCE are more inclined to rate the creative output of their team equally. Moreover, a previous study found that self-report measures of creative efficacy tend to be more strongly correlated with the outcome creativity if the latter is also measured via self-report (Haase et al., 2018). Therefore, a more objective measure of creativity (e.g., supervisor ratings) should be applied to further substantiate the relationship between CCE and team creativity.

References

- Abdullah, N. H., Eahab, E., & Shamasuddin, A. (2019). Creative Self-Efficacy, Innovative Work Behaviour and Job Performance Among Selected Manufacturing Employees. *The Journal* of Social Sciences Research, 52, 291–297. https://doi.org/10.32861/jssr.52.291.297
- Alge, B. J., Ballinger, G. A., Tangirala, S., & Oakley, J. L. (2006). Information privacy in organizations: Empowering creative and extrarole performance. *Journal of Applied Psychology*, 91(1), 221–232. https://doi.org/10.1037/0021-9010.91.1.221
- Amabile, T. M. (1982). Social psychology of creativity: A consensual assessment technique. Journal of Personality and Social Psychology, 43(5), 997–1013. https://doi.org/10.1037/0022-3514.43.5.997
- Amabile, T. M. (1988). A model of creativity and innovation in organizations. *Research in Organizational Behavior*, *10*(1), 123–167.
- Anderson, L. (2006). Building Confidence in Creativity: MBA Students. *Marketing Education Review*, *16*(1), 91–96. https://doi.org/10.1080/10528008.2006.11488945
- Atkinson, J. W. (1974). The mainsprings of achievement-oriented activity. *Motivation and Achievement*, 13–41.
- Auzoult, L. (2013). The Mediating Role of the Sense of Relatedness and Task Cohesion in the Relation between Psychological Power Distance and Efficiency of a Working Team. *Psychology*, 04(10), 741–743. https://doi.org/10.4236/psych.2013.410105
- Baer, M. (2012). Putting creativity to work: The implementation of creative ideas in organizations. *Academy of Management Journal*, *55*(5), 1102–1119.

- Bandura, A. (1991). Social cognitive theory of self-regulation. Organizational Behavior and Human Decision Processes, 50(2), 248–287. https://doi.org/10.1016/0749-5978(91)90022-L
- Bandura, A. (2007). Much Ado Over a Faulty Conception of Perceived Self–Efficacy Grounded in Faulty Experimentation. *Journal of Social and Clinical Psychology*, 26(6), 641–658. https://doi.org/10.1521/jscp.2007.26.6.641
- Barczak, G., Lassk, F., & Mulki, J. (2010). Antecedents of Team Creativity: An Examination of Team Emotional Intelligence, Team Trust and Collaborative Culture: ANTECEDENTS OF TEAM CREATIVITY. *Creativity and Innovation Management*, 19(4), 332–345. https://doi.org/10.1111/j.1467-8691.2010.00574.x
- Beghetto, R. A., & Karwowski, M. (2017). Toward Untangling Creative Self-Beliefs. In *The Creative Self* (pp. 3–22). Elsevier. https://doi.org/10.1016/B978-0-12-809790-8.00001-7
- Bell, S. T., Villado, A. J., Lukasik, M. A., Belau, L., & Briggs, A. L. (2011). Getting Specific about Demographic Diversity Variable and Team Performance Relationships: A Meta-Analysis. *Journal of Management*, 37(3), 709–743.

https://doi.org/10.1177/0149206310365001

Bidee, J., Vantilborgh, T., Pepermans, R., Willems, J., Jegers, M., & Hofmans, J. (2017). Daily motivation of volunteers in healthcare organizations: Relating team inclusion and intrinsic motivation using self-determination theory. *European Journal of Work and Organizational Psychology*, 26(3), 325–336.

https://doi.org/10.1080/1359432X.2016.1277206

- Brockhus, S., Van der Kolk, T., Koeman, B., & Badke-Schaub, P. (2014). *The influence of creative self-efficacy on creative performance*. DS 77: Proceedings of the DESIGN 2014
 13th International Design Conference.
- Byrge, C., & Tang, C. (2015). Embodied creativity training: Effects on creative self-efficacy and creative production. *Thinking Skills and Creativity*, 16, 51–61. https://doi.org/10.1016/j.tsc.2015.01.002
- Carron, A. V., & Brawley, L. R. (2012). Cohesion: Conceptual and Measurement Issues. *Small Group Research*, *43*(6), 726–743. https://doi.org/10.1177/1046496412468072
- Chen, G., Casper, W. J., & Cortina, J. M. (2001). The roles of self-efficacy and task complexity in the relationships among cognitive ability, conscientiousness, and work-related performance: A meta-analytic examination. *Human Performance*, *14*(3), 209–230.
- Chen, M.-H. (2006). Understanding the Benefits and Detriments of Conflict on Team Creativity Process. *Creativity and Innovation Management*, *15*(1), 105–116. https://doi.org/10.1111/j.1467-8691.2006.00373.x
- Cheng, H.-H., & Yang, H.-L. (2014). The antecedents of collective creative efficacy for information system development teams. *Journal of Engineering and Technology Management*, 33, 1–17. https://doi.org/10.1016/j.jengtecman.2013.12.001
- Choi, J. N. (2004). Individual and Contextual Predictors of Creative Performance: The Mediating Role of Psychological Processes. *Creativity Research Journal*, 16(2–3), 187–199. https://doi.org/10.1080/10400419.2004.9651452
- Chong, E., & Ma, X. (2010). The Influence of Individual Factors, Supervision and Work Environment on Creative Self-Efficacy: INDIVIDUAL FACTORS, SUPERVISION

AND WORK ENVIRONMENT. *Creativity and Innovation Management*, 19(3), 233–247. https://doi.org/10.1111/j.1467-8691.2010.00557.x

