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*Published in:*  
Journal of Business and Psychology

*DOI:*  
[10.1007/s10869-019-09669-0](https://doi.org/10.1007/s10869-019-09669-0)

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*Document Version*  
Publisher's PDF, also known as Version of record

*Publication date:*  
2021

[Link to publication in University of Groningen/UMCG research database](#)

*Citation for published version (APA):*  
Liu, Y., Vriend, T., & Janssen, O. (2021). To be (creative), or not to be (creative)? A sensemaking perspective to creative role expectations. *Journal of Business and Psychology*, 36(1), 139–153.  
<https://doi.org/10.1007/s10869-019-09669-0>

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# To Be (Creative), or not to Be (Creative)? A Sensemaking Perspective to Creative Role Expectations

Ye Liu<sup>1</sup> · Tim Vriend<sup>2</sup> · Onne Janssen<sup>2</sup>

Published online: 10 December 2019

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## Abstract

By combining organizational role theory with core features of the sensemaking perspective of creativity, we propose conditional indirect relationships between creative role expectations and employee incremental and radical creativity that are mediated by creative self-expectations and moderated by perceived necessity for performance improvement and creative cognitive style. We find empirical evidence for our hypothesized effects across two studies. First, in a field study using data collected from 325 supervisor–employee dyads in an academic institution in China, we find that creative role expectations are positively related to creative self-expectations and that perceived necessity for performance improvement strengthens this positive relationship. Furthermore, we find that creative self-expectations directly relate to incremental creativity, but that creative cognitive style is a necessary boundary condition under which such self-expectations relate to radical creativity. Second, the results of an additional survey study among 201 US employees suggest that the psychological process through which employees internalize external role expectations for creativity into their self-expectations for creativity is primarily driven by the satisfaction of basic needs for competence. Theoretical and practical implications are discussed.

**Keywords** Creative role expectations · Creative self-expectations · Perceived necessity for performance improvement · Creative cognitive style · Incremental creativity · Radical creativity

## Introduction

It is undeniable that employee creativity—that is, the development of novel and useful ideas about products, services, processes, and procedures (e.g., Shalley, Zhou, & Oldham, 2004; Woodman, Sawyer, & Griffin, 1993)—is crucial for organizational performance, growth, and competitiveness

(Gong, Zhou, & Chang, 2013). Never before have organizations stressed the importance of employee creativity as much as they do today. Stressed so strongly, in fact, that creative roles are created, set, or established across a wide spectrum of jobs, including those that may traditionally not have required creative activities (Shalley, 2008; Shalley, Gilson, & Blum, 2000, 2009). Consistent with this trend in organizations to include creativity as in-role job behavior, the impact of creative role expectations on employee creative and innovative behavior has received increasing research attention and empirical support (Gilson & Shalley, 2004; Unsworth & Clegg, 2010; Unsworth, Wall, & Carter, 2005; Yuan & Woodman, 2010).

Despite the evidence that creative role expectations can serve as an external motivator to increase employee engagement in creative activities, more recent research suggests that their effect on creative output depends on specific characteristics of the employees and the context in which the employees are embedded (Kim, Hon, & Lee, 2010; Robinson-Morrall, Reiter-Palmon, & Kaufman, 2013; Shin, Yuan, & Zhou, 2017). Compelling questions of why, when, and how the relationship between creative role expectations and

