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# Thinking outside the box helps build social connections: The role of creative mindsets in reducing daily rudeness<sup>☆</sup>

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#### ABSTRACT

Building on perspectives highlighting the social nature of workplace creativity, we argue that being in a creative mindset will highlight the value that co-workers provide to the creative process. This heightened awareness of co-workers as being integral to the creative process increases social closeness with these co-workers, subsequently reducing instigated rudeness towards, as well as perceived rudeness from, those co-workers. In four studies (both in the field as well as in the lab), we find support for these theoretical predictions. Our work also identifies when and for whom these effects are likely to be strongest, indicating that the effect of being in a creative mindset on social closeness is stronger in contexts characterized by high (vs. low) psychological safety, and weaker for employees high (vs. low) in dispositional creativity. We discuss the theoretical and practical implications of our findings.

#### 1. Introduction

Employee creativity—the generation of novel and useful ideas (Amabile, 1996) for products, processes, and services—is frequently portrayed as a deviant act because it involves individuals violating accepted norms and doing things that are different from the status quo (Khessina, Goncalo, & Krause, 2018; Mainemelis, 2010). In fact, creative individuals are often depicted as having an "unwillingness to be bound by the unwritten canons of society" (Sternberg, 1985, p. 523), highlighting the necessarily norm defying nature of creativity. Building on this conceptualization, recent research has indicated that creativity can fuel other types of deviance at the workplace, such as lying and dishonesty (Gino & Ariely, 2012; Vincent & Kouchaki, 2016), unethical behavior (Keem et al., 2018; Mai, Ellis, & Welsh, 2015), counterproductive behaviors (Ng & Yam, 2019) and moral disengagement (Zheng et al., 2019). Similarly, popular culture is replete with examples of celebrities (actors, artists, musicians) who are known not only for their creative efforts, but also for their cruel and rude treatment of others (e. g., Faleris, 2014; McGrath, 2012; Vaziri, 2014).

While this perspective has provided important insights regarding the dark side of creativity (e.g., Gino & Ariely, 2012; Vincent & Kouchaki,

2016), we argue that it may portray an overly simplistic view of a more complicated phenomenon by ignoring the inherently social nature of the creative process. Specifically, while creativity has traditionally been conceptualized as an individual behavior (Glynn, 1996), scholars have increasingly begun to recognize that creativity in organizations is the product of a social process (Amabile & Pratt, 2016; Hargadon & Bechky, 2006; Harrison & Rouse, 2015; Perry-Smith & Shalley, 2003; Rouse, 2020). In other words, creativity emerges in interpersonal interactions where employees share ideas with one another, give each other feedback, provide disparate perspectives to build off one another's ideas, and integrate them in new and novel ways (e.g., Hargadon & Bechky, 2006). Indeed, due to the inherently social nature of organizational creativity, recent work has highlighted that creative endeavors are facilitated by positive social relationships among employees (Hargadon & Bechky, 2006; Hargadon & Sutton, 1997; Harrison & Dossinger, 2017; Harrison & Rouse, 2015; Hülsheger, Anderson, & Salgado, 2009).

Building on this co-creation based perspective of creativity, we argue that there may be a reciprocal relationship between creativity and positive social relationships with others. In other words, while prior work has highlighted that positive social relationships facilitate creativity, it is important to also consider that the creative process may help

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build positive social relationships and interactions among employees. In this regard, prior work has suggested that creative work can help open individuals' minds to understand a situation and its implications from multiple stakeholders' perspectives (Mumford et al., 2010; Whitaker & Godwin, 2013) as well as exhibit concern for others (Bierly, Kolodinsky, & Charette, 2009). In fact, Keem et al. (2018) indicated that while there may be some mechanisms that allow creativity to promote negative behaviors (such as deviance, lying, CWBs, etc.), there may be others by which creativity can reduce such behaviors, highlighting the importance of explicitly considering the processes by which creativity can decrease negative behaviors at work.

To unpack this important issue, our model uniquely integrates cocreation theory (Rouse, 2020), which argues that the creative process can facilitate positive social relationships at work, with self-expansion theory (SET; Aron et al., 1991; Aron & Aron, 1996), which describes how individuals within close personal relationships interact with each other. Leveraging insights from co-creation theory (Rouse, 2020), we argue that because creativity at work is inherently a social process, when employees are in a creative mindset, their attention is drawn to the critical role their co-workers play in their creative endeavors. This recognition of the value of one's co-workers as important contributors to the creative process, in turn, causes employees to expand their interpersonal boundaries to think more in terms of "we" than "I" in a way that facilitates a sense of interconnectedness and closeness with these coworkers. SET, in turn, suggests that employees who feel a sense of social closeness with others will avoid acting in ways that jeopardize that closeness (Dansereau et al., 2013; Dys-Steenbergen, Wright, & Aron, 2016). Accordingly, and building on work suggesting that social closeness can dynamically influence interpersonal behaviors (Foulk et al., 2020), we explore the effect of creativity-induced social closeness on employee rudeness-defined as low-intensity deviant behavior with ambiguous intent to harm (Andersson & Pearson, 1999) that violates social norms (Porath & Erez, 2007). Additionally, because social closeness has also been shown to reduce negative perceptions of others (Gardner, Gabriel, & Hochschild, 2002), our model also explores how creativity-induced social closeness can reduce perceived rudeness.

Finally, we also consider both when and for whom the effects of creative mindsets on social closeness are likely to be strongest. First, our model recognizes that momentary mindsets may not influence all employees in the same way (e.g., Lanaj, Foulk, & Erez, 2019). Rather, building on recent evidence suggesting that dispositional creativity can have an important impact on the influence of situationally salient creative mindsets (Gino & Ariely, 2012), we propose a substitution effect, suggesting that creative mindsets may more strongly predict social closeness, and subsequent rude perceptions and behaviors, in individuals who are not already dispositionally creative (Forehand, Deshpandé, & Reed, 2002; Gino & Ariely, 2012). Furthermore, in line with co-creation theory (Rouse, 2020), which highlights that a psychologically safe climate is a critical factor that facilitates the social aspects of the creative process at work (also see Hargadon & Bechky, 2006; Harrison & Dossinger, 2017), we examine psychological safety as an important boundary condition that strengthens the effect of employees' creative mindsets on social closeness and subsequent rude behaviors and perceptions. Specifically, our theorizing suggests that creativity will facilitate social closeness more in environments characterized by high (vs. low) psychological safety, as such psychological safety emphasizes opportunities for an open, collaborative, and constructive creative process with co-workers.

In investigating these relationships, our work makes several contributions to the literatures on creativity, workplace rudeness, and SET. First, by demonstrating that creativity-induced social closeness can reduce instigated and perceived rudeness at work, our work answers calls from creativity scholars to "balance both the positive and negative views of creativity" (Ng & Yam, 2019, p. 1157). Explicitly considering how creativity can reduce negative interpersonal behaviors at work is important because if, as prior research has suggested, promoting

creativity predominantly leads to increased negative employee behaviors, then the presumed benefits of creativity may be overstated at best, or even nullified at worst. However, if creativity can also reduce negative behaviors, especially those targeted at others, this provides a double incentive for organizations to promote employee creativity.

Second, we highlight the unique mechanisms—social closeness due to the perceived value of co-workers' contributions to the creative process—through which a creative mindset influences interpersonal outcomes. Scholars have recognized that high-quality relationships are a necessary input into the creative process (Rouse, 2020), but have also questioned whether "there is an interplay between relationships and creativity, where the two build off of one another" (Perry-Smith & Shalley, 2003, p. 90). In this way, our work demonstrates the reciprocal nature of the relationship between creativity and social relationships and responds to calls to "explore how work products and their creation shape the quality of relationships within organizations" (Rouse, 2020, p. 199). Additionally, while prior work highlights that psychological safety facilitates the effect of high-quality social relationships on creativity (Hargadon & Bechky, 2006; Harrison & Dossinger, 2017), our work shows that psychological safety also amplifies the reciprocal effect of creativity on social closeness, highlighting the importance of considering the impact of the safety of the social context in which the creative process takes place on the outcomes of creativity.

Third, following other scholars' call to better understand the antecedents of employee rudeness (Schilpzand, De Pater, & Erez, 2016), our work highlights employee creativity as a unique antecedent of such behaviors. Furthermore, while the nascent work on antecedents of workplace rudeness has tended to focus on factors that increase instigated (e.g., Andersson & Pearson, 1999; Rosen et al., 2016) and perceived (Foulk et al., 2018; Woolum et al., 2017) rudeness, we extend this work by identifying being in a creative mindset as a dynamic factor that can reduce both instigated and perceived workplace rudeness. Finally, we integrate research on creativity with SET (Aron & Aron, 1986) to elucidate being in a creative mindset as an important predictor of social closeness, a fundamental motive of employees in the workplace (e.g., Aron, Aron, & Smollan, 1992; Baumeister & Leary, 1995; Ryan & Deci, 2017). While most work exploring the antecedents of social closeness has focused on characteristics or behaviors of the target (Berscheid & Reis, 1998), our paper adds to this literature by demonstrating that employees' own internal mindsets can also be important dynamic predictors of such closeness (Fraley & Aron, 2004).

## 2. Theory and hypotheses

Creativity is a valued behavior in organizations (Vincent & Kouchaki, 2016). As a result, employees are often encouraged to approach issues and problems with a creative mindset. Previous research suggests such mindsets can be situationally activated by subtle cues in the environment (e.g., Bargh, 2006; Bargh & Chartrand, 1999; 2000; Sassenberg et al., 2017), such as engaging in a specific task or even simply thinking about a specific activity. Subsequently, salient mindsets can influence thoughts, perceptions, and behaviors (Bargh, Chen, & Burrows, 1996) by activating schemas that guide the way employees interact with their environments. Along these lines, we focus on employees' creative mindset—defined as a state of mind where one thinks about being creative or about the creative process, or when one is involved in creative work (Sassenberg & Moskowitz, 2005). Our model explores how creative mindsets can facilitate a sense of social closeness with co-workers, in a way that reduces instigated and perceived rudeness towards those coworkers. Our full theoretical model is presented in Fig. 1.