- Chuang, C.-F., Shiu, S.-C., & Cheng, C.-J. (2010). The Relation Of College Students- Process Of Study And Creativity: The Mediating Effect Of Creative Self-Efficacy. https://doi.org/10.5281/ZENODO.1330838
- Conroy, D. E., Elliot, A. J., & Coatsworth, J. D. (2007). *Competence motivation in sport and exercise: The hierarchical model of achievement motivation and self-determination theory.*
- Conway, J. M., & Lance, C. E. (2010). What Reviewers Should Expect from Authors Regarding Common Method Bias in Organizational Research. *Journal of Business and Psychology*, 25(3), 325–334. https://doi.org/10.1007/s10869-010-9181-6
- Coursey, L. E., Paulus, P. B., Williams, B. C., & Kenworthy, J. B. (2018). The role of individual differences in group and team creativity. In *Individual creativity in the workplace* (pp. 311–338). Elsevier.
- Curşeu, P. L. (2010). Team Creativity in Web Site Design: An Empirical Test of a Systemic Model. *Creativity Research Journal*, 22(1), 98–107. https://doi.org/10.1080/10400410903579635
- Dampérat, M., Jeannot, F., Jongmans, E., & Jolibert, A. (2016). Team creativity: Creative selfefficacy, creative collective efficacy and their determinants. *Recherche et Applications En Marketing (English Edition)*, 31(3), 6–25. https://doi.org/10.1177/2051570716650164
- De Dreu, C. K. W. (2006). When Too Little or Too Much Hurts: Evidence for a Curvilinear Relationship Between Task Conflict and Innovation in Teams. *Journal of Management*, *32*(1), 83–107. https://doi.org/10.1177/0149206305277795

- De Dreu, C. K. W., & Weingart, L. R. (2003). Task versus relationship conflict, team performance, and team member satisfaction: A meta-analysis. *Journal of Applied Psychology*, 88(4), 741–749. https://doi.org/10.1037/0021-9010.88.4.741
- De Jong, J., & Den Hartog, D. (2010). Measuring Innovative Work Behaviour. *Creativity and Innovation Management*, *19*(1), 23–36. https://doi.org/10.1111/j.1467-8691.2010.00547.x
- De Spiegelaere, S., Van Gyes, G., & Van Hootegem, G. (2016). Not All Autonomy is the Same.
 Different Dimensions of Job Autonomy and Their Relation to Work Engagement &
 Innovative Work Behavior: Not all Autonomy is the Same. *Human Factors and Ergonomics in Manufacturing & Service Industries*, 26(4), 515–527.
 https://doi.org/10.1002/hfm.20666
- De Wit, F. R. C., Greer, L. L., & Jehn, K. A. (2012). The paradox of intragroup conflict: A metaanalysis. *Journal of Applied Psychology*, 97(2), 360–390. https://doi.org/10.1037/a0024844
- Deci, E. L., & Ryan, R. M. (2012). Self-Determination Theory. In P. Van Lange, A. Kruglanski,
 & E. Higgins, *Handbook of Theories of Social Psychology: Volume 1* (pp. 416–437).
 SAGE Publications Ltd. https://doi.org/10.4135/9781446249215.n21
- Du, K., Wang, Y., Ma, X., Luo, Z., Wang, L., & Shi, B. (2020a). Achievement goals and creativity: The mediating role of creative self-efficacy. *Educational Psychology*, 40(10), 1249–1269. https://doi.org/10.1080/01443410.2020.1806210
- Du, K., Wang, Y., Ma, X., Luo, Z., Wang, L., & Shi, B. (2020b). Achievement goals and creativity: The mediating role of creative self-efficacy. *Educational Psychology*, 40(10), 1249–1269. https://doi.org/10.1080/01443410.2020.1806210

- Edwards-Schachter, M., García-Granero, A., Sánchez-Barrioluengo, M., Quesada-Pineda, H., & Amara, N. (2015). Disentangling competences: Interrelationships on creativity, innovation and entrepreneurship. *Thinking Skills and Creativity*, *16*, 27–39. https://doi.org/10.1016/j.tsc.2014.11.006
- Elliot, A. J., & Dweck, C. S. (2005). Competence and motivation. *Handbook of Competence and Motivation*, 3–12.
- Ensley, M. D., Pearson, A. W., & Amason, A. C. (2002). Understanding the dynamics of new venture top management teams: Cohesion, conflict, and new venture performance. *Journal of Business Venturing*, *17*(4), 365–386. https://doi.org/10.1016/S0883-9026(00)00065-3
- Farh, J.-L., Lee, C., & Farh, C. I. C. (2010). Task conflict and team creativity: A question of how much and when. *Journal of Applied Psychology*, 95(6), 1173–1180. https://doi.org/10.1037/a0020015
- Farmer, S. M., & Tierney, P. (2017). Considering Creative Self-Efficacy: Its Current State and Ideas for Future Inquiry. In *The Creative Self* (pp. 23–47). Elsevier. https://doi.org/10.1016/B978-0-12-809790-8.00002-9
- Field, A. (2017). *Discovering statistics using IBM SPSS statistics* (5th edition). SAGEPublications.
- Ford, C. M. (1996). A Theory of Individual Creative Action in Multiple Social Domains. *The Academy of Management Review*, 21(4), 1112–1142. JSTOR. https://doi.org/10.2307/259166

- Furnham, A., & Ribchester, T. (1995). Tolerance of ambiguity: A review of the concept, its measurement and applications. *Current Psychology*, 14(3), 179–199. https://doi.org/10.1007/BF02686907
- Gagné, M., & Deci, E. L. (2005). Self-determination theory and work motivation: SELF-DETERMINATION THEORY AND WORK MOTIVATION. *Journal of Organizational Behavior*, 26(4), 331–362. https://doi.org/10.1002/job.322
- Gamero, N., González-Romá, V., & Peiró, J. M. (2008). The influence of intra-team conflict on work teams' affective climate: A longitudinal study. *Journal of Occupational and Organizational Psychology*, 81(1), 47–69. https://doi.org/10.1348/096317907X180441
- Ghasemi, F., Rastegar, A., Jahromi, R. G., & Marvdashti, R. R. (2011). The relationship between creativity and achievement motivation with high school students' entrepreneurship. 2nd World Conference on Psychology, Counselling and Guidance 2011, 30, 1291–1296. https://doi.org/10.1016/j.sbspro.2011.10.250
- Gibson, C. B., & Earley, P. C. (2007). Collective Cognition in Action: Accumulation,
 Interaction, Examination, and Accommodation in the Development and Operation of
 Group Efficacy Beliefs in the Workplace. *The Academy of Management Review*, *32*(2),
 438–458. https://doi.org/10.2307/20159310
- Gilson, L. L., & Shalley, C. E. (2004). A Little Creativity Goes a Long Way: An Examination of Teams' Engagement in Creative Processes. *Journal of Management*, 30(4), 453–470. https://doi.org/10.1016/j.jm.2003.07.001
- Gully, S. M., Devine, D. J., & Whitney, D. J. (1995). A Meta-Analysis of Cohesion and Performance: Effects of Level of Analysis and Task Interdependence. *Small Group Research*, 26(4), 497–520. https://doi.org/10.1177/1046496495264003