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employee creativity is present, however, have not yet been fully explored. First, it remains unclear *why* creative role expectations relate to employee creativity. Previous research has predominantly taken an instrumentality approach to creative role expectations in which creative role enactment is explained by employees' calculation of prospective benefits and costs (Shin et al., 2017; Yuan & Woodman, 2010). Such a calculative view toward in-role creative behavior, however, overlooks the fact that employees tend to actively make sense of creative role expectations by creating their own interpretation and attributing meaning to themselves (Drazin, Glynn, & Kazanjian, 1999; Ford, 1996). This is unfortunate because performing creatively at work requires some internal, sustaining force that can drive employees to persist through the effortful process of creative thinking. Combining insights from organizational role theory (Ilgen & Hollenbeck, 1991; Katz & Kahn, 1978), the sensemaking perspective of creativity (Drazin et al., 1999; Ford, 1996), and self-determination theory (SDT; Deci & Ryan, 2000), we propose that creative role expectations cue employees to internalize creativity as a standard for the self (i.e., creative self-expectations). In turn, these self-expectations for creativity set in motion a self-fulfilling prophecy effect (McNatt & Judge, 2004), resulting in enhanced creative performance.

Second, it remains unclear *when* creative role expectations relate to employee creativity. Although creative role expectations in and of themselves can carry certain weight in influencing the sensemaking process of creativity, their influence may be augmented by the perceptions of context favorability for taking creative actions (Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005; Drazin et al., 1999). Specifically, we argue that when employees perceive that the current performance condition of their work unit or organization calls for improvement, they are more likely to recognize the importance of fulfilling creative role expectations because a less satisfactory performance condition serves to justify that importance. Therefore, creative role expectations externally imposed by the organization may be especially likely to elicit creative self-expectations when there is a perceived necessity for performance improvement.

Third, it remains unclear *how* individuals personally act upon their creative roles. Although previous studies have demonstrated that creative role expectations can motivate general employee creativity (e.g., Kim et al., 2010; Robinson-Morrall et al., 2013; Yuan & Woodman, 2010; Unsworth et al., 2005), they have not considered their potential differential effects on incremental and radical creativity. Incremental creativity refers to the generation of novel and useful ideas that imply only few and minor changes in existing products and processes, whereas radical creativity reflects breakthrough ideas that substantially alter existing products and processes (Madjar, Greenberg, & Chen, 2011; Mumford & Gustafson, 1988). Research has shown that the generation of radical creative ideas requires more unconventional thinking and extensive cognitive

processing than incremental creativity (Gilson, Lim, D'Innocenzo, & Moye, 2012; Gilson & Madjar, 2011; Jaussi & Randel, 2014; Madjar et al., 2011), which suggests that the motivational resource of creative self-expectations in and of themselves might be insufficient for employees to develop radically creative ideas. Due to such higher cognitive demands of radical creativity, an individual's creative cognitive style—that is, a preference for original and unusual approach to problem solving (Kirton, 1976, 1994)—may be particularly crucial for the successful development of radical breakthrough ideas. Thus, we propose that self-expectations for creativity may be sufficient to elicit incremental creativity, but that a creative cognitive style may be necessary for employees to turn their creative self-expectations into radical creativity. Figure 1 provides an overview of our conceptual model, which we test across a field study and a supplemental survey study.

Through our investigation, we aim to contribute to creativity literature in several ways. First, building on organizational role theory, the sensemaking perspective of creativity, and self-determination theory, we posit that employees' self-expectations for creativity serve as a possible explanatory mechanism through which role-based expectations for creativity are internalized and enacted behaviorally. By doing so, we highlight that creative role expectations can be a powerful contextual cue that triggers personal interpretation, meaning, and motivation for creative actions (Drazin et al., 1999; Ford, 1996). Second, our studies add to the interactionist approach to creativity by showing that the interaction between two contextual factors may jointly shape employees' internal motivation to perform creatively via a sensemaking process (Shalley et al., 2004). That is, we examine whether perceived necessity for performance improvement may function as a contingency condition under which creative role expectations are interpreted as more desirable to fulfill and hence facilitate the internalization of these role expectations. Third, we not only build on but also extend the self-fulfilling prophecy at work model by investigating how self-set expectations for creativity result in different forms of creative performance (Carmeli & Schaubroeck, 2007). Specifically, we propose that self-expectations for creativity may have a direct effect on incremental creativity and that its effect on radical creativity may be further qualified by employees' creative cognitive style. Our fourth contribution is to the growing body of work focusing on differential effects of personal and contextual factors on incremental and radical creativity (e.g., Gilson et al., 2012; Gilson & Madjar, 2011; Jaussi & Randel, 2014; Madjar et al., 2011). We theorize and test if the generation of radical ideas requires a higher cognitive threshold and thus critically depends on the cognitive tendency to think out of the currently guiding paradigm. Taken together, this research aims to identify the psychological mechanisms and boundary conditions in the relationships between creative role expectations and employee incremental and radical creativity.

