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How self-construals relate to employee incremental and radical creativity: A behavioral strategy perspective

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ABSTRACT

We propose that employees with different types of self-construals use different behavioural strategies to deal with work-related problems, leading them to generate distinct forms of creative ideas for problem solutions. Specifically, we develop a conceptual model in which an other-reliant strategy of seeking creative help from in-group others mediates the relationship between an interdependent self-construal and incremental creativity, whereas a self-reliant strategy of independent creative process engagement mediates the relationship between an independent self-construal and radical creativity. In two studies, we consistently find that an interdependent self-construal drives employees to seek creative help from their group leader and group members when being faced with work-related problems. Help-seeking from the leader, rather than help-seeking from group members, in turn, leads employees to generate incremental ideas for problem solutions. In contrast, an independent self-construal drives employees to engage in creative processes in a self-reliant manner, leading them to generate radically creative ideas for problem solutions. The implications of these findings for theory and practice are discussed.

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Introduction

As work environments become increasingly complex and dynamic, it is quite common for employees to be confronted with work-related problems, irregularities, or discontinuities that cannot be solved with existing theories and practices (Amabile, 1983; Reiter-Palmon & Illies, 2004). As a result, employees must consider and apply creativity as a problem-focused strategy to adapt to the needs of emerging trends or new situations (e.g., Janssen et al., 2004). Employee creativity refers to the generation of ideas about products, services, processes, and procedures that are both novel and useful to the organization (Shalley et al., 2004). Given the importance of individual differences for creativity (e.g., Barron & Harrington, 1981), the role of self-construals in creativity has attracted increasing scholarly attention (e.g., Bechtoldt et al., 2012; Goncalo & Staw, 2006; Jin et al., 2016; Shao et al., 2018; Wang & Wang, 2016).

Although research on the relationship between self-construal and creativity is still in its nascent stage, the available empirical evidence of this relationship suggests that interdependent and independent self-construals may have differential relationships with creativity. On the one hand, an independent self-construal has been consistently shown to be positively related to idea originality and divergent thinking (e.g., Goncalo & Staw, 2006; Kim et al., 2013; Ng, 2003; Rios et al., 2014; Shao et al., 2018; Wiekens & Stapel, 2008). On the other hand, the relationship between interdependent self-construal and creativity has been mixed and inconclusive. Some studies found the relationship to be negative (e.g., Ng, 2003; Wiekens &

Stapel, 2008) or nonsignificant (e.g., Bechtoldt et al., 2012). Other studies found this relationship to be more complex such that an interdependent self-construal can be conducive to creativity under certain boundary conditions (Jin et al., 2016; Wang & Wang, 2016). Overall, these mixed results reviewed above hint at potential differential effects of interdependent and independent self-construal on employee creativity.

We argue that the inconsistent findings linking self-construals to employee creativity can be at least partially resolved by differentiating between different types of creativity. Previous research has predominantly examined creativity as a uniform construct and thus neglected the fact that creative ideas differ in the extent to which they deviate from the existing framework of thoughts and practices (Amabile, 1983; Mumford & Gustafson, 1988). Specifically, some creative ideas, despite being new and potentially useful, are relatively *incremental*, involving minor changes in existing frameworks of thoughts and practices (Madjar et al., 2011; Mumford & Gustafson, 1988). In contrast, other creative ideas are more *radical*, in the sense that they deviate substantially from the status quo (Madjar et al., 2011; Mumford & Gustafson, 1988). According to the evolving literature on incremental and radical creativity, these two forms of creativity are driven by different antecedents and underlying processes (Gilson et al., 2012; Gilson & Madjar, 2011; Liu et al., 2021; Madjar et al., 2011). As such, different self-construals may have differential effects on different forms of creativity. In the present study we seek to clarify *how* and *why* interdependent and independent self-construal may differentially relate to incremental and radical creativity.

Building on self-construal theory (Markus & Kitayama, 1991) and research on incremental and radical creativity (Gilson et al., 2012; Gilson & Madjar, 2011; Madjar et al., 2011), we suggest that different types of self-construal manifest as different behavioural strategies for creative problem solving, which result in distinct forms of creative outcomes. In Markus and Kitayama's (1991) theory, the expression of one's self-construal shapes the very nature of individual experiences, including cognition, motivation, and behaviour. As such, self-construals can have profound influences on how employees perceive and react to new and ill-defined work problems requiring creativity. Specifically, we propose that an interdependent self-construal drives employees to seek help from in-group others (i.e., group leader and members) to solve problems creatively. In turn, such an other-reliant strategy of help seeking will result in the generation of incremental ideas because the help received from close in-group others is subject to similarity of perspectives (Perry-Smith, 2006; Perry-Smith & Shalley, 2003) and constrained by proven models of past success (Csikszentmihalyi, 1990). We also propose that an independent self-construal drives employees to engage in the creative process in a self-reliant manner, which is likely to facilitate the generation of radical ideas as independent creative process engagement ensures that employees have the freedom to produce variation (Janssen & Huang, 2008; Kim et al., 2013). A model depicting the key theoretical relationships examined in this study is presented in (Figure 1).

The major theoretical contributions of this study are three-fold. First, we contribute to self-construal theory by examining the proposition that employees with different types of self-construals use different behavioural strategies to solve problems creatively. Second, we deepen our theoretical understanding of the antecedents and processes promoting different forms of creativity, specifically incremental and radical creativity. Although the conceptual distinction between different forms of creativity has been made long ago (e.g., Mumford & Gustafson, 1988), only recently has research empirically examined different antecedents of radical and incremental creativity (e.g., Gilson et al., 2012; Gilson & Madjar, 2011; Madjar et al., 2011). Our research extends this line of research by theorizing that strategy use in the creative process relate to the occurrence of incremental versus radical creative outcomes. Third, we identify two behavioural strategies as explanatory mechanisms in the relationship between self-construal and creativity: seeking creative help from in-group others and independent creative process engagement. Previous empirical studies are limited to studying direct effects of interdependent and independent self-construal on individual creativity without

probing the (differential) behavioural process mechanisms underlying these effects. Our examination advances scientific understanding of why employees differ in their creativity and identifies what organizations can do to promote specific forms of creative behaviour.