- Haase, J., Hoff, E. V., Hanel, P. H. P., & Innes-Ker, Å. (2018). A Meta-Analysis of the Relation between Creative Self-Efficacy and Different Creativity Measurements. *Creativity Research Journal*, 30(1), 1–16. https://doi.org/10.1080/10400419.2018.1411436
- Hackman, J. R. (1987). The design of work teams. In J. Lorsch (Ed.), *Handbook of organizational behavior*. Prentice-Hall.
- Hahn, M. H., & Lee, K. C. (2017). Exploring the Role of Self-Confidence, Need-for-Cognition, and the Degree of IT Support on Individual Creativity: Multilevel Analysis Approach. *Current Psychology*, 36(3), 565–576. https://doi.org/10.1007/s12144-016-9445-z
- Hayes, A. F. (2017). Introduction to mediation, moderation, and conditional process analysis: A regression-based approach. Guilford publications.
- Hayes, A., & Little, T. (2018). More than one mediator In Introduction to Mediation,
 Moderation, and Conditional Process Analysis: A Regression-Based Approach, ; Hayes,
 AF, Ed.
- Hon, A. H. Y., & Chan, W. W. H. (2013). Team Creative Performance: The Roles of Empowering Leadership, Creative-Related Motivation, and Task Interdependence. *Cornell Hospitality Quarterly*, 54(2), 199–210. https://doi.org/10.1177/1938965512455859
- Hsu, M. L. A., Hou, S., & Fan, H. (2011). Creative self-efficacy and innovative behavior in a service setting: Optimism as a moderator. *The Journal of Creative Behavior*, 45(4), 258–272.
- Hu, J., & Liden, R. C. (2011). Antecedents of team potency and team effectiveness: An examination of goal and process clarity and servant leadership. *Journal of Applied Psychology*, 96(4), 851–862. https://doi.org/10.1037/a0022465

- Hu, L., & Bentler, P. M. (1998). Fit indices in covariance structure modeling: Sensitivity to underparameterized model misspecification. *Psychological Methods*, *3*(4), 424.
- Hu, N., Chen, Z., Gu, J., Huang, S., & Liu, H. (2017). Conflict and creativity in interorganizational teams: The moderating role of shared leadership. *International Journal of Conflict Management*, 28(1), 74–102. https://doi.org/10.1108/IJCMA-01-2016-0003
- Huang, L., Krasikova, D. V., & Liu, D. (2016). I can do it, so can you: The role of leader creative self-efficacy in facilitating follower creativity. *Organizational Behavior and Human Decision Processes*, 132, 49–62. https://doi.org/10.1016/j.obhdp.2015.12.002
- Hughes, A., Galbraith, D., & White, D. (2011). Perceived Competence: A Common Core for Self-Efficacy and Self-Concept? *Journal of Personality Assessment*, 93(3), 278–289. https://doi.org/10.1080/00223891.2011.559390
- Hülsheger, U. R., Anderson, N., & Salgado, J. F. (2009). Team-level predictors of innovation at work: A comprehensive meta-analysis spanning three decades of research. *Journal of Applied Psychology*, 94(5), 1128–1145. https://doi.org/10.1037/a0015978
- James, L. R. (1998). Measurement of Personality via Conditional Reasoning. *Organizational Research Methods*, 1(2), 131–163. https://doi.org/10.1177/109442819812001
- James, L. R., & Mazerolle, M. D. (2001). Personality in work organizations. Sage Publications.
- Jaussi, K. S., Randel, A. E., & Dionne, S. D. (2007). I Am, I Think I Can, and I Do: The Role of Personal Identity, Self-Efficacy, and Cross-Application of Experiences in Creativity at Work. *Creativity Research Journal*, 19(2–3), 247–258. https://doi.org/10.1080/10400410701397339

- Jehn, K. A. (1994). Enhancing effectiveness: An investigation of advantages and disadvantages of value-based intragroup conflict. *International Journal of Conflict Management*, 5(3), 223–238. https://doi.org/10.1108/eb022744
- Jehn, K. A. (1995). A Multimethod Examination of the Benefits and Detriments of Intragroup Conflict. Administrative Science Quarterly, 40(2), 256–282. JSTOR. https://doi.org/10.2307/2393638
- Jehn, K. A., & Mannix, E. A. (2001). The Dynamic Nature of Conflict: A Longitudinal Study of Intragroup Conflict and Group Performance. *The Academy of Management Journal*, 44(2), 238–251. JSTOR. https://doi.org/10.2307/3069453
- Jung, D. I., & Sosik, J. J. (2002). Transformational Leadership in Work Groups: The Role of Empowerment, Cohesiveness, and Collective-Efficacy on Perceived Group Performance. *Small Group Research*, 33(3), 313–336. https://doi.org/10.1177/10496402033003002
- Kehr, H. M. (2004). Integrating Implicit Motives, Explicit Motives, and Perceived Abilities: The Compensatory Model of Work Motivation and Volition. *Academy of Management Review*, 29(3), 479–499. https://doi.org/10.5465/amr.2004.13670963
- Kim, M., & Shin, Y. (2015). Collective efficacy as a mediator between cooperative group norms and group positive affect and team creativity. *Asia Pacific Journal of Management*, 32(3), 693–716. https://doi.org/10.1007/s10490-015-9413-4

Kirkman, B. L., Tesluk, P. E., & Rosen, B. (2004). The Impact of Demographic Heterogeneity and Team Leader-Team Member Demographic Fit on Team Empowerment and Effectiveness. *Group & Organization Management*, 29(3), 334–368. https://doi.org/10.1177/1059601103257412