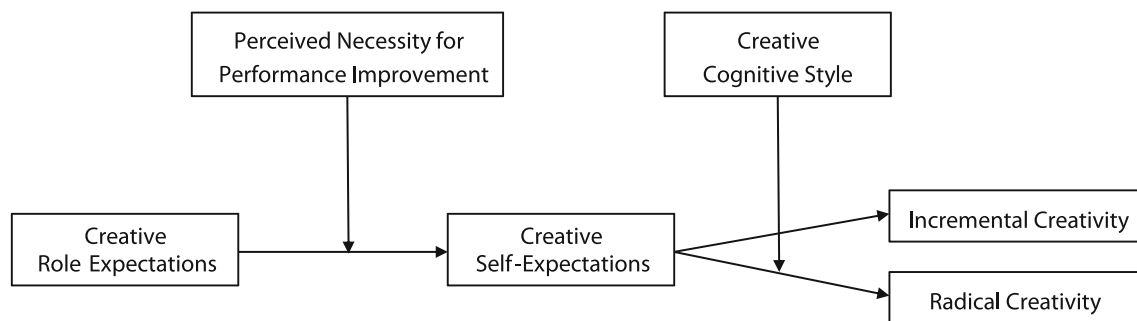


Fig. 1 Overview of the hypothesized model

## Theory and Hypotheses Development

### Creative Role Expectations and Creative Self-Expectations

The organizational role theory describes organizations as role systems consisting of “patterned activities of a number of individuals” (Katz & Kahn, 1978, p. 17), contending that role expectations are “main elements in maintaining the role system and inducing the required role behavior” (Katz & Kahn, 1978, p. 189). Role expectations refer to one’s beliefs about what an organizational role entails, which represent an individual’s construal of what is necessary or required for successful role performance (Dierdorff & Morgeson, 2007; Ilgen & Hollenbeck, 1991). Although expectations and requirements associated with work roles may serve as a structural activating force for role enactment, they are often positioned as distal to actual behavior. An important way role expectations are internalized is through a sensemaking process in which external expectations for engaging in a behavior are interpreted as important to oneself and having personal utility (Weick, 1995; Weick et al., 2005).

To shed light on how employees draw on their personal selves to assume creative roles, it is important to note that perceptions of externally set role expectations for creativity are conceptually different from the internal creativity expectations that employees attribute to themselves. Creative role expectations, as an extracted cue from the organizational context, finely convey normative expectations that part of employees’ outputs should be creative but leave processes and procedures to achieve creativity unspecified. Such role-based expectations delegate employees the responsibilities to pursue new and improved ways of performing work tasks and allow them to decide when and how to respond creatively to the tasks (Shalley, 2008). In contrast, self-expectations for creativity reflect the willingness to commit oneself to displaying creative behavior at work (Carmeli & Schaubroeck, 2007; Qu, Janssen, & Shi, 2017), which are sustained by the accessibility of personal resources (i.e., mental attention, emotional connections, and energetic activities) to be creative.