Research suggests that fluctuations in one's creativity and creative mindset are very common at work (Amabile et al., 2005; Binnewies & Wörnlein, 2011; Ohly & Fritz, 2010; Silvia et al., 2014; To et al., 2012). In line with this, we adopt a dynamic/episodic conceptualization of being in a creative mindset in providing insights into how it may reduce behaviors such as interpersonal rudeness. Such an episodic approach is

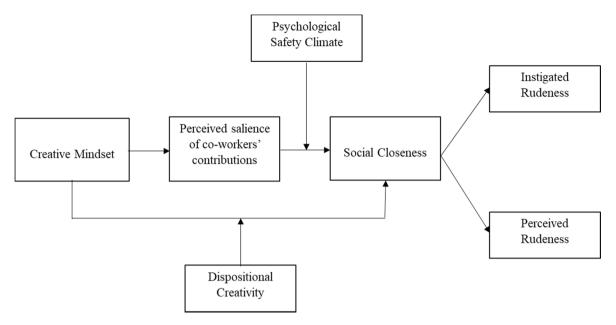


Fig. 1. Theoretical Model.

especially appropriate here because scholars suggest that it is important to examine dynamic outcomes using similarly dynamic (as compared to static) predictors (e.g., Ones & Viswesvaran, 1996) to increase the accuracy of such predicted relationships. Indeed, all focal constructs in our model, including being in a creative mindset (Harrison & Wagner, 2016; Ng & Yam, 2019), social closeness (Foulk et al., 2020), and rudeness (Foulk et al., 2018; Woolum et al., 2017), have been shown to have substantial situational variance, and prior research has argued that such constructs should be studied within the context of dynamic models that can explore their complex and fluid nature (Barnes et al., 2015; Foulk et al., 2018; Lanaj et al., 2019; Ng & Yam, 2019). Examining these questions at the episodic level also allows us to provide a better test of the psychological mechanisms underlying these phenomena. Without capturing these episodic variations, the fine-grained nature of the relationship between these variables may be masked.

#### 2.1. Creative mindsets and social closeness with co-workers

While initial theoretical accounts of the creative process tended to focus on individual creative behavior (e.g., Woodman, Sawyer, & Griffin, 1993), more recently, scholars have come to recognize that creativity at work is inherently a social process (Amabile & Pratt, 2016; Fisher, Pillemer, & Amabile, 2018; Hargadon & Bechky, 2006; Hargadon & Sutton, 1997; Harrison & Dossinger, 2017; Harrison & Rouse, 2015; Perry-Smith & Shalley, 2003; Perry-Smith & Shalley, 2014; Rouse, 2020). Indeed, this work has highlighted how workplace creativity emerges in social interactions with one's co-workers that include sharing information (Perry-Smith & Shalley, 2014), giving and receiving feedback (Harrison & Dossinger, 2017; Harrison & Rouse, 2015), integrating the various and disparate perspectives of others in developing novel ideas (Hargadon & Sutton, 1997; Perry-Smith & Mannucci, 2015), elaborating on existing ideas (Rouse, 2020), and evaluating ideas in developing new and novel ways of doing things (Hülsheger et al., 2009; Hargadon & Bechky, 2006). Summarizing this point, Harrison and Dossinger recently indicated that "it is no longer a surprising assertion that creativity is largely a social activity" (2017, p. 2051).

Because of the inherently social nature of creativity at work, we argue that experiencing co-workers as valuable contributors to their creative output should cause employees in a creative mindset to automatically recognize the value of their co-workers' contributions to the creative process (Fiske & Taylor, 1984; Ford, 1996; Perry-Smith &

Shalley, 2014). Tost (2015) referred to this phenomenon as a "learned association" (p. 33) and argued that employees can come to automatically associate two stimuli with each other, such that thinking about one automatically activates thoughts about the other. Scholars have argued that these learned associations may be particularly likely as it relates to the creative process, and that creativity-related mindsets can influence the way employees interact with the environment (Ford, 1996; Perry-Smith & Shalley, 2014). Building on this point, we argue that the importance of co-workers' contribution to the creative process that is made salient by a creative mindset should facilitate the experience of social closeness with these co-workers.

Specifically, according to co-creation theory (Rouse, 2020), the social nature of creativity facilitates a process by which creativity allows employees to "form and maintain a shared interpersonal boundary" (p. 182) with co-workers. This is because, during the intense social interactions associated with the creative process where employees share ideas that may be divergent from one another's, provide feedback and criticism of each other's ideas and build on one another's thoughts in developing truly creative ideas, they often begin to "think in terms of 'we' rather than 'I'" (Rouse, 2020, p. 193). The process of working on a creative idea together makes it difficult to disentangle one employee's input into the process from another's, and therefore employees begin to see themselves more as a single unit working on a creative product than as a group of individuals working separately (Rouse, 2020). Even if coworkers are not actively contributing to the creative process at a specific moment, we argue that just being in a creative mindset is likely to make employees recollect experiences of creative insight that occurred due to interactions with their co-workers. In turn, this recognition should cause employees to think about and be more aware of their social connections with their co-workers and lead to a shared interpersonal boundary with them (Rouse, 2020). This description of creativity enabling shared interpersonal boundaries, where it becomes difficult to disentangle the "I" from the "we" is remarkably consistent with the way SET (Aron et al., 1991; Aron & Aron, 1996) conceptualizes social closeness as an experience where one comes to see another person as part of themselves. In this way, we argue that when employees are in a creative mindset, they will recognize the importance of their co-workers' contributions to the creative process, which will lead to social closeness because this recognition will make the "boundaries between self and other become permeable" (Rouse, 2020, p. 193).

In sum, building on perspectives that recognize that creativity at

work is inherently a social process, we argue that when employees are in a creative mindset, they will automatically recognize their co-workers as integral parts of their own creative process. We argue that this automatic recognition is then likely to facilitate the experience of social closeness because it will create a sense of "we"-ness between the focal employee and his/her co-workers, which is a critical manifestation of social closeness within the context of SET (Aron et al., 1991; Aron & Aron, 1996). Therefore, we hypothesize:

Hypothesis 1a: Employees' creative mindsets are positively related to social closeness with co-workers.

Hypothesis 1b: Perceived value of co-workers' contributions to the creative process will mediate the effect of employees' creative mindsets on social closeness with co-workers.

## 2.2. The moderating effect of dispositional creativity

While we argue that creative mindsets can have a dynamic influence on employees' perceptions of social closeness with their co-workers, we also recognize that this effect may be attenuated by dispositional creativity—defined as an individual's stable and enduring personal characteristics related to consistent creative performance (Oldham & Cummings, 1996). While creative mindset is a dynamic, fluid construct, dispositional creativity is a static, individual difference feature, and such individual differences have been shown to influence the way activated mindsets influence thoughts, perceptions, and behaviors (Blader & Tyler, 2009; Dukerich, Golden, & Shortell, 2002). For employees who are dispositionally creative, there is likely to be a substitution effect such that a situationally activated creative mindset is likely to have a weaker effect on social closeness because such employees likely have a stable tendency to feel close to their co-workers (e.g., Forehand et al., 2002). However, for those low in dispositional creativity, this stable tendency is unlikely, such that episodic changes in one's creative mindset are likely to have a stronger effect on momentary changes in experienced social closeness. This suggests that episodic variations in creative mindsets may not strongly affect closeness for individuals high in dispositional creativity but will be especially beneficial for individuals low in dispositional creativity. This is consistent with recent evidence suggesting that dispositional manifestations of daily psychological processes can influence those processes (Foulk, Lanaj, & Krishnan, 2019), as well as specific evidence that creativity primes had a weaker effect on employees with high (vs. low) creative personality (Gino & Ariely, 2012). Thus, we propose:

**Hypothesis 2.** Dispositional creativity moderates the relationship between creative mindset and perceived social closeness with co-workers, such that this relationship is weaker for employees who are high (vs. low) in dispositional creativity.

#### 2.3. The moderating effect of psychological safety

Within the various theoretical frameworks which argue that creativity is an inherently social process, a consistent argument is that the relationship between social dynamics and creativity will be enhanced in psychologically safe environments (Amabile & Pratt, 2016; Hargadon & Bechky, 2006; Harrison & Dossinger, 2017; Hülsheger et al., 2009; Rouse, 2020). Indeed, taking the dynamic nature of the relationship between creativity and social relationships at work (Rouse, 2020) into account, we expect that a psychologically safe climate will also enhance the positive relationship between creative mindsets and social closeness. Indeed, while the literature on creativity has begun to recognize the social nature of the creative process, it also recognizes that the context in which the creative process takes place can have important implications for how it plays out. Specifically, some contexts may suggest that sharing new ideas and engaging in the creative process is risky, in that it could result in judgment and criticism (Rouse, 2020; Williams, 2010). Therefore, we argue that even when employees recognize the value of their coworkers to the creative process, the psychological safety climate of the organization will influence whether this perceived value facilitates social closeness.

The psychological safety climate in the organization signals to employees how they can expect their co-workers to behave during and after the creative process, and therefore whether the value of one's coworkers' contributions will translate to social closeness with them or not. Psychological safety climate is defined as the perception that the team is safe for interpersonal risk-taking (e.g., Bradley et al., 2012; Edmondson, 1999, 2004), and is therefore an important indicator of the quality of team interpersonal dynamics (Koopmann et al., 2016). A psychologically safe climate is characterized by trust, respect, concern for members, and confidence in members' abilities (e.g., Edmondson, 1999). As such, it mitigates employees' fears of social rejection or disapproval by their co-workers "when speaking up, helping, or engaging in other social interactions in which there is the potential to be judged or humiliated by other team members" (Koopmann et al., 2016, p. 942). Employees who perceive a psychologically safe climate feel assured that making a mistake does not lead to rejection (Edmondson, 1999). Along these lines, growing empirical evidence supports the notion that psychological safety is accompanied by close interpersonal interactions among co-workers (e.g., Carmeli et al., 2009b; Edmondson & Mogelof, 2006). Prior research also suggests that psychological safety also allows employees to alter the way that conflict is received and managed because these employees "avoid taking task disagreements personally" and are more open to different opinions (Bradley et al., 2012, p. 152).

Thus, when being in a creative mindset automatically makes the social nature of creativity and the contributions of one's co-workers to the creative process salient, we argue that this is likely to lead to greater social closeness when one also perceives their context to be psychologically safe to engage in open discussion of ideas, supportive elaboration, and idea-focused evaluation. As Rouse (2020) argues, a safe environment generates positive experiences such as self-validation and affection for one's partners. On the other hand, when the context is psychologically unsafe, this may not lead to social closeness with one's co-workers even when employees recognize that interactions with co-workers are valuable to the creative process. While collaborations may be beneficial for creativity, when co-workers denigrate or diminish the value of one's idea, this can adversely affect one's self-worth (Baer & Brown, 2012) and lead to a chilling effect, where employees may want to avoid close interactions with such co-workers despite the value they can add in creative tasks. Therefore, we hypothesize:

Hypothesis 3. Psychological safety moderates a) the effect of perceived value of co-workers' contributions to the creative process on social closeness, and b) the indirect effect of creative mindset on social closeness via value of co-workers' contributions to the creative process, such that these relationships will be stronger when psychological safety is high (vs. low).