Theory and hypotheses development

Self-construal and strategy use in creative problem solving

Self-construals reflect how individuals view the self in relation to others. In the interdependent view of the self, the basis of individuality is to fit in and maintain interpersonal harmony by attending closely and responding sensitively to significant others' preferences, desires, and needs (Markus & Kitayama, 1991). Such attentiveness and responsiveness to others evokes context-dependent cognition and a motivation to fulfill social role obligations (e.g., Cross et al., 2011; Oyserman & Lee, 2008). To maintain connectedness with relevant others, individuals with an interdependent self-construal tend to flexibly attune to social contingencies in their behaviour. Thus, "the self-knowledge that guides behavior is of the self-in-relation to specific others in particular contexts" (Markus & Kitayama, 1991, p. 227).

In contrast, the essential aspect of an independent self-construal is to maintain independence from others by attending to the self and expressing each person's unique configuration of internal attributes, such as traits, abilities, values, and interests (Markus & Kitayama, 1991). Such reference to the inner core of the self gives rise to context-independent cognition and a motivation to demonstrate one's uniqueness (e.g., Cross et al., 2011; Oyserman & Lee, 2008). That is not to say that the independent self does not respond to the social situation. Rather, the social responsiveness of independent self-construals is driven by "the need to strategically determine the best way to express or assert the internal attributes of the self" (Markus & Kitayama, 1991, p. 226).

Given that self-construal fundamentally influences the regulation of cognition, motivation, and behaviour (Cross et al., 2011; Markus & Kitayama, 1991), we propose that employees with interdependent versus independent self-construals use different behavioural strategies in creative problem solving. Specifically, we expect employees with an interdependent self-construal to seek creative help from close others when they face work-related problems that require creative solutions. Following previous research on the role of help seeking in employee creativity (Hargadon & Bechky, 2006; Mueller &

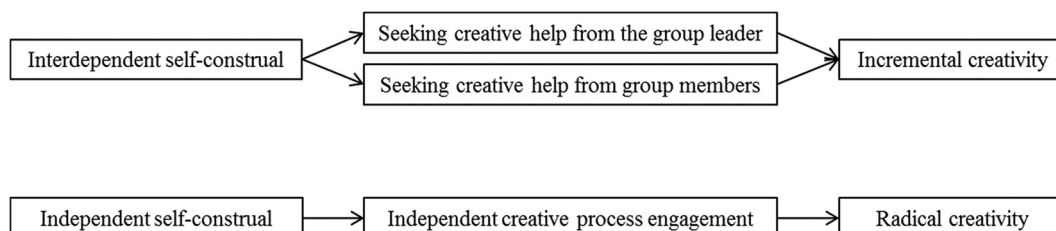


Figure 1. Overview of the hypothesized model.

Kamdar, 2011), we define seeking creative help as an other-reliant strategy in which employees approach significant others (i.e., leader and peers within the work group) for their perspectives on problems at hand and their suggestions for problem solutions.

We argue that interdependent self-construal is positively related to seeking creative help from relevant others for two reasons. First, employees with an interdependent self-construal tend to focus on social contextual information that surrounds a focal problem, thereby forming cognitive representations of the problem that incorporate the social context in which the self and close others are embedded (Markus & Kitayama, 1991). For them, co-membership in a work group implies a sense of shared ownership and responsibility for problems at work. Accordingly, these employees tend to involve their group leader and members as joint participants to cope with the problem.

Second, instead of solely concentrating on the content of the problem at hand, employees characterized by an interdependent self-construal are more likely to pay attention to the social implications of their behaviour and be observant of relevant others' expectations. Because the group leader and members are seen as significant others they strongly identify with (Markus & Kitayama, 1991), to maintain interpersonal harmony with them, employees with an interdependent self-construal feel obligated to take their viewpoints, preferences, and expectations into account. Hence, in the face of work problems that need to be addressed creatively, they are more likely to involve creative input from strongly tied others, such as the group leader and members.

In contrast, since independent self-construals are motivated to stand out and promote one's uniqueness, we propose that they mainly rely on themselves when engaging in creative activities. Based on previous research on engagement in the creative process (Reiter-Palmon & Illies, 2004; Zhang & Bartol, 2010), we define independent creative process engagement as a self-reliant strategy in which employees use their independent thinking and idiosyncratic qualities when dealing with work-related problems that require creative solutions. This strategy does not imply that individuals solve problems in isolation from others without taking others' perspectives into account. Rather, independent creative process engagement implies greater interpersonal behavioural variability, which may well include searching for and considering diverse information from multiple sources, social and non-social. At its core, this strategy is characterized by independent thinking in the process of creative problem solving.

We argue that independent self-construal is positively related to independent creative process engagement for two reasons. Employees who construe themselves as independent primarily focus on the focal problem in and of itself and can view it separately from the surrounding social context (Markus & Kitayama, 1991). Due to their socially decontextualized way of problem representations, they tend to view the problem as controllable through their own actions and perceive themselves to be independently responsible for it (Komissarouk & Nadler, 2014). Therefore, they are more likely to engage in creative courses of action in a self-reliant manner.

Second, driven by the motivation to demonstrate their uniqueness, employees who have an independent self-construal tend to maintain their independent thinking and deeply involve the idiosyncratic capacities of the self in the creative process. Because employees with an independent self-construal define themselves as separated from close others (Markus & Kitayama, 1991), they are less likely to strongly identify with the group and are less constrained by perspectives and information from in-group others. Instead, they have more psychological freedom to approach diverse, socially distant others for nonredundant perspectives and information. Consequently, in the face of work-related problems requiring creativity, they tend to form their own unique problem representations, search information from weakly tied others, and capitalize on their own independent thinking to generate ideas for problem solution (Janssen & Huang, 2008; Rios et al., 2014). Hence, we expect employees with an independent self-construal to independently engage in the creative process as a strategy to pursue creativity.

Taken together, our argumentation suggests that employees with an interdependent self-construal seek creative help from the group leader and group members when encountering work-related problems, whereas an independent self-construal drives employees to adopt a self-reliant strategy of independent creative process engagement. Therefore, we derive the following hypotheses:

Hypothesis 1: An interdependent self-construal is positively related to seeking creative help from the group leader (H1a) and group members (H1b).

Hypothesis 2: An independent self-construal is positively related to independent creative process engagement.

Strategy use and incremental and radical creativity

In turn, strategy use in the creative process can influence the forms of creative ideas that are generated. Specifically, we argue that seeking creative help from in-group others is more strongly related to incremental creativity and that independent creative process engagement is more strongly related to radical creativity.