- Korde, R., & Paulus, P. B. (2017). Alternating individual and group idea generation: Finding the elusive synergy. *Journal of Experimental Social Psychology*, 70, 177–190.
- Kornilova, T. V., & Kornilov, S. A. (2010). Intelligence and tolerance/intolerance for uncertainty as predictors of creativity. *Psychology in Russia: State of the Art*, *3*, 240–256.
- Kozlowski, S. W., & Bell, B. S. (2008). Team learning, development, and adaptation. *Group Learning*, 15–44.
- Kozlowski, S. W., & Ilgen, D. R. (2006). Enhancing the effectiveness of work groups and teams. *Psychological Science in the Public Interest*, 7(3), 77–124.
- Kratzer, J., Leenders, R. Th. A. J., & van Engelen, J. M. L. (2006). Team Polarity and Creative Performance in Innovation Teams. *Creativity and Innovation Management*, 15(1), 96– 104. https://doi.org/10.1111/j.1467-8691.2006.00372.x
- Kurtzberg, T. R., & Amabile, T. M. (2001). From Guilford to Creative Synergy: Opening the Black Box of Team-Level Creativity. *Creativity Research Journal*, *13*(3–4), 285–294. https://doi.org/10.1207/S15326934CRJ1334_06
- Lang, J. W. B., & Fries, S. (2006). A Revised 10-Item Version of the Achievement Motives Scale. *European Journal of Psychological Assessment*, 22(3), 216–224. https://doi.org/10.1027/1015-5759.22.3.216
- Lewicki, R. J., Weiss, S. E., & Lewin, D. (1992). Models of conflict, negotiation and third party intervention: A review and synthesis. *Journal of Organizational Behavior*, 13(3), 209– 252. https://doi.org/10.1002/job.4030130303
- Li, W., Li, X., Huang, L., Kong, X., Yang, W., Wei, D., Li, J., Cheng, H., Zhang, Q., & Qiu, J.
 (2015). Brain structure links trait creativity to openness to experience. *Social Cognitive* and Affective Neuroscience, 10(2), 191–198.

- Liu, D., Jiang, K., Shalley, C. E., Keem, S., & Zhou, J. (2016). Motivational mechanisms of employee creativity: A meta-analytic examination and theoretical extension of the creativity literature. *Organizational Behavior and Human Decision Processes*, 137, 236– 263. https://doi.org/10.1016/j.obhdp.2016.08.001
- Liu, X., Gong, S.-Y., Zhang, H., Yu, Q., & Zhou, Z. (2021). Perceived teacher support and creative self-efficacy: The mediating roles of autonomous motivation and achievement emotions in Chinese junior high school students. *Thinking Skills and Creativity*, 39, 100752. https://doi.org/10.1016/j.tsc.2020.100752
- Maddux, J. E. (1995). Looking for common ground. In *Self-efficacy, adaptation, and adjustment* (pp. 377–385). Springer.
- Malik, M. A. R., & Butt, A. N. (2017). Rewards and creativity: Past, present, and future. *Applied Psychology*, *66*(2), 290–325.
- Mangos, P. M., & Steele-Johnson, D. (2001). The Role of Subjective Task Complexity in Goal
 Orientation, Self-Efficacy, and Performance Relations. *Human Performance*, 14(2), 169–
 185. https://doi.org/10.1207/S15327043HUP1402_03
- Mathieu, J. E., Kukenberger, M. R., D'Innocenzo, L., & Reilly, G. (2015). Modeling reciprocal team cohesion–performance relationships, as impacted by shared leadership and members' competence. *Journal of Applied Psychology*, *100*(3), 713–734. https://doi.org/10.1037/a0038898
- Mathieu, J., Maynard, M. T., Rapp, T., & Gilson, L. (2008). Team Effectiveness 1997-2007: A Review of Recent Advancements and a Glimpse Into the Future. *Journal of Management*, 34(3), 410–476. https://doi.org/10.1177/0149206308316061

Mathisen, G. E. (2011). Organizational Antecedents of Creative Self-Efficacy:

ORGANIZATIONAL ANTECEDENTS OF CREATIVE SELF-EFFICACY. *Creativity and Innovation Management*, 20(3), 185–195. https://doi.org/10.1111/j.1467-8691.2011.00606.x

- Maxwell, S. E., & Cole, D. A. (2007). Bias in cross-sectional analyses of longitudinal mediation. *Psychological Methods*, *12*(1), 23–44. https://doi.org/10.1037/1082-989X.12.1.23
- Maxwell, S. E., Cole, D. A., & Mitchell, M. A. (2011). Bias in Cross-Sectional Analyses of Longitudinal Mediation: Partial and Complete Mediation Under an Autoregressive Model. *Multivariate Behavioral Research*, 46(5), 816–841. https://doi.org/10.1080/00273171.2011.606716
- Michael, L. A. H., Hou, S.-T., & Fan, H.-L. (2011). Creative Self-Efficacy and Innovative Behavior in a Service Setting: Optimism as a Moderator. *The Journal of Creative Behavior*, 45(4), 258–272. https://doi.org/10.1002/j.2162-6057.2011.tb01430.x
- Mortensen, M., & Hinds, P. (2001). Conflict and shared identity in geographically distributed teams. *International Journal of Conflict Management*, 12(3), 212–238. https://doi.org/10.1108/eb022856
- Mullen, B., Johnson, C., & Salas, E. (1991). Productivity loss in brainstorming groups: A metaanalytic integration. *Basic and Applied Social Psychology*, *12*(1), 3–23.
- Mumford, M. D., & Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and innovation. *Psychological Bulletin*, 103(1), 27–43. https://doi.org/10.1037/0033-2909.103.1.27
- Negovan, V., & Bogdan, C. (2013). Learning Context and Undergraduate Students' Needs for Autonomy and Competence, Achievement Motivation and Personal Growth Initiative.

Procedia - Social and Behavioral Sciences, 78, 300–304.

https://doi.org/10.1016/j.sbspro.2013.04.299

- Nicholls, J. G. (1972). Creativity in the person who will never produce anything original and useful: The concept of creativity as a normally distributed trait. *American Psychologist*, *27*(8), 717.
- Nijstad, B. A., & Stroebe, W. (2006). How the group affects the mind: A cognitive model of idea generation in groups. *Personality and Social Psychology Review*, *10*(3), 186–213.
- Ohly, S., Plückthun, L., & Kissel, D. (2017). Developing Students' Creative Self-Efficacy Based on Design-Thinking: Evaluation of an Elective University Course. *Psychology Learning* & *Teaching*, 16(1), 125–132. https://doi.org/10.1177/1475725716681714
- Oldham, G. R., & Cummings, A. (1996). EMPLOYEE CREATIVITY: PERSONAL AND CONTEXTUAL FACTORS AT WORK. *Academy of Management Journal*, *39*(3), 607– 634. https://doi.org/10.2307/256657
- Pacewicz, C. E., Smith, A. L., & Raedeke, T. D. (2020). Group cohesion and relatedness as predictors of self-determined motivation and burnout in adolescent female athletes. *Psychology of Sport and Exercise*, 50, 101709.
 https://doi.org/10.1016/j.psychsport.2020.101709
- Paletz, S. B. F., Peng, K., Erez, M., & Maslach, C. (2004). Ethnic Composition and its
 Differential Impact on Group Processes in Diverse Teams. *Small Group Research*, *35*(2), 128–157. https://doi.org/10.1177/1046496403258793
- Paskevich, D. M., Brawley, L. R., Dorsch, K. D., & Widmeyer, W. N. (1999). Relationship between collective efficacy and team cohesion: Conceptual and measurement issues.