## $2.4. \ \ Social\ closeness\ reduces\ instigated\ and\ perceived\ workplace\ rudeness$

Leveraging co-creation theory (Rouse, 2020), our theorizing argues that a creative mindset will draw employees' attention to their co-workers' contributions to the creative process in a way that will facilitate a sense of social closeness with these co-workers. Integrating this insight with SET (Aron et al., 1991; Aron & Aron, 1996), we argue that creativity-induced social closeness will facilitate more positive interactions with co-workers by reducing instigated rudeness towards and perceived rudeness from them. SET suggests that social closeness can serve as a dynamic influence of the way employees interact with co-workers or their environment (Aron et al., 1991; Aron & Aron, 1996), indicating that social closeness will influence both behaviors directed towards others (Aron et al., 1991; Dys-Steenbergen et al., 2016) as well as perceptions of others (Aron & Aron, 1996; Gardner et al., 2002). While employees may not engage in many of the dishonest or unethical

behaviors that have previously been associated with a creative mindset on a regular basis at work, other everyday behaviors such as interpersonal rudeness are likely to be subject to the influence of employees' sense of social closeness with others.

Instigated Rudeness. Rudeness is very common in organizational settings (Porath & Pearson, 2013; Trudel & Reio, 2011), indicating that it is a behavior that employees can engage in (or choose not to) on a daily basis. Indeed, recent evidence suggests that dynamic factors in the work environment can have an important impact on rudeness (e.g., Rosen et al., 2016). Rudeness has been shown to be harmful for targets (for a review, see Schilpzand et al., 2016), causing them to experience a variety of consequences, including reduced work engagement (Chen et al., 2013), job satisfaction (Cortina et al., 2001), and well-being (Lim, Cortina, & Magley, 2008). According to SET, social closeness should reduce rudeness towards co-workers because it highlights how others are related to the self (Aron & Aron, 1986). Therefore, by incorporating others into one's sense of self, social closeness emphasizes that any negative treatment towards others is actually counterproductive to oneself (Aron & Aron, 1996; Aron et al., 1991). Indeed, according to SET, social closeness is "characterized by an overlapping of selves" (Dansereau et al., 2013, p. 801). This suggests that by motivating a sense of social closeness with others, a creative mindset should reduce employees' rudeness because they will not want to harm their co-workers, as they will perceive that such harm will also be negative for them. Supporting this point, recent evidence has suggested that daily social closeness can facilitate positive interpersonal interactions at work, such as increased helping (Foulk et al., 2020). Thus, we hypothesize,

**Hypothesis 4.** Perceived social closeness will a) be negatively related to instigated rudeness and b) mediate the negative relationship between creative mindset and instigated rudeness.

Perceived Rudeness. We argue that creativity-induced social closeness should dynamically affect not only employees' tendency to engage in rudeness, but also how rude they perceive their co-workers to be. Beyond actual experiences of rudeness, perceptions of rudeness from others are important because feeling as though one has been treated rudely at work has been shown to have myriad negative consequences (Schilpzand et al., 2016). However, due to the ambiguous nature of rudeness (Andersson & Pearson, 1999), perceived rudeness is somewhat in the eye of the beholder (Foulk, Woolum, & Erez, 2016), as it involves an internal process in which employees try to determine if their partner's intent was harmful and therefore potentially threatening (Arnold, 1960; Schachter, 1964; Zajonc, 1980). Indeed, the same interaction could be perceived as perfectly normal one day, but uncivil on another, if employees perceive that their co-worker's intention was to harm them. In this way, perceptions of rudeness are dynamic and can vary daily based on contextual factors (Foulk et al., 2018; Woolum et al., 2017). Considering the malleable nature of perceptions of rudeness within the context of SET suggests that perceived social closeness should reduce employees' perceptions of rudeness from their co-workers. According to SET, when employees feel close with others, they feel as though they are "validated, understood, and cared for by the other" (Aron & Aron, 1996, p. 328). Feeling this way about their co-workers should reduce perceptions of rudeness by making it less likely that employees would perceive the intention behind ambiguous behaviors as harmful. Thus, we hypothesize:

**Hypothesis 5.** Perceived social closeness will a) be negatively related to perceived rudeness and b) mediate the negative relationship between creative mindset and perceived rudeness.

## 3. Overview of studies

We conducted 4 studies to test our theoretical model. First, we conducted a field-experimental experience sampling (ESM) study where we manipulated creative mindset on a daily basis. In Study 1, we also

explored the effect of dispositional creativity on the relationship between creative mindset and social closeness, and subsequent rude behaviors and perceptions. In Study 2, we built on these results to examine the mediating role of perceived value of others' contribution in the relationship between creative mindset and social closeness, as well as the moderating role of psychological safety. In Study 3, we replicated the results of Study 2 demonstrating that perceived value of others' contributions mediates the effect creative mindset on social closeness and tested whether perceived value of others' contributions and social closeness serially mediated the effect of creative mindset on instigated and perceived rudeness. Finally, in Study 4, we replicated the indirect effect of creative mindset on social closeness via perceived value of others' contribution, as well as the moderating effect of psychological safety on this relationship. Furthermore, we replicated the serial indirect effect of creative mindset on rude behaviors and perceptions, via perceived value of others contribution and social closeness. Taken together, our studies provide consistent and robust support for our theoretical predictions using different manipulations of creative mindset and across different samples. All study materials (data, Mplus syntax and outputs) for all studies (except Study 1, where data hasn't been posted due to confidentiality reasons, but syntax and output are posted) are available in a dedicated OSF webpage: https://osf.io/nghdr/? view\_only=770145c49a2f4702b003789e2d8a4c8f.

#### 4. Study 1

In Study 1, we tested our theoretical model in a field-experimental ESM, which offers several important advantages. First, scholars have recognized that activated psychological states like creative mindsets can have fundamentally different outcomes in the field compared to the lab, where participants are doing their actual jobs and interacting with their real co-workers (Tost, 2015; Tost, Wade-Benzoni, & Johnson, 2015). Thus, particularly in models whose focus is on social variables like social closeness and rudeness, testing hypotheses in field settings adds enhanced validity to the conclusions drawn from these models. Additionally, manipulating our independent variable (creative mindset) and separating the measures of our mediator (social closeness) and dependent variables (instigated and perceived rudeness) in time allows for enhanced confidence in causal inferences (Gabriel et al., 2019).

## 4.1. Participants

We invited 151 professional and managerial employees who were enrolled in an executive business program at a large Indian university to participate in this study in exchange for extra course credit. We received useable data from 121 of these participants. Participants' average age was 33.14 years (SD=5.45), and 86.0% were male. They had an average of 9.63 years of total work experience (SD=5.81), and 4.63 years of experience at their current firms (SD=4.22). Participants held a variety of job titles, including Technical Lead, Project Manager, R&D Engineer, Branch Manager, Customer Service Head, and Finance Controller.

## 4.2. Procedure

Data were collected over a three-week period. In the first week of the study, participants completed a background survey, which included demographic information, as well as our measure of dispositional creativity. In weeks 2 and 3, participants took part in the daily portion of the study, which consisted of two surveys each day for 10 consecutive workdays (Monday-Friday for two weeks). We sent participants the morning survey at 6:00 am, and it included our manipulation of creative mindset (described below), as well as measures of social closeness, positive and negative affect, and psychological entitlement. The afternoon survey, sent at 4:00 pm, included measures of instigated and perceived rudeness.

To ensure temporal separation of the variables in our model, following prior research (Parker et al., 2017; Rosen et al., 2018) we discarded daily observations where there was not at least a six-hour gap between the morning and afternoon surveys (N = 153). Additionally, because of the within-person experimental nature of our design, participants were informed that the minimum participation rate was 80% of the surveys. Therefore, following recommendations from prior research using designs similar to ours, we removed participants that did not fully participate in at least 8 days of the study (N = 16; Foulk et al., 2020). Additionally, we also removed daily observations where participants did not write down a response to the writing induction portion of our manipulation of creative mindset (N = 176; Foulk et al., 2020). From the 121 participants in the study, we received 908 useable day-level data points, for a daily response rate of 75%. The average start time for the morning survey was 9:00 am, and the average start time for the afternoon survey was 6:11 pm.

#### 4.3. Creative mindset manipulation

To manipulate creative mindset, we followed the procedure described by Foulk et al. (2018) for conducting experimental experience sampling studies (ESM) in field settings. This procedure calls for randomly assigning participants into either a control condition or a creative mindset condition each day of the study using a constrained within-person randomized matrix. This matrix ensures that each person is assigned to the control condition on 5 days of the study and into the creative mindset condition on 5 days of the study, and also that on each day of the study, half of the participants are in the control condition and half are in the creative mindset condition. The order in which participants received their assignment into conditions varied between participants, such that participants were assigned to the control and creative mindset condition in different orders across the 10 days of the study.

We manipulated creative mindset in the morning survey using methods that have been previously shown to effectively induce a state of creativity (Fitzsimons, Chartrand, s& Fitzsimons, 2008; Sassenberg & Moskowitz, 2005; Vincent & Kouchaki, 2016). Prior research suggests that complex psychological processes, like creative mindsets, can be activated by both subconscious as well as conscious interventions (Bargh & Chartrand, 2000; Galinsky, Gruenfeld, & Magee, 2003). While both have been shown to have similar effects (Welsh & Ordóñez, 2014), in order to implement the most complete manipulation of creative mindset, we included both a subconscious priming task as well as a conscious writing induction as part of our manipulation (Foulk et al., 2018).

For the subconscious priming portion, we used a word fragment task (Tulving, Schacter, & Stark, 1982), which has previously been used to manipulate state creativity (Fitzsimons et al., 2008; Sassenberg & Moskowitz, 2005). In this task, participants are shown a stem of a word with several letters missing and asked to come up with the first word they can think of to complete the word (e.g., "s t  $_{\rm p}$ " = stop). Each morning, participants completed five-word fragments. On days in the creative mindset condition, 3 of the 5 words were associated with creativity (e.g., creative, innovative, imagination), and in the control condition all 5 words were neutral in nature (e.g., morning, volleyball, broccoli).

For the conscious portion of our manipulation, we used an adapted version of the writing induction task described by Vincent and Kouchaki (2016) to induce creative mindsets. Specifically, participants were asked to "Please recall a particular situation where you did something in a [X] manner. Please take a moment and think about this situation and recall the details. In 2–5 sentences, please describe the situation – what happened, how you felt, etc." Because participants were in the control condition for 5 days and in the creative condition for 5 days, we created 5 slightly different versions of each. Specifically, in the creativity condition we substituted the [X] in the above description with the words "creative", "innovative", "novel", "imaginative", and "inventive". In the control condition, we used the words "routine", "procedural",

"conventional", "typical", and "customary". The priming and writing tasks were matched by condition, such that on days in the creative mindset condition, participants received both a creative priming task and a creative writing induction task, and on days in the control condition participants received both a neutral priming task and a neutral writing induction task.

#### 4.4. Measures

Unless otherwise indicated, all items measured in this study used a 5-point Likert scale ranging from 1 = `Strongly disagree' to 5 = `Strongly agree'.