According to the help-seeking literature (e.g., Hofmann et al., 2009; Lee, 1997), employees seek help when they believe that their own ways of framing or making sense of the problem are inadequate. This implies that help-seekers have a high likelihood of being open to integrate relevant information, interpretative perspectives, or alternative ideas provided by help givers. Moreover, help givers are also cued to divulge new knowledge that they expect help-seekers might not know (Mueller & Kamdar, 2011; Sosa, 2011), thereby stimulating the generation of alternatives that are unlikely to be considered without their input. As such, help-seeking provides an important mechanism for employees to access and integrate creative input from their immediate group leader and members, facilitating them to identify previously unconsidered ideas and solutions.

However, the help received from in-group others is subject to similarity of perspectives and dominating influence of social pressure (Perry-Smith, 2006; Perry-Smith & Shalley, 2003), such that the ideas generated for problem solutions are more likely to be incremental, rather than radical. First, from the perspective of knowledge content, the assistance received from the leader, who plays a gatekeeper role of the status quo, may be constrained by proven models of success that worked in the past (Csikszentmihalyi, 1990). By relying on such help, employees are more likely to start with convergent thinking and narrowly focus on the refinement of existing frameworks as opposed to diverging from them (Audia & Goncalo, 2007). Because knowledge and perspectives can circulate quickly among a dense collection of interconnected individuals (e.g., comembership in a work group), knowledge obtained from strongly tied colleagues may be somewhat new to the focal seekers but is not novel or unique to the larger network (Perry-Smith, 2006; Perry-Smith & Shalley, 2003). Such little differences in perspectives among help givers may not be sufficient to break the accepted modes of thought, thereby leading to the generation of incrementally creative ideas. Second, from the perspective of social influence, seeking creative help from the group leader and members may lead the focal seeker to conform and converge towards group consensus. For interdependent self-construals, conformity to in-group others with whom they are reciprocally interdependent is highly valued (Markus & Kitayama, 1991). As a result, they may intentionally withhold their most novel ideas or strip the most groundbreaking features of their ideas to avoid controversy or appear insensitive. Constrained by the influence of social pressure, those who rely on the group leader and members' help in the creative process are likely to suggest incremental ideas that are socially desirable.

In contrast, we argue that independent creative process engagement will be more strongly related to radical rather than incremental creativity because maintaining independence in the creative process is conducive to both the formulation and expression of radical ideas. First, employees who use an independent creative strategy are more likely to access and benefit from diverse information from multiple sources. By accessing information from socially distant sources, as well as non-social sources, they are exposed to different interpretations of a problem that may help them question the problem's premise (Pretz et al., 2003) and thus consider possibilities beyond current thoughts and routines in the organization. Considering alternative possibilities also helps break cognitive set, prompting individuals to employ divergent thinking to generate original ideas that deviate from the status quo (Bechtoldt et al., 2012). Second, not only does independent creative process engagement prompt divergence from the existing ways of thinking, but this strategy also increases the likelihood of speaking out radical breakthrough ideas (Yuan & Zhou, 2008). Employees who independently engage in creative courses of actions are less affected by conformity pressure, social norms, and situational cues embedded in the group. Freed from the influence of these social constraints, they are more likely to speak out their most creative ideas generated in their minds, with independence granting them more liberty in personal expression. Hence, independent creative process

engagement protects potentially groundbreaking novelties from social encroachment and boosts the expression of radically creative ideas.

Based on this argumentation, we propose that an other-reliant strategy of help seeking will promote incremental creative outcomes, whereas a self-reliant strategy of independent creative process engagement is likely to promote radical creative outcomes. Therefore, we formulate the following hypotheses:

Hypothesis 3: Seeking creative help from the group leader (H3a) and group members (H3b) is positively related to employee incremental creativity.

Hypothesis 4: Independent creative process engagement is positively related to employee radical creativity.

Self-construal, strategy use, and creativity

Taken together, our argumentation suggests that an interdependent self-construal drives employees to seek creative help from the group leader and group members, which subsequently leads to incremental creativity. That is, seeking creative help from in-group others serves as the mediating mechanism that explains why employees with an interdependent self-construal are more likely to exhibit incremental creativity. However, an independent self-construal may drive employees to engage in the creative process in a more self-reliant manner, which in turn leads to radical creativity. By implication, this independent creative process engagement serves as a mediating mechanism in the relationship between an independent self-construal and employee radical creativity. Therefore, we hypothesize:

Hypothesis 5: Seeking creative help from the group leader (H5a) and group members (H5b) mediates the relationship between an interdependent self-construal and employee incremental creativity.

Hypothesis 6: Independent creative process engagement mediates the relationship between an independent self-construal and employee radical creativity.

We do not expect that an interdependent self-construal will trigger radical creativity through the self-reliant strategy of independent creative process engagement, as this self-construal is linked to the motivation to fit in the closed group. Employees with such motivation may perceive a self-reliant creative strategy as unresponsive to socially close others and disturbing to harmonious social exchanges with them. Hence, independent creative process engagement is unlikely to operate as a mediating mechanism linking interdependent self-construal to radical creativity.

Similarly, we do not expect that an independent self-construal will trigger incremental creativity through the other-reliant strategy of seeking creative help from in-group others, as this self-construal is associated with the motivation to withstand social pressure and stand out from the group. Even

though they may be interested in the considerations of their leader and colleagues, employees with independent self-construals will not limit themselves to perspectives and ideas provided by these close others. They would rather recruit diverse information from multiple sources to inspire their generation of problem solutions. Hence, seeking creative help is unlikely to operate as a mediating mechanism linking independent self-construal to incremental creativity.

Study 1

Our main aim for Study 1 was to provide a test of our hypothesized relationships amongst actual employees. We therefore conducted a field study amongst Chinese employees and their direct supervisors.

Method

Participants and procedure

We collected survey data from six Chinese companies operating in different sectors, including publishing, technology, retailing, software, electricity, and manufacturing. Participants performed a variety of jobs with different opportunities and requirements for creativity. Among the 412 individual-level invitations distributed, 301 employees nested in 51 leaders completed surveys, a response rate of 73.06%. However, 31 of these employees did not complete all of the sections of the questionnaire. Although responding to the majority of our study variables, they produced missing values mainly on their demographic information, such as gender, age, education, and job tenure.¹ In order to make use of the full information available in the sample, we carried out multiple imputation to deal with missing values (Rubin, 1987). Unlike single imputation, multiple imputation procedure replaces each missing value with a set of plausible values that reflect the uncertainty and range of the true value. These multiple imputed data sets are then analysed by using the same procedure for complete data and results from these analyses are combined to generate statistical inferences for parameters.