Integrating the sensemaking perspective of creativity (Drazin et al., 1999; Ford, 1996) with SDT (Deci & Ryan,

2000), we argue that employees derive personal meaning from facing creative role expectations because such jobs provide them more prospects to satisfy their basic needs for competence and autonomy, which results in self-expectations for creativity. First, creative role expectations afford employees the opportunity to satisfy their needs for competence. Jobs that have creative performance expectations tend to be challenging (Shalley et al., 2000; Unsworth et al., 2005) and call for substantial investments of personal resources such as domain-related expertise, creative thinking skills, and task motivation (Amabile, 1983). Such characteristics are congruent with employees’ natural inclinations to master over work-related tasks, to develop new skills, and to seek out intellectual challenges, thereby satisfying their inherent needs for competence. Moreover, the agents setting creative role expectations for employees usually do so based on their belief that those employees are able to meet and fulfill the creative requirements (Tierney & Farmer, 2004). Consequently, assignment to creative work roles may be interpreted as a signal of others’ confidence in the focal employees’ abilities to be creative at work. Such external confidence in their creative capacities increases the sense of self-efficacy and competence, motivating employees to draw on their personal qualities and set creativity expectations for themselves.

Second, creative role expectations afford employees the opportunity to satisfy their needs for autonomy. Jobs that require creativity oftentimes entail discretion and autonomy for finding problems and generating new and useful ideas for problem solutions (Shalley et al., 2000; Unsworth et al., 2005). Such autonomy embedded in creative jobs is also personally meaningful because employees have fundamental needs to feel psychologically free and enact their true selves at work (i.e., self-determining) (Deci & Ryan, 2000). As such, creative role expectations facilitate the satisfaction of needs for competence and autonomy. Because these needs are satisfied, employees are more likely to feel that contextually required creative actions are in line with and emanate from themselves, resulting in internalized motivations for creativity. Hence, we propose the following hypothesis:

*Hypothesis 1: Creative role expectations are positively related to creative self-expectations.*

## Perceived Necessity for Performance Improvement as a Moderator

As the nature of work has become more complex, flexible, and enriched, job holders are increasingly faced with multiple behavioral expectations to perform well (Campbell, 1988), including task-specific behavior, creative behavior, safety behavior, helping colleagues, and communication. As such, the challenge for all employees is to discern context favorability for taking certain type of action and decide if and when to act. According to the principle of contextual sensemaking in organizations (Weick, 1995; Weick et al., 2005), individuals are continuously motivated to extract cues from the context and use these cues to decide whether taking actions are sensible or not. Thus, when other contextual cues further justify the importance of fulfilling particular role expectations and make relevant role behavior more salient, employees become more likely to integrate the transmitted expectations of that role as their own.

We propose that perceived necessity for performance improvement can facilitate the internalization of role expectations for creativity because it helps employees recognize the need to change and identify the value of creativity in contributing to organizational effectiveness. Perceived necessity for performance improvement is defined as the extent to which an employee perceives that the current functioning and performance of his/her work unit or organization need to be improved (e.g., Yuan & Woodman, 2010). A suboptimal performance condition signals a problematic state of affairs and a need to develop creative problem solutions (Yuan & Woodman, 2010; Zhou & George, 2001), which hints the context favorability for fulfilling the expected creative behavior. That is, when employees perceive the necessity to improve the status quo, they have a greater chance to see how creative inputs of products, services, processes, or procedures would contribute to the performance of their work unit and organization (Drazin et al., 1999; Shin et al., 2017), thereby leading to greater willingness to internalize creativity expectations as their own. In contrast, employees who perceive the current state of affairs as operating rather well may attach less psychological importance to creativity expectations because it is difficult for them to assess the appropriateness and desirability of creative actions. Therefore, we predict the following:

*Hypothesis 2: Perceived necessity for performance improvement moderates the positive relationship between creative role expectations and creative self-expectations, such that the relationship is stronger when perceived necessity for performance improvement is high rather than low.*

## Creative Self-Expectations and Incremental and Radical Creativity

Self-expectations for a particular role behavior reflect employees' internal standards they set for themselves, which are based on the personal meaning associated with that role. According to the self-fulfilling prophecy at work model labeled as the Galatea effect (Eden, 1992), self-set expectations motivate employees to take actions consistent with their expectations, and those actions will increase the likelihood that expectations will be realized. In essence, self-expectations for role performance represent work motivation that mobilizes employees to exert greater amount of efforts and persistence to fulfill role behavior (Eden, 1992). Thus, employees' self-standards for the role behavior they should exhibit at work will result in enhanced role performance (McNatt & Judge, 2004).