**Creative Mindset.** We dummy coded our creative mindset manipulation, such that it took the value of 1 on days in the creative mindset condition and 0 on days in the control condition. <sup>1</sup>

Social Closeness. We measured social closeness using the Inclusion of Other in Self (IOS) procedure described by Aron et al. (1992). Participants were asked to indicate how close they felt to the teammates they were going to be working with and were shown an anchored scale ranging from 1 to 7 using a series of Venn-like diagrams that depicted two circles, one representing themselves and one representing their coworkers. These circles were presented in varying degrees of overlap, where at the low end of the scale, the circles did not overlap at all, in the middle they overlapped about halfway, and at the high end of the scale they overlapped almost completely. Measuring social closeness in this manner is consistent with recent theorizing that suggests that self-other overlap measures such as this directly measure social closeness (Aron et al., 1992; Aron & Aron, 1996; Magee & Smith, 2013).

**Instigated Rudeness.** Instigated rudeness was measured in the afternoon survey using 5 items from Cortina et al. (2001) that were adapted to fit the daily context. Items included "Today at work, I put somebody down or was condescending to them", "Today at work, I addressed another person in unprofessional terms", and "Today at work, I excluded someone from professional camaraderie.".

**Perceived Rudeness.** We measured perceived rudeness in the afternoon survey using 5 items from Cortina et al. (2001) that were adapted to fit the daily context. Items included, "Today at work, a coworker put me down or was condescending to me", "Today at work, a co-worker addressed me in unprofessional terms", and "Today at work, a co-worker excluded me from professional camaraderie.".

Dispositional Creativity. We measured dispositional creativity in the background survey using a Remote Association Rask (RAT), which has been used to measure creativity (Gino & Ariely, 2012; Mednick & Mednick, 1967; Gupta et al., 2012). In the RAT, participants were shown combinations of three words (e.g., "mill, tooth, dust") and asked to identify a fourth word that is related to all three (e.g., "saw"). We used 12 RAT trials that have been previously shown to be moderately difficult (e.g., Isen, Daubman, & Nowicki, 1987). We coded for correct responses in the RAT, and the number of correct trials served as our measure of dispositional creativity.

Controls. Prior research has argued that being creative can lead to increased positive (or reduced negative) affect (Amabile et al., 2005); therefore, we controlled for positive and negative affect in our model. We measured positive and negative affect in the morning survey (after the manipulations) using five items each from the short form PANAS scale (MacKinnon et al., 1999; Watson, Clark, & Tellegen, 1988). Positive affect items included "inspired" and "alert", and negative affect items included "upset" and "nervous." Additionally, because prior research has suggested that creativity can also increase employees' perceptions of psychological entitlement (Vincent & Kouchaki, 2016), which can, in turn, affect attitudes and behaviors, we also controlled for

 $<sup>^{1}</sup>$  We conducted several manipulation checks to test the efficacy of our manipulation of creative mindset, and these manipulation checks are described in the Appendix.

psychological entitlement throughout our model. We measured psychological entitlement in the morning survey using 3 items from the scale developed by Campbell et al. (2004;  $\alpha=0.65$ ). Finally, to rule out temporal effects based on the day of the study, following the recommendations of prior research using designs similar to ours (e.g., Lanaj, Johnson, & Lee, 2016), we controlled for the day of the week throughout our model. The day of the week was entered as a continuous variable where 1= Monday and 5= Friday. $^2$ 

## 4.5. Results

Descriptive statistics as well as within- and between-person correlations among all study variables are presented in Table 1. Prior to conducting our analyses, we conducted a series of CFAs, and the results of these analyses are presented in Appendix 4. To ensure that multilevel modeling was appropriate for our data, we estimated the within-person variance for each focal variable in our model. Results indicated that 22% of the variance in social closeness, 56% of the variance in instigated rudeness, and 44% of the variance in perceived rudeness was withinperson. We therefore tested our hypotheses by estimating a multilevel moderated mediation model where all paths were estimated simultaneously, using Mplus 8 (Muthén & Muthén, 2018). In this model, hypothesized relationships were estimated as random slopes, while all other relationships were estimated as fixed slopes (Enders & Tofighi, 2007). In order to remove between-person confounds, following the recommendations of Hofmann, Griffin, and Gavin (2000), we group mean centered our level 1 endogenous predictors and grand mean centered between-person dispositional creativity. Indirect effects were estimated using the procedure described by Preacher, Zyphur, and Zhang (2010). This procedure calls for using a Monte Carlo simulation with 20,000 iterations to construct bias-corrected 95% confidence intervals for each indirect effect. The unstandardized results of our model are presented in Table 2.

Hypothesis 1a predicted that being in a creative mindset would be positively related to social closeness. As shown in Table 2, this relationship was positive and significant ( $\gamma = 0.10$ , SE = 0.04, p = .020), supporting Hypothesis 1a. Hypothesis 2 predicted that this relationship would be weaker for employees who are high (vs. low) in dispositional creativity. The cross-level moderating effect of dispositional creativity on the relationship between creative mindset and social closeness was negative ( $\gamma = -0.03$ , SE = 0.01, p = .029), providing support for Hypothesis 2. To explore this relationship in more detail, following the recommendation of Preacher, Curran, and Bauer (2006), we estimated this relationship at high (+1SD) and low (-1SD) levels of dispositional creativity. Consistent with expectations, at low levels of dispositional creativity this relationship was positive and significant ( $\gamma = 0.20$ , SE =0.07, p = .006), but at high levels of dispositional creativity this relationship was non-significant ( $\gamma = 0.002$ , SE = 0.05, p = .972), and the difference between this relationship at low (-1SD) and high (+1SD) levels of dispositional creativity was significant ( $\Delta \gamma = 0.20$ , SE = 0.09, p=.029). This interaction is illustrated in Fig. 2. Consistent with our expectations, there was a significant, positive cross-level main effect of dispositional creativity on social closeness ( $\gamma = 0.07$ , SE = 0.03, p=.013), indicating a substitution effect such that individuals high (vs. low) in dispositional creativity had a stable tendency to feel socially

close to their co-workers.

Hypothesis 4 predicted that social closeness would a) be negatively related to instigated rudeness and b) mediate the relationship between creative mindset and instigated rudeness. As shown in Table 2, social closeness was negatively related to instigated rudeness ( $\gamma=-0.06$ , SE=0.03, p=.032), providing support for Hypothesis 4a. The indirect effect of creative mindset on instigated rudeness mediated by social closeness was also significant (95% CI [-0.02, -0.001]). Thus, Hypotheses 4b was supported. We also estimated this indirect effect at high (+1SD) and low (-1SD) levels of dispositional creativity. Consistent with our expectations, at low (-1SD) levels of dispositional creativity this relationship was negative and significant (95% CI [-0.03, -0.002]) while at high (+1SD) levels of dispositional creativity it was non-significant (95% CI [-0.01, -0.01]).

Hypothesis 5 predicted that social closeness would a) be negatively related to perceived rudeness and b) mediate the negative relationship between creative mindset and perceived rudeness. As shown in Table 2, the relationship between social closeness and perceived rudeness was negative and significant ( $\gamma = -0.11$ , SE = 0.04, p = .004), providing support for Hypothesis 5a. The indirect effect of creative mindset on perceived rudeness mediated by social closeness was negative and significant (95% CI [-0.03, -0.002]), providing support for Hypothesis 5b. We also estimated this indirect effect at high (+1SD) and low (-1SD) levels of dispositional creativity. Consistent with our expectations, at low (-1SD) levels of dispositional creativity this relationship was negative and significant (95% CI [-0.05, -0.01]), while at high (+1SD) levels of dispositional creativity it was non-significant (95% CI [-0.01, 0.01]).

To ease the interpretation of the practical meaningfulness of our model, we used the procedure described by Snijders and Bosker (1999) for calculating  $Pseudo-R^2$ in multilevel models. These results indicated that our model explained 3% of the variance in social closeness, 14% of the variance in instigated rudeness, and 20% of the variance in perceived rudeness, which is consistent with the amount of variance explained in other studies using field-experimental ESM designs similar to ours (Foulk et al., 2018; Lanaj et al., 2019).

## 4.6. Discussion

In a field-experimental context, Study 1 provides support for our theoretical model which proposed that creative mindsets will facilitate a sense of social closeness that reduces instigated and perceived rudeness on a daily basis at work, as well as evidence for the moderating role of dispositional creativity (Gino & Ariely, 2012). While Study 1 provides support for our overall model, it was not able to test our hypothesis that the perceived value of co-workers' contributions to the creative process mediates the effect of creative mindsets on social closeness. Additionally, scholars have recently argued that the most robust test of a relationship that is not specific to the within- or between-person levels is to test it at both (Gabriel et al., 2019). Therefore, to provide additional robustness to the conclusions drawn from Study 1, in Study 2 we conducted a between-person test of the relationship between creative mindset and social closeness. Furthermore, we explored whether the perceived value of others' contributions mediated this relationship, as well as the moderating effect of psychological safety on this indirect effect.

## 5. Study 2

## 5.1. Participants

We invited 401 full-time working adults from Amazon's Mechanical Turk to participate in this study and offered \$2.00 as compensation for

 $<sup>^2</sup>$  While these theoretically motivated control variables help rule out alternative explanations for our findings, as a robustness test, we also estimated our model without these control variables, and the interpretation of all focal relationships remained the same.

<sup>&</sup>lt;sup>3</sup> It is important to note that this relationship was significant even after controlling for positive and negative affect as well as feelings of psychological entitlement, which have been shown to be affected by one's creative mindset, in turn affecting other negative behaviors (Ng & Yam, 2019; Vincent & Kouchaki, 2016).

**Table 1**Study 1 correlations and descriptive statistics.

	M	Within SD	Between SD	1	2	3	4	5	6	7	8	9
1. Creative Mindset	0.48	0.50	0.15		0.26**	-0.17	-0.24**	0.22*	-0.07	0.03	0.41**	0.15
2. Social Closeness	5.20	1.42	1.34	0.06		-0.47**	-0.40**	0.62**	-0.42**	-0.01	0.20*	0.17
4. Instigated Rudeness	1.55	0.82	0.63	-0.06	-0.33**	(0.94)	0.76**	-0.29**	0.63**	0.19*	-0.09	-0.28**
3. Perceived Rudeness	1.68	0.93	0.76	-0.02	-0.25**	0.63**	(0.95)	-0.36**	0.54**	0.13	-0.17	-0.27**
5. Positive Affect	3.86	0.99	0.79	0.01	0.46**	-0.19**	-0.20**	(0.96)	-0.36**	0.13	0.16	0.19*
6. Negative Affect	1.51	0.74	0.58	-0.02	-0.28**	0.42**	0.35**	-0.27**	(0.88)	0.17	-0.03	-0.25**
7. Entitlement	3.04	0.80	0.66	0.00	0.01	0.12**	0.07*	0.14**	0.08*	(0.65)	0.02	-0.02
8. Day of Week	2.91	1.40	0.38	0.04	0.06	-0.04	-0.01	0.07*	0.01	-0.03		0.14
9. Dispositional Creativity	5.20		3.85									

Notes: Variables 1 through 8 are within-individual (level 1) variables. Variable 9 is a between individual (level 2) variable. Within-individual correlations are shown below the diagonal and are based on within-individual scores (N = 908). Between-individual correlations are shown above the diagonal and are based on between-individual scores (N = 121). Alpha reliabilities are presented along the diagonal.

their participation<sup>4</sup>. We removed participants (N=31) who failed attention check items (e.g., "Please select strongly agree," Meade & Craig, 2012), resulting in a final sample size of 370. The majority of the sample (53.2%) was male. Participants' average age was 38.54 years old (SD=10.69), and participants had an average of 150.31 months of work experience (SD=120.75).