Of the 301 employees, there were 141 male, 147 female, and 13 did not specify their gender, with a mean age of 32.26 years ($SD = 7.45$), and average job tenure of 8.57 years ($SD = 7.65$). Our participants were highly educated, with 83.45% of them holding a bachelor's degree or higher.

Measures

Surveys were prepared in English and then translated into Chinese following Brislin's (1980) back-translation procedure.

Interdependent and independent self-construals. The self-construal scale developed by Singelis (1994) was used to assess the strengths of interdependent and independent self, and each self-construal is captured through twelve items, ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item for the interdependent self-construal scale is "My happiness depends on the happiness of those around me" ($\alpha = .86$). A sample item from the independent self-construal scale is "My personal identity, independent of others, is very important to me" ($\alpha = .77$).

Seeking creative help from the group leader and group members. Following Mueller and Kamdar (2011) who based their scale of seeking creative help from teammates on Anderson and Williams (1996) help-seeking behaviour scale, we adapted Anderson and Williams's (1996) seven-item scale to focus on the leader and fellow members within one's work group as the target of help-seeking, respectively. Employees were asked to rate the frequency with which they sought assistance from their group leader and members in dealing with problems and tasks that require creativity. The response categories ranged from 1 (never) to 7 (always). An example item is "I request help from my group leader/fellow group members when struggling to solve the problem creatively". The Cronbach alpha coefficients were .93 for the help-seeking from the group leader scale, and .93 for the help-seeking from group members scale.

Independent creative process engagement. To capture the extent to which employees drive themselves towards creative activities, we used and slightly adapted Zhang and Bartol's (2010) eleven-item creative process engagement scale to meet the needs of this particular study. In a preamble to the scale items, employees were asked to rate their independent engagement in the creative process that did not rely on others when faced with problems. The response categories ranged from 1 (never) to 7 (always). An example item is "I independently search for information from multiple sources (e.g., personal memories, others' experience, documentation, Internet, etc.)" ($\alpha = .93$).

Employee incremental and radical creativity. Supervisor ratings of incremental and radical creativity were based on measures taken from Madjar et al. (2011). Each item started with "This employee suggests", and the response categories ranged from 1 (strongly disagree) to 7 (strongly agree). The three items for incremental creativity are: "small ideas for incremental improvements", "small adaptations to the existing ways of doing things", and "minor modifications to current procedures, work processes, products, or service lines" ($\alpha = .92$). The three items for radical creativity are: "highly creative ideas", "really original solutions to problems", and "radically new ways of doing things" ($\alpha = .92$).

Notably, the correlation between the two measures for incremental and radical creativity is 0.68 ($p < .001$), meaning that the percentage of overlapping variances is 46.24% and the percentage of unique variances is 53.76%. These numbers suggest that the two measures are conceptually distinct and theoretically relevant dimensions of creativity. Hence, we performed a confirmatory factor analysis for the two measures in which a two-factor model was directly compared with a one-factor model. The results indicated that the two-factor model provided a significantly better fit than the one-factor model ($\Delta\chi^2 [1] = 326.10, p < .001$), supporting the distinctiveness of the two measures.

Control variables. We controlled for gender (e.g., Baer & Kaufman, 2008), age (e.g., Lehman, 1960), educational level (1 = high school diploma, 2 = college degree, 3 = bachelor's degree, 4 = master's degree, 5 = doctoral degree), and job

tenure (e.g., Schoen, 2015), as these have been shown to be important predictors of our focal variables. As we sampled from a variety of job positions and organizations, participants may have different creativity requirements. Thus, we further controlled for creativity job requirements because research shows that employees with higher creativity requirements are more likely to think and behave in creative ways (e.g., Liu et al., 2021; Yuan & Woodman, 2010). Using Yuan and Woodman's (2010) five-item scale, participants reported their creativity job requirements on a seven-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). A sample item is "My job requires me to try out new approaches to problems" ($\alpha = 0.88$).

Analytical strategy

Given the nested structure of the data in the current study, and the substantial leader-level variances in both employee incremental ($ICC_1 = .23, p < .01$) and radical ($ICC_1 = .33, p < .001$) creativity, we used a random intercept model in Mplus 7.4 (Muthén & Muthén, 1998–2015) to account for leader-level influences. We implemented a Monte Carlo procedure to construct confidence intervals to assess the indirect effects' significance (Selig & Preacher, 2008). All predictors were standardized in our analyses.

Results

Confirmatory factor analyses

We conducted confirmatory factor analyses (CFAs) to examine the discriminant validity of the seven key study variables using Mplus 7.4 (Muthén & Muthén, 1998–2015). Given the nested data structure (i.e., leaders rated creativity for multiple employees), we conducted a cluster-robust CFA to reflect the data structure such that data are grouped into clusters (i.e., leaders), with standard errors independent across clusters but correlated within clusters. Results show that the expected seven-factor model achieved a reasonable fit with the data ($\chi^2 [1356] = 2530.44, CFI = .85, TLI = .84, RMSEA = .05, SRMR = .07$) and was a significantly better fit than several alternative models in which one or more of the factor correlations were constrained to one ($p < .001$ for all tests). These

results indicate that the discriminant validity of these constructs is acceptable and that it is safe to proceed with further investigation.

Descriptive statistics and correlations

Correlations and descriptive statistics are presented in (Table 1). Among the control variables, age ($r = -.17, p < .01$) and job tenure ($r = -.14, p < .05$) were negatively related to seeking creative help from the leader. Educational level was positively related to independent creative process engagement ($r = .19, p < .01$). Creativity job requirements were positively related to seeking creative help from the group leader ($r = .12, p < .05$), seeking creative help from group members ($r = .15, p < .01$), independent creative process engagement ($r = .33, p < .001$), incremental creativity ($r = .13, p < .05$) and radical creativity ($r = .14, p < .05$). Gender was not significantly correlated with any of the outcome variables in our model. We therefore excluded it from our analyses to avoid biased parameter estimates (Becker, 2005). As a check, we repeated the analyses when including gender as a covariate and this did not change the substantive conclusions.

Hypotheses testing

Using the integrated approach suggested by Edwards and Lambert (2007), the complete model was estimated in a multilevel analysis. In the Level-1 model, we specified the hypothesized mediation model including the proposed relationships; in the Level-2 model, we controlled for the between-group variance of leader-rated incremental and radical creativity. Table 2 shows the unstandardized results of these analyses.