Group Dynamics: Theory, Research, and Practice, 3(3), 210–222.

https://doi.org/10.1037/1089-2699.3.3.210

Passos, M. A., & Caetano, A. (2005). Exploring the effects of intragroup conflict and past performance feedback on team effectiveness. *Journal of Managerial Psychology*, 20(3/4), 231–244. https://doi.org/10.1108/02683940510589028

Paulus, P. B., & van der Zee, K. (2015). Creative processes in culturally diverse teams.

- Paulus, P. B., & Yang, H.-C. (2000). Idea Generation in Groups: A Basis for Creativity in
 Organizations. Organizational Behavior and Human Decision Processes, 82(1), 76–87.
 https://doi.org/10.1006/obhd.2000.2888
- Pirola-Merlo, A., & Mann, L. (2004). The relationship between individual creativity and team creativity: Aggregating across people and time. *Journal of Organizational Behavior*, 25(2), 235–257. https://doi.org/10.1002/job.240
- Prabhu, V., Sutton, C., & Sauser, W. (2008). Creativity and certain personality traits:
 Understanding the mediating effect of intrinsic motivation. *Creativity Research Journal*, 20(1), 53–66.
- Puente-Díaz, R. (2016). Creative Self-Efficacy: An Exploration of Its Antecedents, Consequences, and Applied Implications. *The Journal of Psychology*, 150(2), 175–195. https://doi.org/10.1080/00223980.2015.1051498
- Rasulzada, F., & Dackert, I. (2009). Organizational Creativity and Innovation in Relation to
 Psychological Well-Being and Organizational Factors. *Creativity Research Journal*,
 21(2–3), 191–198. https://doi.org/10.1080/10400410902855283

- Rego, A., Sousa, F., Pina e Cunha, M., Correia, A., & Saur-Amaral, I. (2007). Leader selfreported emotional intelligence and perceived employee creativity: An exploratory study. *Creativity and Innovation Management*, 16(3), 250–264.
- Reiter-Palmon, R., Wigert, B., & Vreede, T. de. (2012). Team Creativity and Innovation. In Handbook of Organizational Creativity (pp. 295–326). Elsevier. https://doi.org/10.1016/B978-0-12-374714-3.00013-6

Rhodes, M. (1961). An analysis of creativity. The Phi Delta Kappan, 42(7), 305-310.

- Richter, A. W., Hirst, G., van Knippenberg, D., & Baer, M. (2012). Creative self-efficacy and individual creativity in team contexts: Cross-level interactions with team informational resources. *Journal of Applied Psychology*, 97(6), 1282–1290. https://doi.org/10.1037/a0029359
- Rietzschel, E. F., & Ritter, S. M. (2018). Moving From Creativity to Innovation. In *Individual Creativity in the Workplace* (pp. 3–34). Elsevier. https://doi.org/10.1016/B978-0-12-813238-8.00001-2
- Rodgers, W. M., Markland, D., Selzler, A.-M., Murray, T. C., & Wilson, P. M. (2014).
 Distinguishing Perceived Competence and Self-Efficacy: An Example From Exercise. *Research Quarterly for Exercise and Sport*, 85(4), 527–539.
 https://doi.org/10.1080/02701367.2014.961050
- Rosseel, Y. (2012). Lavaan: An R package for structural equation modeling and more. Version 0.5–12 (BETA). *Journal of Statistical Software*, *48*(2), 1–36.
- Salas, E., Grossman, R., Hughes, A. M., & Coultas, C. W. (2015). Measuring Team Cohesion:
 Observations from the Science. *Human Factors: The Journal of the Human Factors and Ergonomics Society*, 57(3), 365–374. https://doi.org/10.1177/0018720815578267

Schoen, J. L. (2015). Effects of implicit achievement motivation, expected evaluations, and domain knowledge on creative performance: EFFECTS OF IMPLICIT ACHIEVEMENT MOTIVATION. *Journal of Organizational Behavior*, *36*(3), 319–338. https://doi.org/10.1002/job.1982

Schreurs, B., Emmerik, Ij. H., Van den Broeck, A., & Guenter, H. (2014). Work Values and Work Engagement Within Teams: The Mediating Role of Need Satisfaction. *Group Dynamics: Theory, Research, and Practice*, 18, 267–281. https://doi.org/10.1037/gdn0000009

- Sethi, R., Smith, D. C., & Park, C. W. (2001). Cross-Functional Product Development Teams, Creativity, and the Innovativeness of New Consumer Products. *Journal of Marketing Research*, 38(1), 73–85. https://doi.org/10.1509/jmkr.38.1.73.18833
- Shalley, C. E., & Perry-Smith, J. E. (2001). Effects of social-psychological factors on creative performance: The role of informational and controlling expected evaluation and modeling experience. *Organizational Behavior and Human Decision Processes*, 84(1), 1–22. https://doi.org/10.1006/obhd.2000.2918
- Shin, S. J., & Zhou, J. (2007). When is educational specialization heterogeneity related to creativity in research and development teams? Transformational leadership as a moderator. *Journal of Applied Psychology*, 92(6), 1709–1721. https://doi.org/10.1037/0021-9010.92.6.1709
- Shin, Y., & Eom, C. (2014). Team Proactivity as a Linking Mechanism between Team Creative Efficacy, Transformational Leadership, and Risk-Taking Norms and Team Creative Performance. *The Journal of Creative Behavior*, 48(2), 89–114. https://doi.org/10.1002/jocb.42