#### 5.2. Procedure

To test the moderating effect of psychological safety on the indirect effect of creative mindset on social closeness via perceived value of others' contributions, we conducted a study with a 2 (creative mindset vs. control) by 2 (high psychological safety vs. low psychological safety) factorial design. Participants were told to imagine that they worked at an organization called SolarPlan, a manufacturer of solar panels, and that they would be asked to work on a task with a group of co-workers. Participants were told that for this task, they would have a few minutes to work alone to prepare, and that they would then discuss the task with their teammates. The creative mindset manipulation was administered as part of the first task. In the creative mindset condition, participants were asked to brainstorm novel and creative uses for a solar panel. In the control condition, participants were asked to work on a series of numerical calculations for a report. The full text of this manipulation is provided in Appendix 2. After several minutes of working on this task alone, participants were asked to take a few minutes and imagine the upcoming meeting with their co-workers where they would present their results. They were specifically asked to think about what they might say, what their co-workers might say, and to really try to experience the meeting as though it was happening. Following this, participants completed several survey measures, reported demographic information, then were thanked and dismissed.

To manipulate psychological safety, we adapted the procedure developed by Deng et al. (2019). Specially, prior to imagining the meeting where they would share their output with their teammates, in the psychological safety condition, participants read the following instructions:

"In meetings like this, SolarPlan promotes a climate where employees openly share new ideas with others and not keep it to themselves. Employees are encouraged to appreciate each other's effort, and no negative comments are normally expressed when people share their thoughts. If you make a mistake in this organization, it is never held against you."

In the low psychological safety condition, participants read the following:

"In meetings like this, SolarPlan promotes a climate where employees do not openly share new ideas with others and tend to keep it to themselves. Employees are encouraged to monitor each other's effort, and negative comments are normally made when people share their thoughts. If you make a mistake in this organization, it is often held against you."

Participants were then asked to imagine the meeting where they shared their output with their teammates, then completed several survey measures, reported demographic information, and then were thanked and dismissed.

#### 5.3. Measures

**Creative Mindset.** We coded our creative mindset manipulation such that 1 was the creative mindset condition and 0 was the control condition.

**Psychological Safety.** We coded our psychological safety manipulation such that 1 was the high psychological safety condition and 0 was the low psychological safety condition.

**Perceived Value of Others' Contribution.** We measured perceived value of others' contribution using a scale developed by us for this purpose. In doing so, we were guided by prior work that conceptualizes creativity as an inherently social process (Hargadon & Bechky, 2006; Perry-Smith & Mannucci, 2015; Rouse, 2020). Participants responded to four items on a scale ranging from 1 = Strongly disagree to 5 = Strongly agree. A sample item was, "Right now, I realize how much this task involves collaboration and support from these co-workers" ( $\alpha = 96$ )<sup>5</sup>.

**Social Closeness.** Because the IOS scale used to measure social closeness in Study 1 captures the cognitive overlap between oneself and others (Aron & Aron, 1996), we felt it was most appropriate to use that scale to capture closeness in actual relationships, not hypothetical ones like those in this experimental study. Therefore, in this study, we used the scale developed by Carmeli et al. (2009a). Participants responded to six items on a scale ranging from 1 = Strongly disagree to 5 = Strongly agree, and a sample item was "I feel close to my teammates" (Carmeli et al., 2009a;  $\alpha = 0.96$ .

**Controls.** Similar to Study 1, we controlled for PA (MacKinnon et al., 1999;  $\alpha=0.89$ ), NA (MacKinnon et al., 1999;  $\alpha=0.92$ ), and psychological entitlement (Campbell et al., 2004;  $\alpha=0.68$ ), using the same scales as in that study.

<sup>&</sup>lt;sup>4</sup> Our aim was to have about 100 respondents (and a minimum of 50 participants; see Simmons, Nelson, & Simonsohn, 2013) in each experimental condition, subject to availability of participants in the lab (given the COVID19 pandemic). We also confirmed this with a power analysis assuming a low-to-moderate effect size for our focal relationships (Faul et al., 2009; see also Yu & Duffy, 2020) and this indicated a sample size of around 160 respondents.

<sup>&</sup>lt;sup>5</sup> The other three items were "Right now, I appreciate how these coworkers are important participants in my task", "Right now, I realize how interactions with these coworkers is an important input for my task", and "Right now, I appreciate that my task is not a lone effort but one that involves collaboration with these coworkers".

**Table 2**Study 1 unstandardized results of multilevel path model.

	Social C	Social Closeness				Instigated Rudeness		Rudeness	
	В	SE	В	SE	В	SE			
Intercept	5.16**	0.12	1.88**	0.16	2.29**	0.23			
Level 1 Predictors									
Creative Mindset	0.10*	0.04	-0.01	0.04	-0.08	0.04			
Social Closeness			-0.06*	0.03	-0.11**	0.04			
PA	0.27**	0.05	-0.01	0.04	-0.05	0.04			
NA	0.02	0.05	0.05	0.05	0.12*	0.05			
Psychological Entitlement	0.03	0.06	0.01	0.05	0.02	0.05			
Day of Week	0.03	0.02	0.00	0.02	-0.01	0.02			
Level 2 Predictors									
Dispositional Creativity	0.07*	0.03							
Moderators									
Creative Mindset X Dispositional Creativity	-0.03*	0.01							
Pseudo-R <sup>2</sup>	3%		14%		20%				

Notes: N (Level 1) = 908; N (Level 2) = 121. Unstandardized coefficients are reported. Level 1 predictors were group mean centered. Level 2 predictors were grand mean centered. \* p < .05; \*\* p < .01.

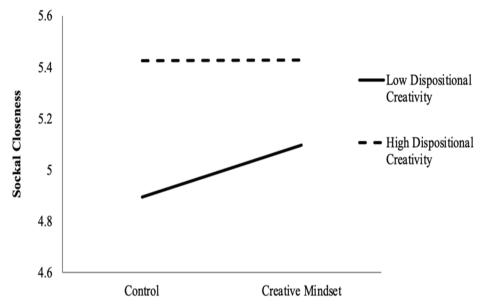


Fig. 2. Study 1 Moderating Effect of Dispositional Creativity on the Relationship Between Creative Mindset and Social Closeness.

#### 5.4. Results

Prior to testing our model, we conducted several manipulation checks to evaluate the efficacy of our manipulations. For our creative mindset manipulation check, participants were asked to respond to the item, "Right now, I am in a creative mindset" on a scale ranging from 1 = Strongly Disagree to 5 = Strongly Agree. Results indicated that participants reported being in a more creative mindset in the manipulated creative mindset condition compared to the control condition (M<sub>creativity</sub> = 3.96,  $SD_{creativity} = 0.98$ ;  $M_{control} = 3.12$ ,  $SD_{control} = 1.31$ ;  $F_{(1, 368)} = 1.31$ 49.33, p < .01), providing evidence that our manipulation was effective. Next, to test the effectiveness of our psychological safety condition, we adapted seven questions from the scale developed by Edmondson (1999). Participants responded on a scale ranging from 1 = Stronglydisagree to 5 = Strongly agree, and a sample item included "It is safe to take a risk at SolarPlan" ( $\alpha = 0.68$ ). Participants indicated that they felt there was significantly more psychological safety in the manipulated  $psychological\ safety\ condition\ (M_{highpsychsafety}=4.55,\ SD_{highpsychsafety}=$ 

0.53;  $M_{lowpsychsafety} = 1.74$ ,  $SD_{lowpsychsafety} = 0.72$ ;  $F_{(1, 368)} = 1832.32$ , p <.01), providing evidence that our manipulation was effective. There was no interaction between the two manipulated conditions in predicting the creative mindset manipulation check ( $F_{(1, 366)} = 0.838$ , p =.361) or the psychological safety manipulation check ( $F_{(1,366)} = 0.130$ , p =.718).

Descriptive statistics and correlations are reported in Table 3. We estimated a simultaneous moderated mediation model in MPlus 8.0 (Muthén & Muthén, 2018), and the results of this model are reported in Table 4. We conducted a series of CFAs to verify the distinctiveness of the constructs in our model, and the results of these analyses are presented in Appendix 4. Prior to running our analyses, we centered the variables in our hypothesized interaction (psychological safety, perceived value of others contribution). To test indirect effects, we used a bootstrap procedure with 5000 iterations to construct 95% confidence intervals for each indirect effect.

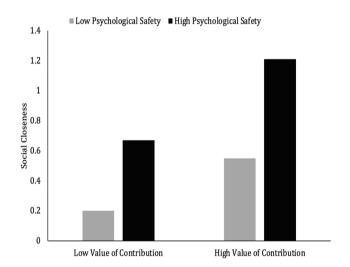
As shown in Table 4, there was a significant effect of creative mindset on perceived value of others' contribution (B = 0.20, SE = 0.09, p

**Table 3**Study 2 correlations and descriptive statistics.

	М	SD	1	2	3	4	5	6	6
1. Creative Mindset	0.50	0.50							
2. Psychological Safety	0.50	0.50	0.05						
3. Value of Contribution	3.78	1.24	0.10*	0.62**	(0.96)				
4. Social Closeness	3.14	1.36	0.09	0.76**	0.80**	(0.96)			
5. Positive Affect	3.06	1.07	0.02	0.33**	0.48**	0.52**	(0.89)		
6. Negative Affect	1.33	0.63	0.05	-0.26**	-0.31**	-0.29**	-0.23**	(0.92)	
7. Entitlement	2.29	0.93	-0.02	-0.03	-0.05	-0.03	0.12*	0.03	(0.68)
N = 370. * p < .05, ** p < .01.	. Alpha coefficie	ents are present	ed along the diag	onal.					

**Table 4**Study 2 unstandardized results of path model.

	Value of C	ontribution	Social Clos	seness
	В	SE	В	SE
Intercept	-0.67**	0.21	2.50**	0.16
Creative Mindset	0.20*	0.09	0.04	0.07
Psychological Safety	1.20**	0.10	1.05**	0.10
Value of Contribution			0.57**	0.05
Value of Contribution *	Psych Safety		0.20*	0.09
Positive Affect	0.35**	0.05	0.18**	0.04
Negative Affect	-0.23**	0.08	-0.02	06
Entitlement	-0.09	0.05	0.00	0.04
N = 370. * p < .05, ** p	<.01.			



**Fig. 3.** Study 2 Moderating Effect of Psychological Safety on the Relationship Between Value of Contribution and Social Closeness.