As expected, an interdependent self-construal was positively related to seeking creative help from the group leader ($\gamma = .21, p < .01$) and seeking creative help from group members ($\gamma = .19, p < .001$) after controlling for the effect of an independent self-construal. These findings support both Hypothesis 1a and Hypothesis 1b. An independent self-construal was positively related to independent creative process engagement ($\gamma = .16, p < .01$) after controlling for the effect of an interdependent self-construal, thereby confirming Hypothesis 2.

Table 1. Means, standard deviations, and correlations in Study 1.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
1. Gender	0.51	0.50												
2. Age (in years)	32.26	7.45	.05											
3. Education	3.26	0.86	-.17**	-.04										
4. Job tenure (in years)	8.57	7.65	.07	.92***	-.23***									
5. Creativity job requirements	4.97	1.08	.10 [†]	-.02	.06	-.04	(.88)							
6. Interdependent self-construal	5.51	0.72	-.10 [†]	-.02	-.00	-.02	.32***	(.83)						
7. Independent self-construal	4.92	0.64	.01	-.00	-.00	.01	.29***	.31***	(.70)					
8. Seeking creative help from the group leader	4.16	1.15	.10 [†]	-.17**	.11 [†]	-.14*	.12*	.24***	.15*	(.91)				
9. Seeking creative help from group members	4.19	1.03	.10	-.03	-.01	.01	.15**	.21***	.05	.63***	(.90)			
10. Independent creative process engagement	4.95	0.96	.03	-.11	.19**	-.10	.33***	.18**	.25***	.28***	.27***	(.93)		
11. Incremental creativity	4.81	1.15	.02	-.03	.10 [†]	-.05	.13*	.01	-.03	.14*	.04	.11 [†]	(.92)	
12. Radical creativity	4.13	1.30	.02	.02	.11 [†]	.02	.14*	-.04	-.03	.08	.06	.16**	.68***	(.92)

$N = 301$. Values in parentheses are Cronbach's alpha coefficients. For gender, 0 = male, 1 = female; For education, 1 = high school graduate, 2 = college degree; 3 = bachelor's degree, 4 = master's degree, 5 = doctoral degree.

[†] $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2. Results of mediation analyses in Study 1.

Predictor	Seeking creative help from the group leader		Seeking creative help from group members		Independent creative process engagement		Incremental creativity		Radical creativity	
	γ	SE	γ	SE	γ	SE	γ	SE	γ	SE
Age (in years)	-.14	.21	-.25	.18	-.24	.18	.10	.14	-.00	.15
Education	.11 [†]	.07	.04	.08	.23***	.07	.05	.08	.16	.10
Job tenure (in years)	-.02	.22	.24	.19	.16	.18	-.11	.16	.03	.16
Creativity job requirements	.02	.06	.11 [†]	.06	.25***	.06	.14*	.06	.15*	.07
Interdependent self-construal	.21**	.06	.19***	.05	.04	.07	-.00	.08	-.11	.09
Independent self-construal	.08	.06	-.04	.07	.16**	.06	-.09	.07	-.09	.07
Seeking creative help from the group leader							.21*	.10	.07	.09
Seeking creative help from group members							-.11	.09	.02	.08
Independent creative process engagement							.03	.08	.14 [†]	.08

$N = 301$. [†] $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

In turn, seeking creative help from the group leader had a significant positive relationship with incremental creativity ($\gamma = .21, p < .05$). However, contrary to our expectations, seeking creative help from group members was not related to incremental creativity ($\gamma = -.11, ns$). As such, support was found for Hypothesis 3a, but not for Hypothesis 3b. Independent creative process engagement was found to be (marginally) significant related to radical creativity ($\gamma = .14, p < .1$). Due to the directional nature of the mediation hypothesis, one-tailed tests of significance apply, resulting in a significant main effect of independent creative process engagement on radical creativity ($\gamma = .14, p < .05$, one-tailed test). This result confirmed Hypothesis 4.

Furthermore, the results of the Monte Carlo test indicated that the indirect relationship between an interdependent self-construal and incremental creativity via seeking creative help from the leader was significant (indirect effect = .04; 95% CI = [.003 to .102]), thus supporting Hypothesis 5a. Although seeking creative help from group members had a nonsignificant relationship with incremental creativity, we also directly tested the mediation effect predicted in Hypothesis 5b. The results showed that the indirect relationship between an interdependent self-construal and incremental creativity via seeking creative help from group members was not significant (indirect effect = -.02; 95% CI = [-.063, .010]). As such, Hypothesis 5b was rejected. Next, we found that the indirect relationship between an independent self-construal and radical creativity via independent creative process engagement was significant at ninety percent confidence intervals (indirect effect = .02; 90% CI = [.002, .050]). Due to the directional nature of the mediation hypothesis, one-tailed tests of significance apply. Hence, this finding supported Hypothesis 6.

Discussion

The results of Study 1 demonstrate that employees with an interdependent self-construal tended to seek creative help from their group leader and members. Help-seeking from the leader, rather than help-seeking from group members, in turn led the focal employees to generate incrementally creative ideas. In contrast, employees with an independent self-construal tended to adopt a strategy of independent creative process engagement, leading them to generate radical breakthrough ideas. Accordingly, our findings have implications for our understanding of how self-construals differentially influence incremental and radical creativity.

Despite its contributions, Study 1 has at least two limitations to note. First, conceptually, we investigated our hypothesized effects on an aggregated *individual level* of idea generation and demonstrated why and how interdependent and independent self-construals have differential relationships with the generation of incrementally and radically creative ideas *in general*. At this individual level, incremental creativity and radical creativity were significantly and positively related, $r(301) = .68, p < .001$, implying that individual employees tend to generate both incremental and radical ideas to problems they come across at work. At the *idea level*, however, we assume a trade-off between incremental and radical creativity where the two are mutually exclusive. That is, a single creative idea that an employee generates in response to a problem encountered at work is either incremental or radical in nature. Accordingly, in addition to Study 1 that used individual-level data on incremental and radical creativity, it is worthwhile to also test the hypothesized relationships between our key variables at the *idea level*.

Second, methodologically, in Study 1 we tested our hypothesized relationships amongst employees of a single nationality, Chinese. The distributions of interdependent and independent self-construals vary over nationalities, with Chinese typically being more interdependent than independent (cf., Cross et al., 2011). Indeed, descriptive results of Study 1 demonstrate that average scores on interdependent self-construal ($M = 5.51, SD = 0.72$) were relatively higher than those of independent self-construal ($M = 4.92, SD = 0.64, t(299) = 12.64, p < .001$). This skewed distribution could influence the nature of our hypothesized relationships. Accordingly, it is worthwhile to test our hypothesized relationships in a different cultural context.