To examine how the Galatea effect unfolds in terms of employee creativity, we differentiate incremental and radical creativity. While most people may associate creativity with dramatic breakthroughs, the most common type of creative contributions tends to be new and useful (i.e., creative) ideas that reflect continuity with the current paradigm (Unsworth, 2001). Incremental creativity introduces few changes in existing frameworks and minor modifications to established practices and products (Madjar et al., 2011).

We use two lines of argumentation to suggest that creative self-expectations are positively related to incremental creativity. First, the creative dimension of the self seeks expression in the enactment of creative work roles (Kahn, 1992). Employees who expect themselves to be creative have high motivations to derive a strong sense of accomplishment and personal satisfaction through creativity, thereby showing greater behavioral persistence in creative courses of action. Second, based on the notion that individuals selectively notice, encode, and retain information that is consistent with their internal desires (Kunda, 1990), employees in a state of heightened creative self-expectations are more likely to mobilize their cognitive resources to identify potential problems, search a wide variety of information for creative use, and consider multiple alternatives in generating new ideas (Zhang & Bartol, 2010). In line with our reasoning, some studies have shown that employees' personal expectations for creativity are positively related to creative involvement at work (Carmeli & Schaubroeck, 2007; Tierney & Farmer, 2004). Based on the premise that creative potential is pervasive and can be realized through increased cognitive processing (cf. Kaufman & Beghetto, 2009; Runco, 2004), we propose that creative self-expectations would be directly related to incremental creativity.

*Hypothesis 3: Creative self-expectations are positively related to incremental creativity.*

## Creative Cognitive Style as a Moderator

Although both incremental and radical creative outcomes can be recognized as novel and useful, only radical creative ideas for problem solutions meet the additional criterion of altering the very paradigm from which problems originated (i.e., a paradigm shift). Radical creativity offers ideas that differ substantially from the existing framework of practices and routines within an organization (Madjar et al., 2011). To derive fundamentally new ideas, individuals have to be able to flexibly reframe problems and to integrate seemingly unrelated perspectives and information (Dane, 2010; Mumford & Gustafson, 1988). Such higher cognitive threshold that radical creativity requires implies that creative cognitive style might be especially beneficial for the generation of radical creativity.

We expect that creative cognitive style acts as an important boundary condition for turning creative self-expectations into radical creative outcomes because it facilitates the cognitive generation process during creative problem solving. A cognitive style is an individual's preferred way of processing and organizing information (Carnabuci & Diószegi, 2015, p. 883), which influences how the individual deals with critical cognitive activities involved in problem solving, such as problem definition and representation, information gathering, and the generation of possible solutions. A creative cognitive style refers to the tendency to approach problems from original and unusual perspectives (Kirton, 1976, 1994). Employees with a creative cognitive style solve problems by redefining problems from different perspectives, integrating diverse information, and generating unconventional solutions that deviate from the currently guiding paradigm (Kirton, 1976, 1994). They do things differently, prefer to propose breakthrough solutions over improving existing ones. These cognitive characteristics allow them to live up to internal creativity expectations in the form of radical creativity.