=.033), and perceived value of others' contribution had a significant effect on social closeness (B=0.57, SE=0.05, p<.01)<sup>6</sup>. Additionally, there was a significant moderating effect of psychological safety on the relationship between perceived value of others' contribution and social closeness (B=0.20, SE=0.09, p=.035), and this interaction is presented in Fig. 3. We estimated simple slopes for the effect of perceived value of others' contribution at high and low levels of psychological safety, and as expected this effect was stronger at high psychological safety (B=0.67, SE=0.09, p<.01) than at low psychological safety (B=0.47, SE=0.04, p<.01). Furthermore, the effect of perceived value of

others' contribution was significantly stronger in the high than in the low psychological safety condition ( $\Delta B=0.20$ , SE=0.09, p=.035), supporting Hypothesis 5a. Next, we tested the indirect effect of creative mindset on social closeness via perceived value of others' contribution at high and low levels of psychological safety. In the high psychological safety condition (95% CI [0.01, 0.26]), this effect was stronger than in the low psychological safety condition (95% CI [0.01, 0.18]), and there was a significant difference between these two indirect effects (95% CI [0.002, 0.11]), providing support for Hypothesis 3b. Furthermore, our model accounted for 49.6% of the variance in perceived value of others' contribution, and 77.9% of the variance in social closeness. In Study 3, we extend the results of Study 2 by exploring the serial indirect effect of creative mindset on instigated and perceived rudeness, via perceived value of others' contributions and social closeness.

#### 6. Study 3

#### 6.1. Participants

We invited 301 full-time working adults from Amazon's Mechanical Turk to participate in this study and offered \$2.00 as compensation. Given the serial mediation model we wanted to test in this study, our power analyses suggested a sample size of around 300 participants (Schoemann, Boulton, & Short, 2017). Similar to Study 2, we removed 25 participants who failed attention checks (Meade & Craig, 2012), as well as one participant that self-disclosed that their data was of poor quality, resulting in a final sample size of 275. The majority of the sample (51.5%) was female. Participants' average age was 40.42 years old (SD = 12.00), and their average work experience was 142.39 months (SD = 129.53).

## 6.2. Procedure

Similar to Study 2, participants were told to imagine that they worked at an organization called SolarPlan, and that they would be asked to work on a task on their own and imagine a meeting where they shared their output with their teammates. Also similar to Study 2 (please see Appendix 2), in the creative mindset condition, participants were asked to think of novel and creative uses for a solar panel, and in the control condition participants were asked to work on a series of numerical calculations for a report. After working on these tasks individually, participants were then asked to imagine a meeting where they presented their work to their teammates. Following this, they completed several survey measures, as well as behavioral measures of instigated and perceived rudeness, and then were thanked and dismissed.

## 6.3. Measures

**Creative Mindset.** We coded our creative mindset manipulation such that 1 was the creative mindset condition and 0 was the control condition

Perceived Value of Others' Contribution. We measured perceived value of others' contribution using the same scale as in Study 2 ( $\alpha = 0.94$ ).

 $<sup>^6</sup>$  In a supplemental study reported in Appendix 3, we replicated the effect of creative mindset on perceived value of others' contribution (B=0.25, SE=0.11, p=.021), and that of perceived value of others' contribution on social closeness (B=0.41, SE=0.07, p<.01). Furthermore, in this study, we found a significant indirect effect of creative mindset on social closeness via perceived value of others' contribution (95% CI [0.02, 0.21]), supporting Hypothesis 1b.

Social closeness. We measured social closeness using the same scale as in Study 2 ( $\alpha=0.92$ ).

Instigated Rudeness. To measure instigated rudeness, participants were asked to write an email to one of their co-workers. Specifically, they were told that their team was responsible for sending a report to upper management, and that each team member had agreed to send their input to the participant so that it could be aggregated and summarized. However, one team member had not yet sent their part of the report, and the report was due at the end of the day. Therefore, the participant needed to email this co-worker to inquire about the missing information. In the instructions for this email, participants were given a word bank that included 5 words previous research has indicated are associated with expressions of rudeness (e. g., annoying, impolite, infringe, rude, aggravate; Bargh et al., 1996), as well as 5 neutral words (important, complete, project, send, collate). Participants were asked to use as many of the words as possible, ideally using at least 5, and we operationalized instigated rudeness as the number of rude words the participants used in their email.

**Perceived Rudeness.** To measure perceived rudeness, we adapted the procedure developed by Sliter, Withrow, and Jex (2015), where participants are shown a series of workplace scenarios and asked to indicate how rude they perceived them to be. They were presented with five scenarios (e.g., "You are working in your office and two of your team members meet each other in the hallway and begin talking and laughing. They continue to talk and laugh for about twenty minutes right outside your door"). After each scenario, participants responded to three items developed by Foulk et al. (2016) for measuring perceived rudeness (1 = Strongly disagree to 5 = Strongly agree). Items included "This behavior is rude", "This behavior is uncivil", and "This behavior is disrespectful." Across the 5 scenarios, the alpha coefficients for the three-item scale ranged from 0.86 to 0.93, and the average alpha was 0.90. The perceived rudeness ratings for each scenario were aggregated to form a single overall measure of perceived rudeness.

**Controls.** Similar to Studies 1 and 2, we controlled for PA (MacKinnon et al., 1999;  $\alpha=0.89$ ), NA (MacKinnon et al., 1999;  $\alpha=0.92$ ), and psychological entitlement (Campbell et al., 2004;  $\alpha=0.75$ ), using the same scales as in these studies.

#### 6.4. Results

Prior to testing our hypotheses, we conducted a manipulation check using the same manipulation check procedure as in Study 2. Results indicated that participants reported being in a more creative mindset in the creative mindset condition compared to the control condition (Mcreativity = 3.86, SDcreativity = 0.98; Mcontrol = 3.22, SDcontrol = 1.20; F(1, 299) = 25.69, p < .01), providing evidence that our manipulation was effective.

Descriptive statistics and correlations among all study variables are reported in Table 5. We conducted a series of CFAs to verify the distinctiveness of the constructs in our model, and the results of these analyses are presented in Appendix 4. To test the mediating effects of perceived value of others' contributions and social closeness on the indirect effects of creative mindset on instigated and perceived rudeness,

we estimated a simultaneous serial mediation model in MPlus 8.0 (Muthén & Muthén, 2018), and the results of this model are presented in Table 6. To test mediation effects, we used a bootstrap procedure with 5000 iterations to calculate 95% confidence intervals for each indirect effect.

As shown in Table 6, similar to Study 2, creative mindset had a significant effect on perceived value of others' contribution (B = 0.37, SE = 0.109, p = .001), and this in turn had a significant effect on social closeness (B = 0.52, SE = 0.038, p < .01). Furthermore, there was a significant indirect effect of creative mindset on social closeness, via perceived value of others' contribution (95% CI [0.08, 0.32]), providing support for Hypothesis 1b. As also reported in Table 6, while there was no significant effect of social closeness on instigated rudeness (B = 0.03, SE = 0.02, p = .092), there was a significant negative effect of social closeness on perceived rudeness (B = -0.15, SE = 0.07, p = .027), supporting Hypothesis 5b. Furthermore, while the indirect effect of creative mindset on instigated rudeness via perceived value of others' contribution and social closeness was non-significant as the confidence interval contained zero (95% CI [-0.001, 0.02]), the indirect effect of creative mindset on perceived rudeness via perceived value of others' contribution and social closeness was negative and significant (95% CI [-0.08, -0.01]). Furthermore, our model explained 19.4% of the variance in perceived value of others' contribution, 61.0% of the variance in social closeness, 4.3% of the variance in instigated rudeness, and 3.4% of the variance in perceived rudeness.

#### 6.5. Discussion

Study 3 replicated the indirect effect of creative mindset on social closeness via perceived value of co-workers' contributions to the creative process. Additionally, while we did not find support for the indirect effect of creative mindset on instigated rudeness (which we discuss further in the General Discussion), we were able to replicate the indirect effect of creative mindset on perceived rudeness. Replicating the effect on perceived rudeness is important, as it provides a test for one of the assumptions of our theorizing. Specifically, we argued that social closeness should cause employees to perceive ambiguous situations as less rude, as it should cause them to give their co-workers the benefit of the doubt. In Study 3, we find evidence that social closeness reduces how rude individuals find ambiguous scenarios, supporting this theoretical assumption. In Study 4, we build on the results of Study 3 to also include the moderating effect of psychological safety in the serial indirect effect of creative mindset on instigated and perceived rudeness, via perceived value of others' contributions and social closeness.

## 7. Study 4

## 7.1. Participants

We recruited 798 full-time working employees with at least 6 months of work experience from Prolific Academic to participate in this study, and participants were offered \$2.70 as compensation for their participation. Given that we were testing our full model involving serial mediation and moderation hypotheses, we aimed to have around 150–200 respondents in each of our conditions in order to be able to detect low to moderate sized effects. Following recent recommendations for identifying careless responders (Meade & Craig, 2012), we included several attention check items (e.g., "Please Select Strongly Agree"), and removed participants (N = 107) who failed these checks. Additionally, we removed participants who self-disclosed that they had reported poor quality data (N = 5), resulting in a final sample size of 686 participants. The majority of the sample (55.2%) was female, and participants had an average age of 36.81 years (SD = 10.14), as well as an average of 134.53 (SD = 116.77) months of work experience.

<sup>&</sup>lt;sup>7</sup> The other four scenarios were, "You have been sick and missed a week of work. Today is the first day you are back at work and you realize that you aren't up to date on some tasks so you ask a team member for help in catching up. Your team member says they are too busy, yet their work calendar is relatively blank."; "You join a virtual chat session to start work on the team's task and realize that the other 3 members have already started discussing their ideas without you."; "As you start sharing your ideas about an area where you are an expert in the team, the other team members say that your ideas may not be novel and that they have some more novel ideas."; "You have been trying to share some ideas that you have but the other team members do not seem to notice and continue talking about their own ideas.".

**Table 5**Study 3 correlations and descriptive statistics.

	M	SD	1	2	3	4	5	6	7	8
1. Creative Mindset	0.51	0.50								
2. Value of Contribution	4.10	1.01	0.19**	(0.94)						
3. Social Closeness	3.46	0.91	0.07	0.71**	(0.92)					
4. Instigated Rudeness	1.35	1.32	0.08	0.15*	0.15*					
5. Perceived Rudeness	3.57	0.67	0.03	0.06	-0.08	0.12	(0.90)			
6. Positive Affect	3.12	1.01	-0.01	0.37**	0.55**	0.09	-0.07	(0.89)		
7. Negative Affect	1.26	0.59	0.03	-0.04	-0.13*	-0.07	0.06	-0.10	(0.92)	
8. Entitlement	2.23	0.99	-0.03	-0.16**	-0.17**	-0.04	0.02	0.02	0.09	(0.75)
N = 275. * p < .05, ** p < .01	.Alpha coeffic	ients are pres	ented along the c	liagonal.						