Study 2

Our main aim for Study 2 was to replicate the results from Study 1 without its limitations. We therefore conducted a critical incident study to directly test our hypotheses at the idea level of analysis by studying the effects of employees' self-construals on creative strategies and the generation of a single creative idea to solve a single problem. Furthermore, for purposes of generalizability and to ensure that the results of Study 1 are not caused by cultural artefacts, we conducted this study amongst employees from the United States, whom typically have higher scores on independent rather than interdependent self-construals than Chinese employees (cf., Cross et al., 2011).

Method

Participants and procedure

We recruited United States employees from Amazon Mechanical Turk (Mturk). Following the recommendation by Aguinis et al. (2021), we used filters to restrict access to the study. Only those who had full-time jobs and worked with a leader and at least two group members were invited to participate in the study. Participants read that the study was about employee creativity and were assured of confidentiality and anonymity for their participation. We informed participants that completing the online study required approximately 30 minutes, and they were paid 2.25 USD for their efforts. First, we asked participants to fill out measurement instruments for interdependent and independent self-construals. Second, we asked participants to recall a problem they recently encountered at work that required the generation of a creative idea to solve and to describe the problem situation and their creative idea for problem solution. Third, we asked participants to fill out measurement instruments for help-seeking, independent creative process engagement, and incremental and radical creativity. By filling out these instruments, participants indicated the extent to which they had used the strategies of help seeking and independent creative process engagement in response to the problem they had recalled. Moreover, they rated the extent to which their idea generated for solving the problem was incremental or radical in nature.

After filtering out those who had part-time jobs or work with less than two peers, we retained responses from 202 participants. To ensure the validity of Mturk-based data (Aguinis et al., 2021), we also scrutinized the responses to the qualitative open-ended question included in the study. We found 4 participants who did not provide work-related problems and creative solutions as requested by the study's instructions, and thus excluded them from further analyses. The final sample consisted of 94 men and 104 women with an average age of 39.03 years ($SD = 9.72$); 71% of them had a college degree or higher. Participants' mean work experience was 6.63 years ($SD = 5.42$).

Measures

We used the same measures as in Study 1 for assessing interdependent self-construal ($\alpha = .86$), independent self-construal ($\alpha = .77$), seeking creative help from the group leader ($\alpha = .94$)

and group members ($\alpha = .93$), independent creative process engagement ($\alpha = .91$), incremental creativity ($\alpha = .82$), and radical creativity ($\alpha = .85$). Items were slightly adjusted to fit the context of the critical incident. Finally, we controlled for participants' gender, age, education, and job tenure.

Results

Confirmatory factor analyses

We conducted CFAs in Mplus 7.4 (Muthén & Muthén, 1998–2015) to check the discriminant validity of our focal variables. Given our relatively small sample size of 198 participants, we adopted an item-parcelling strategy for CFAs to ensure adequate sample size-to-indicator ratios (Little et al., 2002). Specifically, items of unidimensional constructs (e.g., interdependent and independent self-construals) were randomly parcelled into three indicators. Items of independent creative process engagement were parcelled into three indicators, with each capturing a subdimension. The results showed that the hypothesized seven-factor model had a good fit with the data ($\chi^2 [168] = 282.38$, CFI = .95, TLI = .94, RMSEA = .06, SRMR = .05). Chi-square difference tests revealed that this model fit significantly better than a series of alternative models in which the indicators of two or more variables were combined ($p < .001$ for all tests).

Descriptive statistics and correlations

Descriptive statistics are displayed in Table 3. As can be expected amongst employees from the United States, the average scores on independent self-construal ($M = 5.23$, $SD = 0.81$) were relatively higher than those on interdependent self-construal ($M = 4.87$, $SD = 0.90$), $t(197) = 5.70$, $p < .001$. Consistent with our assumption that incremental and radical creativity are mutually exclusive at the idea level, incremental and radical creativity were significantly and negatively correlated ($r = -.34$, $p < .001$). Among the control variables, age was negatively related to seeking creative help from the group leader ($r = -.12$, $p < .1$) and seeking creative help from group members ($r = -.20$, $p < .01$). Educational level was negatively related to incremental creativity ($r = -.21$, $p < .01$). Gender and job tenure were omitted from further analyses because they were not correlated with any of the outcome variables in our model (Becker, 2005). The pattern of results was essentially identical without control variables.

Table 3. Means, standard deviations, and correlations in Study 2.

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11
1. Gender	0.53	0.50											
2. Age (in years)	39.03	9.72	.11										
3. Education	2.88	0.88	-.03	.07									
4. Job tenure (in years)	6.63	5.42	.01	.50***	-.02								
5. Interdependent self-construal	4.87	0.90	-.08	-.07	.03	-.00	(.86)						
6. Independent self-construal	5.23	0.81	-.09	-.02	-.07	.05	.17*	(.77)					
7. Seeking creative help from the group leader	4.09	1.56	-.05	-.12 [†]	-.07	.08	.22**	.08	(.94)				
8. Seeking creative help from group members	4.46	1.50	-.12 [†]	-.20***	.07	.01	.25***	.05	.48***	(.93)			
9. Independent creative process engagement	5.39	0.99	-.08	-.06	-.03	.03	.13 [†]	.21**	.14*	.12 [†]	(.91)		
10. Incremental creativity	4.35	1.42	.00	-.06	-.21**	-.02	.17*	-.09	.18*	.09	.09	(.82)	
11. Radical creativity	4.45	1.48	-.10	.00	.03	.08	.12	.21**	.13 [†]	.10	.29***	-.34***	(.85)

$N = 198$. Values in parentheses are Cronbach's alpha coefficients. For gender, 0 = male, 1 = female; For education, 1 = less than high school; 2 = high school graduate, 3 = college degree; 4 = bachelor's degree, 5 = master's degree.

[†] $p < .1$. * $p < .05$. ** $p < .01$. *** $p < .001$.

Hypotheses testing

To test our hypotheses, we estimated the research model in an integrative way and conducted bootstrapping-based mediation analyses using Mplus 7.4 (Muthén & Muthén, 1998–2015); the results were presented in Table 4.

An interdependent self-construal was found to be positively related to seeking creative help from the group leader ($B = .20$, $p < .01$) and seeking creative help from group members ($B = .23$, $p < .01$) after controlling for the effect of an independent self-construal. These results lent support to both Hypothesis 1a and Hypothesis 1b. In line with our expectations, an independent self-construal was significantly and positively related to independent creative process engagement ($B = .19$, $p < .05$) after controlling for the effect of an interdependent self-construal. Hypothesis 2 was, therefore, supported.