- Sidorenkov, A. V., Borokhovski, E. F., & Kovalenko, V. A. (2018). Group size and composition of work groups as precursors of intragroup conflicts. *Psychology Research and Behavior Management, Volume 11*, 511–523. https://doi.org/10.2147/PRBM.S178761
- Simmons, A. L., Payne, S. C., & Pariyothorn, M. M. (2014). The Role of Means Efficacy When Predicting Creative Performance. *Creativity Research Journal*, 26(1), 53–61. https://doi.org/10.1080/10400419.2014.873667
- Stajkovic, A. D., & Luthans, F. (1998). Self-efficacy and work-related performance: A metaanalysis. *Psychological Bulletin*, 124(2), 240–261. https://doi.org/10.1037/0033-2909.124.2.240
- Sullivan, P. J., & Feltz, D. L. (2001). The Relationship between Intrateam Conflict and Cohesion within Hockey Teams. Small Group Research, 32(3), 342–355. https://doi.org/10.1177/104649640103200304
- Sun, C., Zhou, Z., Yu, Q., Gong, S., Yi, L., & Cao, Y. (2021). Exploring the Effect of Perceived Teacher Support on Multiple Creativity Tasks: Based on the Expectancy–Value Model of Achievement Motivation. *The Journal of Creative Behavior*, 55(1), 15–24. https://doi.org/10.1002/jocb.430
- Taggar, S. (2002). Individual Creativity and Group Ability to Utilize Individual Creative Resources: A Multilevel Model. *The Academy of Management Journal*, 45(2), 315–330. JSTOR. https://doi.org/10.2307/3069349
- Tasa, K., Sears, G. J., & Schat, A. C. H. (2011). Personality and teamwork behavior in context: The cross-level moderating role of collective efficacy: PERSONALITY IN CONTEXT. *Journal of Organizational Behavior*, 32(1), 65–85. https://doi.org/10.1002/job.680

- Tekleab, A. G., Quigley, N. R., & Tesluk, P. E. (2009). A Longitudinal Study of Team Conflict, Conflict Management, Cohesion, and Team Effectiveness. *Group & Organization Management*, 34(2), 170–205. https://doi.org/10.1177/1059601108331218
- Tierney, P., & Farmer, S. M. (2002a). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal*, 45(6), 1137– 1148. https://doi.org/10.2307/3069429
- Tierney, P., & Farmer, S. M. (2002b). CREATIVE SELF-EFFICACY: ITS POTENTIAL ANTECEDENTS AND RELATIONSHIP TO CREATIVE PERFORMANCE. *Academy* of Management Journal, 45(6), 1137–1148. https://doi.org/10.2307/3069429
- Tierney, P., & Farmer, S. M. (2004). The Pygmalion Process and Employee Creativity. *Journal* of Management, 30(3), 413–432. https://doi.org/10.1016/j.jm.2002.12.001
- Tierney, P., & Farmer, S. M. (2011). Creative self-efficacy development and creative performance over time. *Journal of Applied Psychology*, 96(2), 277–293. https://doi.org/10.1037/a0020952
- Van den Broeck, A., Vansteenkiste, M., Witte, H., Soenens, B., & Lens, W. (2010). Capturing autonomy, competence, and relatedness at work: Construction and initial validation of the Work-related Basic Need Satisfaction scale. *Journal of Occupational and Organizational Psychology*, *83*(4), 981–1002. https://doi.org/10.1348/096317909X481382
- Vega, R. P., Anderson, A. J., & Kaplan, S. A. (2015). A Within-Person Examination of the Effects of Telework. *Journal of Business and Psychology*, 30(2), 313–323. https://doi.org/10.1007/s10869-014-9359-4
- Wageman, R. (2001). The meaning of interdependence. In *Groups at work: Theory and research* (pp. 197–217). Lawrence Erlbaum Associates Publishers.

- Wang, Z., Gao, M., & Panaccio, A. (2020). A Self-Determination Approach to Understanding Individual Values as an Interaction Condition on Employees' Innovative Work Behavior in the High-Tech Industry: Motivation, Innovative Work Behavior, and Values. *The Journal of Creative Behavior*. https://doi.org/10.1002/jocb.444
- Wolfradt, U., & Pretz, J. E. (2001). Individual differences in creativity: Personality, story writing, and hobbies. *European Journal of Personality*, 15(4), 297–310. https://doi.org/10.1002/per.409
- Yong, K., Sauer, S. J., & Mannix, E. A. (2014). Conflict and Creativity in Interdisciplinary Teams. Small Group Research, 45(3), 266–289. https://doi.org/10.1177/1046496414530789
- Yusuf, M. (2011). The impact of self-efficacy, achievement motivation, and self-regulated learning strategies on students' academic achievement. *Procedia - Social and Behavioral Sciences*, 15, 2623–2626. https://doi.org/10.1016/j.sbspro.2011.04.158
- Zhang, J., Zhang, Y., Song, Y., & Gong, Z. (2016). The different relations of extrinsic, introjected, identified regulation and intrinsic motivation on employees' performance: Empirical studies following self-determination theory. *Management Decision*, 54(10), 2393–2412. https://doi.org/10.1108/MD-01-2016-0007
- Zhang, Y., & Long, L. (2013). The Impact of Pay for Performance on Employees' Creativity: Moderating Effect of Person-job Fit and Mediating Effect of Creative Self-efficacy. *Acta Psychologica Sinica*, 45(3), 363–376. https://doi.org/10.3724/SP.J.1041.2013.00363
- Zhou, J. (1998). Feedback valence, feedback style, task autonomy, and achievement orientation:
 Interactive effects on creative performance. *Journal of Applied Psychology*, *83*(2), 261–276. https://doi.org/10.1037/0021-9010.83.2.261

- Zhou, J., & Shalley, C. E. (2011). Deepening our understanding of creativity in the workplace: A review of different approaches to creativity research. APA Handbook of Industrial and Organizational Psychology, Vol 1: Building and Developing the Organization., 275–302.
- Zhou, Q., Hirst, G., & Shipton, H. (2012). Promoting Creativity at Work: The Role of Problem-Solving Demand: PROBLEM-SOLVING DEMAND AND CREATIVITY. *Applied Psychology*, 61(1), 56–80. https://doi.org/10.1111/j.1464-0597.2011.00455.x

Tables

Table 2

Items of the scales

Need for Competence

Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen. (Please indicate the extent to which you agree with the following statements.)

COM_01 Ich fühle mich bei meiner Arbeit kompetent. (I feel competent at my job.)

COM_02 Ich bin gut in den Dingen, die ich bei meiner Arbeit mache. (I am good at the things I do in my job.)

COM_03 Ich habe das Gefühl, dass ich auch die schwierigsten Aufgaben bewältigen kann.(I have the feeling that I can even accomplish the most difficult tasks at work.)

COM_04	Ich bezweifle, dass ich meine Arbeit richtig ausführe.	Invertiert	
	(I don't really feel competent in my job)	(Reversed)	
		.	
COM 05	Ich fühle mich nicht wirklich mit meinen Kolleg*innen verbunden.	Invertiert	

(I don't really feel connected with other people at my job) (Reversed)

Need for Relatedness

Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen.

(Please indicate the extent to which you agree with the following statements.)