In contrast, employees low on creative cognitive style tend to find problem solutions by referring to precedents, using available information, and adjusting their ideas to the commonly accepted ways of doing things (Kirton, 1976, 1994). They are more adept at doing things better and generally suggest solutions that fit within established frameworks. However, this approach often inhibits them from breaking away from current paradigms, limiting the likelihood of generating truly novel ideas no matter how a great deal an employee expects for himself or herself to be creative. Hence, creative cognitive style qualifies the nature of the relationship between creative self-expectations and radical creativity such that radical creativity can be a behavioral manifestation of creative self-expectations only for those high on creative cognitive style. Based on these lines of reasoning, we hypothesize the following:

*Hypothesis 4: Creative cognitive style moderates the positive relationship between creative self-expectations and radical creativity, such that the relationship is stronger when creative cognitive style is high rather than low.*

## Integrated Models for Incremental and Radical Creativity

Taken together, the aforementioned hypotheses (Hypotheses 1, 2, 3, and 4) suggest that creative role expectations externally imposed by the organization have an indirect effect on employee incremental and radical creativity through creative self-expectations. The boundary conditions from creative role expectations to employee incremental and radical creativity, however, are different, with perceived necessity for performance improvement acting as a first-path moderator for both forms of creativity and creative cognitive style as a second-stage moderator for radical creativity. In sum, we propose a first-stage moderated mediation model to clarify why creative role expectations can facilitate employee incremental creativity (through creative self-expectations) and under what condition (when employees perceive the necessity to improve the performance of their work unit or organization) the mediated relationship is more pronounced. Meanwhile, we propose a dual-stage moderated mediation model to clarify why creative role expectations can facilitate employee radical creativity (through creative self-expectations) and under what conditions (when employees have a high level of perceived necessity for performance improvement and have a creative cognitive style) the mediated relationship is more pronounced. Accordingly, we formulate two additional hypotheses to test moderated mediation models for incremental and radical creativity.

*Hypothesis 5: Perceived necessity for performance improvement (as first-path moderator) moderates the indirect relationship between creative role expectations and incremental creativity as mediated by creative self-expectations, such that the indirect relationship is stronger when perceived necessity for performance improvement is high rather than low.*

*Hypothesis 6: Perceived necessity for performance improvement (as first-path moderator) and creative cognitive style (as second-path moderator) moderate the indirect relationship between creative role expectations and radical creativity as mediated by creative self-expectations, such that the indirect relationship is stronger when perceived necessity for performance improvement and creative cognitive style are high rather than low.*

## Method

### Participants and Procedure

We collected field data in a large Chinese academic institution specialized in scientific research. In this organization, work groups are domain-specific and focus on conducting research projects around specific subject areas, such as biology, chemistry, computer science, electrical engineering, and geography. Employees working for this organization, in general, have

high degrees of expertise, education, and experience, and their work primarily involves the creation and application of knowledge. Although these employees can choose to collaborate with their colleagues to undertake research projects, their performance appraisal is individual-based because each employee is expected to be able to independently discover scientific or technical problems and infuse his/her unique perspectives to solve these problems. The output items that can be counted as key performance indicators include, but are not limited to, journal articles, books, patents, and published official reports. Accordingly, a calculation tool that combines publication quality, quantity, and author contribution is used to assess employee performance. Hence, it is appropriate to test our hypotheses among these scientific employees because their work provides a real illustration of in-role creative performance.

We contacted 493 leader–employee dyads from 80 scientific groups to participate in the study. Respondents (leaders and their respective employees separately) were briefed on the purposes and procedures of the survey, including issues of confidentiality (e.g., directly returning questionnaires to the researcher using sealed envelopes). Employees provided their perceptions of creative role expectations, perceived necessity for performance improvement, creative self-expectations, and creative cognitive style. These employees' direct leaders provided ratings of incremental and radical creativity. Eventually, we obtained 325 usable leader–employee dyads out of 493 possible dyads, yielding an effective response rate of 65.92%. The 325 employees were nested within 69 leaders. The sample consisted of 169 male and 143 female employees (13 employees did not report their gender), with an average age of 30.87 years (15 employees did not report their age). The participants reported one of three educational levels (8 employees did not report their educational level): bachelor degree (3.15%), master degree (35.02%), and doctoral degree (61.83%). The average job tenure was 5.18 years (34 employees did not report their job tenure). A total of 47 employees did not complete their demographic information. To fully utilize all information available, we used multiple imputation to replace missing values on gender, age, education, and job tenure with plausible values (Rubin, 1987). Conclusions drawn from results remain unchanged when cases with missing values were excluded.