In turn, seeking creative help from the group leader had a (marginally) significant positive relationship with incremental creativity ($B = .17$, $p = .10$), whereas seeking creative help from group members was not related to incremental creativity ($B = .01$, *ns*). Thus, support was found for Hypothesis 3a, but not for Hypothesis 3b. In support of Hypothesis 4, independent creative process engagement had a significant positive relationship with radical creativity ($B = .35$, $p < .05$).

The indirect effect of an interdependent self-construal on incremental creativity via seeking creative help from the leader was significant at ninety percent confidence intervals (indirect effect = .04; 90% CI = [.003 to .093]),² indicating that seeking creative help from the leader mediates the relationship between an interdependent self-construal and incremental creativity. Contrary to our theorizing, and consistent with Study 1, the indirect effect of an interdependent self-construal on incremental creativity via seeking creative help from group members was not significant. These results provided support for Hypothesis 5a, but not for Hypothesis 5b. Next, we found that the indirect effect of an independent self-construal on radical creativity via independent creative process engagement was significant (indirect effect = .07; 95% CI = [.005, .180]). Hence, we found empirical evidence for Hypothesis 6.

Discussion

Using a critical incident design, we replicated our findings at the idea level in a different cultural setting. When faced with specific work-related problems, employees with an interdependent self-construal were more likely to generate incrementally creative ideas for problem solutions by seeking creative help

from the leader, whereas those with an independent self-construal were more likely to generate radical ideas for problem solutions through independent creative process engagement. Results again showed that seeking creative help from group members did not mediate the relationship between an interdependent self-construal and incremental creativity.

General discussion

In this paper, we have theoretically developed and empirically tested a behavioural strategy perspective to unravel why and how interdependent and independent self-construal may have differential relationships with distinct forms of creativity. Across two studies, we consistently demonstrated that an interdependent self-construal resulted in incremental creativity due to the use of an other-reliant strategy of seeking creative help from the leader and that an independent self-construal resulted in radical creativity due to the use of a self-reliant strategy of independent creative process engagement. As such, we demonstrated that these findings hold in a field study among employees and their supervisors from multiple Chinese organizations and in a critical incident study with a sample of workers from the United States.

Theoretical implications

Our study contributes to the literature in various ways. First, it demonstrates how self-construal regulates the strategies employees use to solve work-related problems creatively. The interdependent self-construal is positively associated with seeking creative help from in-group others but not with independent creative process engagement. Similarly, independent self-construal is positively associated with independent creative process engagement but not with seeking creative help from in-group others. These findings suggest that employees with different types of self-construals tend to use different strategies for creativity to express their conceptions of individuality, rather than for instrumental reasons, such as achieving success. From a motivational perspective, self-construals provide internal reasons that shape behavioural strategies used during creative problem solving.

Second, the present study also adds to creativity research by relating different strategies used in the creative problem-solving process to the generation of incremental versus radical creative ideas. Recent empirical studies have begun to identify and document personal and contextual factors

Table 4. Results of mediation analyses in Study 2.

Predictor	Seeking creative help from the group leader		Seeking creative help from group members		Independent creative process engagement		Incremental creativity		Radical creativity	
	B	SE	B	SE	B	SE	B	SE	B	SE
Age (in years)	-.10	.07	-.19**	.07	-.04	.07	-.03	.09	.04	.10
Education	-.07	.08	.07	.07	-.02	.07	-.31**	.11	.07	.11
Interdependent self-construal	.20**	.07	.23**	.07	.10	.07	.23*	.10	.05	.11
Independent self-construal	.03	.08	.01	.07	.19*	.08	-.23*	.10	.23 [†]	.12
Seeking creative help from the group leader							.17 [†]	.11	.11	.12
Seeking creative help from group members							.01	.12	.03	.12
Independent creative process engagement							.11	.12	.35*	.14

$N = 198$. [†] $p < .1$. * $p < .05$. ** $p < .01$.

that differentially influence the production of incremental and radical creative outcomes (e.g., Gilson et al., 2012; Gilson & Madjar, 2011; Madjar et al., 2011). We contribute to this emerging line of research by focusing on the importance of strategy use in shaping different forms of creative behaviour. Our results suggest that a preference for seeking creative help from the group leader is more likely to elicit incremental ideas, and that an independent, self-reliant way of engaging in the creative process is particularly beneficial for the generation of radical ideas. Thus, we clarify how these strategies may relate to the form of creativity of the ideas generated.

Third, we have advanced the understanding of why interdependent and independent self-construals differentially relate to incremental and radical creativity. Although prior studies have compared and contrasted the differential effects of two types of self-construals on creativity, they have not clarified the process mechanisms underlying these effects (e.g., Bechtoldt et al., 2012; Goncalo & Staw, 2006; Jin et al., 2016; Ng, 2003; Wang & Wang, 2016). We proposed and found that seeking creative help from the group leader plays a mediating role in the relationship between an interdependent self-construal and incremental creativity and that independent creative process engagement is a behavioural mechanism through which an independent self-construal affects radical creativity. Thus, our findings suggest that both interdependent and independent self-construals can boost employee creative performance, but through different behavioural strategies resulting in different forms of creativity.

Practical implications

The findings of the current study have important practical implications. First, knowing how interdependent and independent self-construals find expressions in behavioural strategies for creativity may help managers support their employees' creative efforts and promote incremental and radical creativity. Managers are typically tasked with leading an intact work group that includes both independent and interdependent self-construal members. Assessing employees' self-definitions would provide managers the information required to understand which type of support each employee needs during creative problem solving. When working with employees with an interdependent self-construal, an important and realistic option for a leader is to guide and assist such employees to make sense of ambiguous and ill-structured problems and figure out what actions are needed to solve these problems creatively. To support the expression of an independent self-construal, managers need to ensure that employees have sufficient autonomy to delve into problems on their own and maintain their independent thinking to generate creative solutions to work problems. Managers should bear each employee's way of constructing the self in mind and then individualize their support for creativity.

Second, the theorizing and findings presented here are also informative for employees who seek to enhance their creativity. Training programmes could help employees be aware of the impact that interdependent and independent self-construals

have on the behavioural strategies used in the creative process. Moreover, although self-construals have their roots in cultural affordance, individuals are able to flexibly define themselves as relatively more independent or interdependent depending on specific situations (Cross et al., 2011; Gardner et al., 1999). This flexible responsiveness to situational factors allows for the activation of alternative ways of self-construal. As a result, employees may be able to meet creativity challenges by engaging in self-reliant creative actions as well as by soliciting assistance from leaders when they need it.