CREATIVE EFFICACY BELIEFS

REL_01	Bei der Arbeit fühle ich mich als Teil einer Gruppe.	
	(At work, I feel part of a group)	
REL_02	Ich kann mit meinen Kolleg*innen über Dinge sprechen, die mir	
	wirklich wichtig sind.	
	(At work, I can talk with people about things that really matter to me)	
REL_03	Ich fühle mich oft allein, wenn ich mit meinen Kolleg*innen	Invertiert
	zusammen bin.	(Reversed)
	(I often feel alone when I am with my colleagues)	
REL_04	Einige Leute, mit denen ich arbeite, sind enge Freunde von mir.	
	(Some people I work with are close friends of mine)	

Achievement Motivation

Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen. (Please indicate the extent to which you agree with the following statements.)

AM_01 Es macht mir Spaß, an Problemen/Lösungen zu arbeiten, die mir zu Beginn schwerfallen.
(I enjoy working on problems/solutions that are difficult for me to begin with.)

AM_02 Ich mag Situationen, in denen ich feststellen kann, wie gut ich bin. (I like situations where I can find out how good I am.)

AM_03 Probleme, die schwierig zu lösen sind, reizen mich. (Problems that are difficult to solve excite me.)

AM_04	Mich reizen Situationen, in denen ich meine Fähigkeiten testen kann.
	(I'm attracted to situations where I can test my skills.)
AM_05	Ich mag Aufgaben, die mir anfangs etwas schwerfallen.
	(I like tasks that are a little difficult for me at first.)

Fear of Failure

Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen. (Please indicate the extent to which you agree with the following statements.)

FoF_01	Es beunruhigt mich, etwas zu tun, wenn ich nicht sicher bin, dass ich	Invertiert
	es kann. (It worries me to do something when I'm not sure I can.)	(Reversed)
FoF_02	Auch bei Aufgaben, von denen ich glaube, dass ich sie kann, habe ich	Invertiert
	Angst zu versagen.	(Reversed)
	(Even with tasks I think I can do, I'm afraid of failing.)	
FoF_03	Aufgaben, die etwas schwierig sind, beunruhigen mich.	Invertiert
	(Even with tasks I think I can do, I'm afraid of failing.)	(Reversed)
FoF_04	Wenn eine Aufgabe etwas schwierig ist, hoffe ich, dass ich sie nicht	Invertiert
	machen muss, weil ich Angst habe, es nicht zu schaffen.	(Reversed)
	(If a task is a little difficult, I hope I don't have to do it because I'm	
	afraid I won't be able to do it.)	
FoF_05	Wenn ich ein Problem nicht sofort verstehe, werde ich ängstlich.	Invertiert
	(If I don't understand a problem right away, I get anxious.)	(Reversed)

Creative Self-Efficacy

CREATIVE EFFICACY BELIEFS

Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen. (Please indicate the extent to which you agree with the following statements.)

- CSE_01 Ich vertraue in meine kreativen Fähigkeiten. (I trust in my creative abilities.)
- CSE_02 Ich kann Probleme effizient lösen, selbst komplizierte Probleme. (I can solve problems efficiently, even complicated problems.)
- CSE_03 Oft habe ich bewiesen, dass ich mindestens eine Lösung für eine schwierige Aufgabe finden kann.(Many times, I proved I can find at least one solution for any difficult situation.)
- CSE_04 Ich kann mit Problemen umgehen, die kreatives Denken erfordern. (I can deal with problems requiring creative thinking.)
- CSE_05 Ich bin mir sicher, dass ich kreative Ideen/Lösungen für so ziemlich jedes Problem finden kann.(I am confident that I can develop creative ideas for almost any problem.)
- CSE_06 Wenn ich mit einem Problem konfrontiert werde, finde ich meistens mehrere Lösungen.(When I am confronted with a problem, I can usually find several solutions.)

Team Cohesion

Wie nehmen Sie den Zusammenhalt in Ihrem Team wahr? Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen.

CREATIVE EFFICACY BELIEFS

(How do you perceive the cohesion in your team?

Please indicate the extent to which you agree with the following statements.)

- TeCo_01 Unter den Mitgliedern meiner Arbeitsgruppe herrscht ein großes Vertrauen. (There is a great deal of trust among members of my workgroup.)
- TeCo_02 Die Mitglieder meiner Gruppe arbeiten als Team zusammen. (Members of my group work together as a team.)
- TeCo_03 Die Mitglieder meiner Arbeitsgruppe sind untereinander kooperativ. (The members of my workgroup are cooperative with each other.)
- TeCo_04 Meine Gruppenmitglieder wissen, dass sie sich aufeinander verlassen können.(My workgroup members know that they can depend on each other.)
- TeCo_05 Die Mitglieder meiner Arbeitsgruppe setzen sich füreinander ein. (The members of my workgroup stand up for each other.)
- TeCo_06 Die Mitglieder meiner Arbeitsgruppe betrachten sich gegenseitig als Freunde. (The members of my workgroup regard each other as friends.)

(The memoers of my workgroup regard each other as r

Task Conflict

Die folgenden Fragen beschäftigen sich mit Aufgabenkonflikten innerhalb Ihres Teams. Wie häufig kommen folgende Konflikte in Ihrem Team vor?

(The following questions deal with task conflicts within your team. How often do the following conflicts occur in your team?)

- TCon_01 Wie oft gibt es in Ihrem Team Meinungsverschiedenheiten? (How often do people on your team disagree about opinions?)
- TCon_02 Wie oft sind sich die Mitglieder Ihres Teams nicht einig über den Inhalt der Arbeit?(How often do members of your team disagree about the content of the work?)
- TCon_03 Wie oft sind sich die Mitglieder Ihres Teams uneinig darüber, welche Aufgaben durchgeführt werden sollen?(How often do members of your team disagree about what tasks should be performed?)
- TCon_04 Wie oft sind sich die Mitglieder Ihres Teams nicht einig, wer was tun soll?(How often do members of your team disagree about who should do what?)
- TCon_05 Wie häufig sind sich die Mitglieder Ihres Teams uneinig über die Art und Weise, wie eine Aufgabe zu erledigen ist?(How frequently do members of your team disagree about the way to complete a group task?)
- TCon_06 Wie häufig gibt es Konflikt über die Delegation von Aufgaben innerhalb Ihres Teams?(How much conflict is there about the delegation of tasks within your team?)

Relationship Conflict

CREATIVE EFFICACY BELIEFS

Die folgenden Aussagen zielen darauf ab, einen Einblick in zwischenmenschliche Konflikte innerhalb Ihres Teams zu erhalten. Wie häufig kommen folgende Konflikte in Ihrem Team vor?

(The following questions deal with relationship conflicts within your team. How often do the following conflicts occur in your team?)