**Table 6**Study 3 unstandardized results of path model.

	Value of Contribution		Social Close	Social Closeness I		Instigated Rudeness		tudeness
	B	SE	В	SE	В	SE	В	SE
Intercept	3.10**	0.26	0.71**	0.20	0.08	0.06	3.48**	0.23
Creative Mindset	0.37**	0.11	-0.06	0.07	0.03	0.02	0.01	0.08
Value of Contribution			0.52**	0.04	0.00	0.01	0.15**	0.06
Social Closeness					0.03	0.02	-0.15*	0.07
Positive Affect	0.37**	0.05	0.30**	0.04	0.01	0.01	-0.02	0.05
Negative Affect	0.01	0.09	-0.10	0.06	-0.01	0.02	0.04	0.07
Entitlement	-0.16**	0.06	-0.07	0.04	0.00	0.01	0.01	0.04
N = 275. * p < .05, ** p <	.01.							

#### 7.2. Procedure

Participants were told to imagine that they worked at an organization called SolarPlan, a manufacturer of solar panels, and that they would be asked to work on an HR project with the HR team, of which they were a member. They were further told that they would have a few minutes to work on this project on their own, after which time they would meet virtually with the rest of the HR team to discuss the project. It was explained to participants that SolarPlan was interested in adopting new HR practices, and that the HR team was being asked to help with this project. Participants were told that the HR director would provide them with some information about existing best practices, and that they would use this information to identify new HR initiatives for SolarPlan to implement. In the creative mindset condition, participants were told that they should use this information as examples to come up with new and creative HR initiatives. In the control condition, participants were told to provide a detailed and thorough summary of this information and use that to identify HR initiatives that SolarPlan could adopt. A detailed description of the manipulation is provided in Appendix 5.

To enhance the psychological realism of this scenario, participants were shown (stock) pictures of the rest of their purported HR team and a picture of the office where they worked at SolarPlan. Furthermore, the message from the HR director was presented as a video recording. After having a few minutes to read the information provided and work on their task individually, participants were asked to imagine their team meeting with their HR teammates. Following this, participants responded to a creative mindset manipulation check, as well as a measure of the perceived value of others' contributions to their task.

Next, participants were told that they would be given more information about SolarPlan, and this information served as our manipulation of psychological safety. Similar to Study 2, we adapted the procedure developed by Deng et al. (2019), and a detailed description of the psychological safety and control conditions are provided in Appendix 5. Participants were then asked to think again about their meeting with their teammates and imagine what their teammates would say and how they would act in the meeting. Participants then completed a manipulation check for psychological safety, and measures of social closeness, perceived rudeness and instigated rudeness. Participants also completed measures of positive and negative affect, psychological

entitlement, as well as reported their demographic information. Finally, participants were debriefed, thanked, and dismissed.

#### 7.3. Measures

**Creative Mindset.** We coded our creative mindset manipulation such that 1 was the creative mindset condition and 0 was the control condition.

**Psychological Safety.** We coded our psychological safety manipulation such that 1 was the high psychological safety condition and 0 was the low psychological safety condition.

**Perceived Value of Others' Contribution.** We measured perceived value of others' contribution using the same scales as in Studies 2 and 3 ( $\alpha = 0.87$ ).

**Social Closeness.** We measured social closeness using the same scales as in Studies 2 and 3 ( $\alpha = 0.96$ ).

Instigated Rudeness. We measured instigated rudeness by adapting 3 items that have previously been used to measure rudeness (e.g., Colquitt, 2001; Foulk et al., 2016). Specifically, participants responded to 3 items on a scale ranging from 1=Strongly disagree to 5=Strongly agree. Items included "I think it is important to treat [my teammates] with respect" (reverse coded), "I would want to make sure I am not treating [my teammates] rudely" (reverse coded), and "I would want to make sure I am not treating [my teammates] with disrespect" (reverse coded) ( $\alpha$ Perceived Rudeness. We measured perceived rudeness using the same procedure as Study 3. The alphas for each scenario ranged from 0.84 to 0.93 (average  $\alpha=0.89$ ).

**Controls.** Similar to Studies 1, 2 and 3, we controlled for PA (MacKinnon et al., 1999;  $\alpha=0.85$ ), NA(MacKinnon et al., 1999;  $\alpha=0.89$ ), and psychological entitlement (Campbell et al., 2004;  $\alpha=0.61$ ), using the same scales reported in those studies.

## 7.4. Results

Prior to testing our model, we conducted several manipulation checks to evaluate the efficacy of our manipulations. First, using the same procedures as in Studies 2 and 3, we tested the efficacy of our manipulation of creative mindset. Results indicated that participants reported being in a more creative mindset in the creative mindset condition compared to the control condition ( $M_{creativity} = 3.81$ ,  $SD_{creativity} = 3.81$ 

Table 7
Study 4 correlations and descriptive statistics.

	М	SD	1	2	3	4	5	6	7	8	9
1. Creative Mindset	0.56	0.50									
2. Psych Safety	0.49	0.50	0.05								
3. Value of Contribution	4.41	0.64	0.08*	0.08*	(0.87)						
4. Social Closeness	3.03	1.20	0.11**	0.78**	0.15**	(0.96)					
5. Instigated Rudeness	1.83	0.83	-0.05	-0.22**	-0.25**	-0.30**	(0.90)				
6. Perceived Rudeness	3.58	0.67	0.04	-0.30**	0.13**	-0.34**	0.16**	(0.89)			
7. Positive Affect	2.68	0.89	0.01	0.06	0.19**	0.22**	-0.21**	-0.04	(0.85)		
8. Negative Affect	1.50	0.73	0.00	-0.04	-0.08*	-0.09*	0.14**	0.14**	-0.14**	(0.89)	
9. Entitlement	2.44	0.81	0.01	-0.11**	-0.04	-0.05	0.22**	0.19**	0.14**	0.16**	(0.61)
N = 686. * p < .05, ** p < .05	1. Alpha co	efficients are	e presented alo	ng the diagona	1.						

**Table 8**Study 4 unstandardized results of path model.

	Value of Contribution		Social Closeness		Instigated Rudeness		Perceived Rudeness	
	В	SE	В	SE	В	SE	В	SE
Intercept	-0.25*	0.11	2.37**	0.13	2.07**	0.17	3.66**	0.13
Creative Mindset	0.10*	0.05	0.16**	0.05	-0.02	0.06	0.08	0.05
Psych Safety			1.85**	0.05	0.03	0.09	-0.05	0.08
Value of Contribution			0.13**	0.04	-0.23**	0.05	0.21**	0.04
Social Closeness					-0.16**	0.04	-0.18**	0.03
Value of Contribution * Psych Safety			0.39**	0.09				
Positive Affect	0.14**	0.03	0.21**	0.03	-0.14**	0.03	-0.01	0.03
Negative Affect	-0.04	0.03	-0.05	0.04	0.06	0.04	0.09**	0.03
Entitlement	-0.05	0.03	0.04	0.03	0.23**	0.04	0.14**	0.03
N = 686. * p < .05, ** p < .01.								

0.91;  $M_{control} = 3.55$ ,  $SD_{control} = 1.01$ ;  $F_{(1, 684)} = 12.42$ , p < .01). Next, we tested the efficacy of our manipulation of psychological safety using the same manipulation check scale as reported in Study 2 (Edmondson, 1999,  $\alpha = 0.97$ ). Results indicated that participants in the high psychological safety condition reported experiencing significantly more psychological safety than participants in the low psychological safety condition ( $M_{highpsychsafety} = 4.48$ ,  $SD_{highpsychsafety} = 0.49$ ;  $M_{lowpsychsafety} = 1.88$ ,  $SD_{lowpsychsafety} = 0.65$ ;  $F_{(1, 684)} = 3457.96$ , p < .01). There was no significant interaction of the two manipulated conditions in predicting

the creative mindset manipulation check ( $F_{(1, 682)} = 0.143$ , p = .71), nor in predicting the psychological safety manipulation check ( $F_{(1, 682)} = 0.787$ , p = .38).

Descriptive statistics and correlations are reported in Table 7. We estimated a simultaneous moderated mediation model in MPlus 8.0 (Muthén & Muthén, 2018), and the results of this model are reported in Table 8. We conducted a series of CFAs to verify the distinctiveness of the constructs in our model, and the results of these analyses are presented in Appendix 4. Prior to running our analyses, we centered the

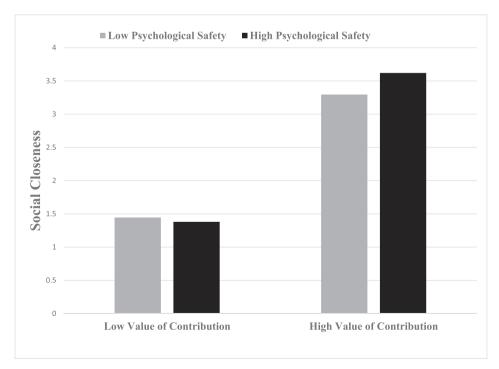


Fig. 4. Study 4 Moderating Effect of Psychological Safety on the Relationship Between Value of Contribution and Social Closeness.

variables in our hypothesized interaction (psychological safety, perceived value of others contribution). Similar to Studies 2 and 3, we used a bootstrap procedure with 5000 iterations to construct 95% confidence intervals for each indirect effect.

As shown in Table 8, there was a significant effect of creative mindset on perceived value of others' contribution (B = 0.10, SE = 0.05, p=.039). Furthermore, perceived value of others' contribution had a significant effect on social closeness (B = 0.13, SE = 0.04, p = .004). Additionally, psychological safety interacted with perceived value of others' contribution in predicting social closeness (B = 0.39, SE = 0.09, p < .01), supporting Hypothesis 3a. This interaction is plotted in Fig. 4. To ease the interpretation of this interaction, we plotted simple slopes at high and low levels of psychological safety. As expected, in the high psychological safety condition, the effect of perceived value of others' contribution on social closeness was positive and significant (B = 0.32, SE = 0.07, p < .01), but in the low psychological safety condition this effect was non-significant (B = -0.07, SE = 0.06, p = .221) Next, we tested the indirect effect of creative mindset on social closeness via perceived value of others' contribution at high and low psychological safety. As expected, this indirect effect was positive and significant (95% CI [0.002, 0.07]) at high levels, but not at low levels of psychological safety (95% CI [-0.03, 0.002]). Together, these results support Hy-

As reported in Table 8, there was a significant negative effect of social closeness on both instigated rudeness (B = -0.16, SE = 0.04, p<.01) and perceived rudeness (B = -0.18, SE = 0.03, p < .01), supporting Hypotheses 4a and 5a. Next, we examined the serial indirect effect of creative mindset on instigated and perceived rudeness, via perceived value of others contribution and social closeness at different levels of psychological safety. For instigated rudeness, at high levels of psychological safety, this serial indirect effect did not include zero (95% CI [-0.02, -0.001]), while at low levels of psychological safety, it did include zero (95% CI [0.000, 0.005]). Similarly, for perceived rudeness, at high levels of psychological safety this serial indirect did not include zero (95% CI [-0.02, -0.001]), while at low levels of psychological safety it did include zero (95% CI [0.000, 0.006]). Furthermore, our model explained 4.9% of the variance in perceived value of others' contribution, 66.4% of the variance in social closeness, 19.7% of the variance in instigated incivility, and 19.9% of the variance in perceived incivility.