Limitations and future research directions

A major strength of the present research is the robustness of its findings. We observed consistent patterns of results in two independent studies using different design and sampling across two distinct cultures, which gave us some confidence in the generalizability of these findings. Nevertheless, certain limitations should be noted when interpreting our results. First, the correlational nature of our studies precludes us to make causal conclusions. Although we assumed self-construal to be relatively stable over time (Markus & Kitayama, 1991), it may be susceptible to influences from self-validation experiences in the workplace and further cultivated by those experiences. As such, although the causal setup of our conceptual model, in which self-construals influence creative outcomes through behavioural strategies, is logical, there is the potential for a causal feedback loop where strategy use in the creative process and the resulting level of creativity influence the development of self-construal. Second, our statistical model may be subject to common method bias because our independent and mediating variables are derived from a single source of employee ratings in Study 1 and all of our measures were assessed by the same source in Study 2 (Podsakoff et al., 2003). Future research could take a longitudinal perspective to alleviate these issues.

Further, our research opens up a number of future directions on this topic. First, it would be fruitful to investigate the relationship between self-construal and creativity from a social network perspective. Self-construal, defined as how individuals see the self in relation to others (Markus & Kitayama, 1991), might be a key factor that influences employees' tendencies to activate different aspects of their network for input in the face of problems that need to be solved creatively. Employees with an interdependent self-construal may limit their search for new knowledge from strongly tied contacts inside their local networks, which leads to the generation of incremental creativity. Employees with an independent self-construal, on the other hand, may feel freer to reach beyond their local networks and enlarge informational sources from weak ties, which leads to the generation of radical creativity.³ Hence, we suggest future research to directly test this theoretical possibility, and further discover other network properties that may mediate the relationship between self-construal and creativity.

Second, contrary to expectations, across both studies, our results seem to suggest that incremental creativity is more likely to be achieved through seeking creative help from the group leader, while seeking creative help from group members is not very effective in this regard. There are several possibilities that may explain this unexpected finding. As hierarchical roles

are merit-based (e.g., Fast et al., 2014), leaders generally possess elevated abilities for doing things better within the established framework. As such, leaders, relative to their subordinates, may be more effective at providing creative input that is particularly beneficial for the generation of adaptation or refinement ideas. Furthermore, as leaders assume the formal role of supervising team members (Katz & Kahn, 1978), they may have a stronger sense of responsibility to respond to their subordinates' help requests than other group members would. Peer members may be unwilling to sacrifice their self-interest for the good of the help seekers, and thus are less cognitively involved in the helping process. Because leaders' cognitive involvement is greater than that of co-workers, their help may be more helpful for the seekers' creativity. Future research can examine these cognitive ability and involvement differences between leaders and group members in creative help giving.

The effects of help-seeking strategy on incremental creativity may also depend on the extent to which the help seekers appreciate or recognize the creative ideas offered by help givers (e.g., Brown & Baer, 2015; J. S. Mueller et al., 2012; De Stobbeleir et al., 2011). Recent research has identified social approval cues as key concerns for recognizing creativity (J. Mueller et al., 2018). In our case, employees may be more likely to appreciate and adopt the creative input of their leader rather than the creative input of their fellow team members, as this appears to provide higher levels of social approval cues. Future research should thus zoom in on the interaction process between the help seeker and help givers and reveal how the two parties manage to reach creative solutions to work-related problems.

Third, whether ideas generated through the strategy of help-seeking are incremental or radical may depend on the help givers' characteristics. For instance, while leaders typically act as gatekeepers of the existing framework of thoughts and routines in the organization, they may come to realize that they should encourage their employees to be radically creative in times of rapid economic and technological change. Insofar as leaders explicitly express their high expectations for radical creativity, seekers may be more motivated to generate radical ideas to fulfill leaders' expectations. Similarly, when their colleagues focus and embrace radical creativity during the act of helping, seekers would be more likely to pursue such behaviour since doing so implies their appreciation and responsiveness to the help they received. As such, perceived help givers' valuing of radical creativity may serve as a boundary condition under which the help-seeking strategy leads to radical creativity.

Lastly, while we focus on the role of employees' self-construal in relation to creativity, it is an interesting avenue for future research to examine how leaders' self-construal shapes the perception, recognition, and evaluation of creative ideas suggested by their employees. Research shows that leaders, in their roles of decision makers, tend to undervalue the potential of others' novel ideas (Mueller et al., 2018). As radical ideas introduce substantive changes to the established framework in the organization, supporting such ideas may run the risk of falling into conflicts with other actors who may have interest in safeguarding it (Janssen et al., 2004). Accordingly, leaders with an interdependent self-construal

may downgrade radical ideas as the conflict-provoking effects of such ideas obstruct their psychological needs for harmonious relationships which are salient to their conceptions of individuality. Conversely, leaders with an independent self-construal may find breakthrough ideas appealing because they may perceive these ideas as functional for them to distinguish their managerial performance from other peer leaders. Hence, future research could examine how leaders' self-construal influence their reactions to radical creative ideas.

Conclusions

Based on self-construal theory and research on incremental and radical creativity, we clarify why interdependent and independent self-construals might differentially relate to distinct forms of creativity. By taking a behavioural strategy perspective, we identified seeking creative help from the group leader as an other-reliant strategy through which an interdependent self-construal promotes incremental creativity. In contrast, we identified independent creative process engagement as a self-reliant strategy through which an independent self-construal drives radical creativity. The findings suggest that employees with an interdependent self-construal are more likely to suggest incremental adjustments to the status quo because they tend to seek help and rely on their leader when encountering work-related problems requiring creativity. Employees with an independent self-construal are especially prone to come up with groundbreaking ideas for problem solutions because they capitalize on independent thinking and engage in creative courses of actions in a self-reliant manner. The current findings suggest that self-construal is critical in shaping the strategies employees use to deal with work-related problems and the form of creative ideas they develop for problem solutions.

Notes

1. Further information on the pattern of missing values is available from the first author.
2. We also reran the analyses with inclusion of the 4 participants who were considered to provide invalid answers to the open-ended question. Including the 4 participants changed the marginally significant mediation results into significant (indirect effect = .04; 95% CI = [.001 to .114]).
3. We are thankful to an anonymous reviewer for recommending this theoretical possibility.

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