RC_01	Wie häufig gibt es Reibungen unter den Mitgliedern Ihres Teams?
	(How much friction is there among members of your team?)
RC_02	Wie häufig kommen Persönlichkeitskonflikte in Ihrem Team vor?
	(How much are personality conflicts evident on your team?)
RC_03	Wie häufig herrscht Spannung unter den Mitgliedern Ihres Teams?
	(How much tension is there among members of your team?)
RC_04	Wie häufig gibt es emotionale Konflikte unter den Mitgliedern Ihres
	Teams?
	(How much emotional conflict is there among members of your team?)

Creative Collective Efficacy

Die folgenden Aussagen zielen darauf ab, einen Einblick zu erhalten, wie Sie Ihr Team wahrnehmen. Bitte geben Sie an, inwieweit Sie den folgenden Aussagen zustimmen.

(The following statements are aimed at gaining insight into how you perceive your team. Please indicate to what extent you agree with the following statements.)

CCE_01 Ich habe Vertrauen in die Fähigkeit meines Teams, Probleme kreativ zu lösen.

(I have confidence in the ability of the team to solve problems creatively.)

- CCE_02 Ich habe Vertrauen in die F\u00e4higkeit meines Teams, neue Ideen zu generieren.(I have confidence in the team's ability to produce new ideas.)
- CCE_03 Mein Team hat oft bewiesen, dass es mindestens eine Lösung für eine schwierige Aufgabe finden kann.(My team can solve problems efficiently, even complicated problems.)
- CCE_04 Ich bin mir sicher, dass mein Team für so ziemlich jedes Problem eine Lösung finden kann.(I am sure that my team can find a solution to pretty much any problem.)
- CCE_05 Wenn mein Team mit einem Problem konfrontiert wird, findet es meistens mehrere Lösungen.(When confronted with a problem, my team can usually find several solutions)

Perceived Team Creativity

Wie beurteilen Sie die kreative Leistung Ihres Teams?

Bitte denken Sie an die letzten Projekte, die Sie mit Ihrem Team erarbeitet und abgeschlossen haben.

(How would you rate the creative performance of your team?

Please think about the last projects you worked on and completed with your team.)

PTC_01 Die Ideen und Lösungen sind nützlich. (The ideas and solutions are useful.)

PTC_02	Die Lösungen, die mein Team findet, sind so ausgereift, dass sie
	implementiert werden können.
	(The solutions my team finds are mature enough to implement.)

PTC_03	Ich halte die Ideen meines Teams eher für durchschnittlich.	Invertiert		
	(I think my team's ideas are rather average.)	(Reversed)		

PTC_04 Ich würde die Lösungen, die mein Team entwickelt, eher als Invertiert konventionell beschreiben. (Reversed) (I would describe the solutions my team develops as more conventional.)

Appendix

Abstract

This research aimed to provide initial evidence for potential antecedents of creative efficacy beliefs on the individual and team level. Following the Input-Process-Output framework, input variables including, competence, creative self-efficacy, achievement motivation, fear of failure and relatedness were selected. On the process level team cohesion, creative collective efficacy, and intragroup conflict were probed. In addition, effects of input and process variables on perceived team creativity were tested. Cross-sectional data from 118 professional workers showed that competence predicted creative self-efficacy, which was mediated by achievement motivation. Moderation effects of fear of failure appeared to be not significant. Moreover, team cohesion predicted collective creative efficacy and this relationship was mediated by relatedness. However, moderation effects of task- and relationship conflict appeared to be not significant. In addition, collective creative efficacy significantly predicted perceived team creativity, which was mediated by creative self-efficacy. Full path analysis also revealed that competence predicted perceived team creativity which was mediated by creative self-efficacy. Team cohesion did not predict perceived team creativity after collective creative efficacy was added to the model indicating full mediation. These findings offered new initial insights about antecedents and mediators of creative efficacy beliefs. This paper highlights the importance of efficacy beliefs in one's creative abilities and how successful team member interaction can foster creative efficacy beliefs on the team level. Further implications for theory and practice were discussed. Limitations and directions for future research were highlighted.

Zusammenfassung

Dieses Forschungsprojekt zielte darauf ab, erste Beweise für potenzielle Ursachen von kreativen Wirksamkeitsüberzeugungen auf der individuellen und der Teamebene zu liefern. Angelehnt an das Input-Prozess-Output Modell wurden Input-Variablen wie Kompetenz, kreative Selbstwirksamkeit, Leistungsmotivation, Versagensangst und Verbundenheit ausgewählt. Auf der Prozessebene wurden der Teamzusammenhalt, die kreative kollektive Wirksamkeit und der gruppeninterne Konflikt untersucht. Darüber hinaus wurden Effekte von Input- und Prozessvariablen auf die wahrgenommene Teamkreativität getestet. Querschnittsdaten von 118 Fachkräften zeigten, dass Kompetenz kreative Selbstwirksamkeit vorhersagte, die durch Leistungsmotivation vermittelt wurde. Moderationseffekte von Versagensangst schienen nicht signifikant zu sein. Darüber hinaus sagte der Teamzusammenhalt die kollektive kreative Wirksamkeit voraus, und diese Beziehung wurde durch Verwandtschaft vermittelt. Die Moderationseffekte von Aufgaben- und Beziehungskonflikten schienen jedoch nicht signifikant zu sein. Darüber hinaus sagte die kollektive kreative Wirksamkeit signifikant die wahrgenommene Teamkreativität voraus, die durch kreative Selbstwirksamkeit vermittelt wurde. Die vollständige Pfadanalyse zeigte auch, dass Kompetenz die wahrgenommene Teamkreativität vorhersagte, die durch kreative Selbstwirksamkeit vermittelt wurde. Die Teamkohäsion sagte die wahrgenommene Teamkreativität nicht voraus, nachdem die kollektive kreative Wirksamkeit dem Modell hinzugefügt wurde, was auf eine vollständige Mediation hindeutet. Diese Ergebnisse boten neue erste Erkenntnisse über Antezedenzien und Mediatoren kreativer Wirksamkeitsüberzeugungen. Dies Forschungsergebnisse zeigen auf, wie wichtig der Glaube an die eigenen kreativen Fähigkeiten ist und wie eine erfolgreiche Interaktion zwischen den Teammitgliedern diese Überzeugungen auf Teamebene fördern kann. Weitere Implikationen für Theorie und Praxis wurden diskutiert. Einschränkungen und Richtungen für zukünftige Forschung wurden hervorgehoben.