## 8. General discussion

The results of our studies help provide nuance and balance to the literature on the implications of thinking creatively (e.g., Gino & Ariely, 2012; Mai et al., 2015; Ng & Yam, 2019; Vincent & Kouchaki, 2016) by demonstrating that creativity does not exclusively increase negative employee behaviors but can also reduce them. Integrating insights from co-creation theory (Rouse, 2020) with SET (Aron et al., 1991; Aron & Aron, 1996), our dynamic model demonstrates that being in a creative mindset can draw employees' attention to the critical role that their coworkers play in the creative process such that it facilitates social closeness with these co-workers. This creativity-induced social closeness, in turn, reduces employees' tendency to both instigate rudeness towards and perceive rudeness from their co-workers. Importantly, our work also recognizes that these effects are not equal across employees and situations and identifies both when and for whom these effects are likely to be strongest. Specifically, we demonstrate that the effects of creative mindsets on social closeness will be strongest in contexts characterized by high (vs. low) psychological safety and weaker for employees high (vs. low) in dispositional creativity. Our work has several theoretical and practical implications.

#### 8.1. Theoretical implications

While prior work has demonstrated that creativity can inspire negative employee behaviors, we argue that this work may have overemphasized the negative implications of creativity in a way that obscures a more holistic understanding of the full range of its behavioral outcomes. Guided by the increasing recognition that workplace creativity is inherently a social process (e.g., Hargadon & Bechky, 2006; Harrison & Rouse, 2015; Perry-Smith & Shalley, 2003; Rouse, 2020), our paper sheds light on how this social nature of the creative process can reduce negative interpersonal behaviors. Thus, while it is possible that certain aspects of creative thinking, such as cognitive flexibility, may enable employees to justify unethical behavior, other aspects such as the social nature of the creative process may reduce negative behaviors, especially those directed towards co-workers. Without also accounting for the social nature of the creative process, studies focusing on the negative effects of being creative may only provide a partial picture.

In this regard, our paper elucidates the mechanism—social closeness with co-workers—through which being in a creative mindset reduces negative interpersonal behaviors such as rudeness. In fact, social closeness was significantly related to our outcomes even after controlling for other explanations such as positive affect or psychological entitlement that have been shown to result from being in a creative mindset and in turn, affect employees' negative behaviors. This suggests that interpersonal implications of being in a creative mindset should be incorporated in studies examining the outcomes of creativity, and that without this, our understanding of the effects of creativity would be incomplete. Demonstrating that creativity can facilitate closeness and positive social relationships with co-workers also has important theoretical implications in that it demonstrates the bidirectional nature of this relationship. Given the social nature of creativity, where employees need to share ideas, solicit feedback, and integrate different perspectives, the research on organizational creativity has recognized the importance of high-quality social relationships for the creative process (Rouse, 2020). While this relationship has typically been conceptualized as unidirectional (i.e., high-quality social relationships facilitate the creative process), scholars have recently wondered whether this relationship could be bidirectional (Perry-Smith & Shalley, 2003), and our work offers important support for this point of view. In this way, our work further emphasizes the intricate nature of the relationship between creativity and social relationships and highlights the importance of considering creativity as a process that is embedded within the social system at work.

Related to the above, our work further elucidates the relationship between thinking creatively and social closeness by demonstrating why this relationship exists, as well as when and for whom it is likely to be strongest. Specifically, we theorize and find that thinking creatively facilitates a sense of social closeness by making co-workers' contributions to the creative process salient even if those co-workers are not actively contributing to the creative process at that moment. Understanding the process by which thinking creatively facilitates a sense of social closeness provides theoretical rigor to our understanding of this relationship by demonstrating that this effect is distinct from the reasoning/justification mechanisms that prior research has identified to motivate negative behaviors (Ng & Yam, 2019; Vincent & Kouchaki, 2016). Additionally, while researchers have recognized that psychological safety is necessary for social relationships to facilitate the creative process (Hargadon & Bechky, 2006; Perry-Smith & Shalley, 2003; Rouse, 2020), we find that contexts associated with high (vs. low) psychological safety similarly strengthen the relationship between being in

creative mindsets and social closeness. This not only provides clarity as to the conditions under which this relationship is likely to be strongest, but further highlights the importance of recognizing the social context when considering the implications of creativity at work. Further, our findings indicate that dispositional creativity weakens the negative impact of creative mindsets on interpersonal behaviors via social closeness. It is interesting to note that a similar interaction pattern was found by Gino and Ariely (2012), albeit in terms of weakening the positive effects of manipulated creativity on self-serving unethical behavior.

Next, our work contributes to SET by sharpening the theoretical understanding of what causes employees to feel close to their co-workers by way of introducing a new type of predictor that alters the way we view how social closeness at work is established. Prior work that has focused on how close relationships are established has indicated that targets' behaviors or one's objective experiences with such targets influence the degree to which people feel close to those targets (Berscheid & Reis, 1998; Fraley & Aron, 2004). Our work extends this view by demonstrating that closeness can also be determined by employees' own internal psychological states. Thus, by providing evidence that the experience of social closeness can be affected by one's mindset, our work not only indicates that the social closeness may be more dynamic than previously realized, but also provides a new way to understand what causes employees to experience closeness with their co-workers that is not exclusively predicted by what these co-workers are doing.

Finally, our work demonstrates that creativity-induced social closeness can serve as a dynamic contextual predictor of both instigated and perceived rudeness at work. This is important as scholars have recently noted the need to better understand the antecedents of workplace rudeness (Schilpzand et al., 2016). Additionally, while voluminous research has demonstrated the destructive effects that encounters with rudeness can have on employees (Schilpzand et al., 2016), the majority of this research has treated rudeness as an objective experience. Our work builds on accumulating evidence that perceptions of rudeness can be shaped by dynamic situational factors (Foulk et al., 2018; Woolum et al., 2017), highlighting that the phenomenon of rudeness may be more in the eye of the beholder than scholars currently understand. In this way, our work has important implications for understanding workplace rudeness, as it suggests that employees' perceptions of rudeness may be influenced not only by the objective events in their environment but also by their internal psychological states.

## 8.2. Practical implications

From a practical point of view, our work suggests that one way to help employees build better relationships in the workplace would be to have them think creatively at work. In this way, our work points out a simple and easy tool that managers and organizations could use to help employees establish close relationships with their co-workers. This may be a particularly useful exercise for new employees, who may have difficulty establishing close connections with their co-workers in the early stages of their tenure. Our work suggests that having new employees work on creative tasks or think creatively may help smooth the process of becoming a close, connected part of the social group. This may also be useful for existing employees who may, for myriad reasons, be having difficulty establishing relationships with co-workers. It should be noted, however, that this tactic may not be without cost. Specifically, while our work demonstrates how thinking creatively can cause employees to feel close to co-workers, prior work demonstrates that it may also cause them to feel entitled and engage in unethical or self-serving behaviors (Gino & Ariely, 2012; Vincent & Kouchaki, 2016). Therefore, when using this tactic, managers should be watchful that by emphasizing employees' creative mindsets, they do not inadvertently

create situations where employees are more likely to engage in negative behaviors. Additionally, our work highlights that this process may be more effective when the environment is high (vs. low) in psychological safety, providing further guidance to managers who want to use creativity to help co-workers build social relationships.

#### 8.3. Limitations and future directions

Our paper has several strengths worth noting. We conducted four studies to test and replicate our focal relationship between creative mindset and social closeness, using different manipulations of creative mindset as well as using both between- and within-person study designs. Additionally, we tested our model in a unique within-person field experiment where we manipulated employees' creative mindset on a daily basis and separated the measurement of our mediator and dependent variables in time to provide enhanced confidence in the causal inferences of our model. Furthermore, our field-experimental ESM tested the implications of a creative mindset on social perceptions and behaviors in employees' natural working environments, where they were interacting with their real co-workers while doing their normal jobs. This is important, as scholars have recently argued that psychological states like creative mindsets may have different outcomes in natural field settings than in hypothetical lab settings, particularly when the outcome variables of interest are interpersonal (Tost, 2015; Tost et al., 2015). By controlling for potential alternative explanations (e.g., psychological entitlement, positive or negative affect arising from a creative mindset) and providing empirical evidence for the mediating process underlying the relationship between creative mindset and social closeness, our results also provide strong evidence for our proposed relationships. However, despite these strengths, there are several limitations of our studies which we discuss below.

In identifying social closeness as a mechanism by which being in a creative mindset can reduce negative interpersonal behaviors and perceptions at work, our work provides balance to a literature that has primarily focused on the negative behavioral implications of creativity (Anderson, Potočnik, & Zhou, 2014). While our work leverages insights recognizing the inherently social nature of creativity (Rouse, 2020) to identify this potential for reducing negative outcomes of thinking creatively, there may be other mechanisms that also allow this, and we encourage future research to consider these possibilities. Additionally, it is possible that the relationship between creativity and social closeness is curvilinear, such that creativity provides diminishing returns after certain levels. We encourage future research to consider this interesting possibility.

Relatedly, while our work highlights that creativity can decrease negative employee behaviors at work, our work is not equipped to speak to when creativity is likely to primarily increase vs. reduce such negative behaviors, and we encourage future research to consider this important question. Similarly, while we theorize and find that the relationship between creative mindsets and social closeness will be stronger in environments high (vs. low) in psychological safety, there are likely other contextual factors that facilitate or mitigate this relationship that future research should consider.

Our theorizing, based on SET (Aron et al., 1991; Aron & Aron, 1996), relies on the assumption that social closeness reduces instigated rudeness because employees will see any harm done to close co-workers as harm done to themselves, but we do not explicitly test this assumption. Indeed, while we found support for our theoretical expectation that social closeness would reduce instigated rudeness in a field setting (Study 1), we were not able to replicate this relationship in a lab setting (Study 3). Therefore, we encourage future research to explore the relationship between social closeness and instigated rudeness in more detail to provide further insights into this relationship. Finally, our work relies

on the assumption that creativity at work is inherently a social process, but it is possible that there is variance in this assumption across cultures. While we find support for our model in samples from various cultures (e. g., India, United States), we encourage future research to replicate our findings in other cultural settings.

#### CRediT authorship contribution statement

Trevor A. Foulk: Conceptualization, Methodology, Investigation. Vijaya Venkataramani: Conceptualization, Methodology, Investigation. Helene Cao: Conceptualization, Methodology, Investigation. Satish Krishnan: Validation, Investigation, Resources, Data curation, Visualization.

#### **Declaration of Competing Interest**

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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#### Appendix A. Supplementary material

Supplementary data to this article can be found online at https://doi.org/10.1016/j.obhdp.2022.104167.

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