## Measures

The English survey items were translated into Chinese and then back-translated into English by two independent bilingual experts (Brislin, 1980). Unless otherwise indicated, all measures were assessed on a seven-point Likert scale.

**Creative Role Expectations** We slightly adapted Yuan and Woodman's (2010) innovativeness as a job requirement scale

to measure the extent to which employees perceive role expectations for creativity as part of their jobs. A sample item is "Suggesting new ideas is part of my job duties" ( $\alpha = 0.91$ ).

**Perceived Necessity for Performance Improvement** A three-item instrument developed by Yuan and Woodman (2010) was used to measure employees' perceptions of the necessity to improve the performance of their work unit or organization. A sample item is "The performance of my organization needs to be improved" ( $\alpha = 0.87$ ).

**Creative Self-Expectations** We measured employees' own self-expectations for creativity with a three-item scale developed by Carmeli and Schaubroeck (2007). A sample item is "I expect myself to be creative at work" ( $\alpha = 0.79$ ).

**Creative Cognitive Style** To assess creative cognitive style, the four-item creativity subscale of personal cognitive style of Miron, Erez, and Naveh (2004) was used. A sample item is "I prefer tasks that enable me to think creatively" ( $\alpha = 0.81$ ).

**Employee Incremental and Radical Creativity** Leaders' ratings of incremental and radical creativity were based on the measures of Madjar et al. (2011) with three items each. A sample item for incremental creativity scale is "This employee suggests small adaptations to the existing ways of doing things" ( $\alpha = 0.92$ ). A sample item for radical creativity scale is "This employee suggests radically new ways for doing work" ( $\alpha = 0.94$ ).

**Control Variables** We collected data on employee demographic characteristics that were shown to be associated with creativity. As prior research has shown potential gender differences in creative achievements (cf. Baer & Kaufman, 2008), creative self-expectations (e.g., Karwowski, Lebeda, Wisniewska, & Gralowski, 2013), and creative behavior (e.g., Zhang & Bartol, 2010), we controlled for gender. Other research has demonstrated that the frequency and radicalness of scientific creativity vary substantially over age (cf. Lehman, 1960; Jones & Weinberg, 2011); we therefore controlled for age (in years). Education and job tenure reflect domain-relevant expertise, which are essential components to creativity (Tierney & Farmer, 2002, 2004). We originally collected educational level with five categories ranging from 1 for "high school" to 5 for "Ph.D." Responses predominantly fell into two of the five categories: master's degree (34.15%) and Ph.D. (60.31%). Thus, we recoded education into a dichotomous variable with 0 for "master's degree or less" and 1 for "Ph.D." We believe this dichotomization is meaningful because postgraduate education provides additional domain-relevant knowledge, further development of cognitive enhancement, and opportunities to practice problem-solving skills (Tierney & Farmer, 2002). Job tenure was the length of work experience (in years).

## Confirmatory Factor Analyses and Common Method Variance Considerations

Given that the measurement of creative role expectations, creative self-expectations, perceived necessity of performance improvement, and creative cognitive style was provided by one single informant (i.e., employees), common method variance (CMV) may exist and potentially bias observed relationships among study variables (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). To test for CMV and its potential biasing effects, we conducted confirmatory factor analyses (CFAs) using the unmeasured latent method factor approach (Williams & McGonagle, 2016). Following the recommended comprehensive analysis strategy, we first evaluated the measurement model to check the convergent and discriminant validity of our main study variables. The results showed that our intended six-factor structure achieved quite good fit with the data ( $\chi^2[174] = 276.90$ , CFI = 0.98, TLI = 0.97, RMSEA = 0.04, SRMR = 0.04) and provided a significantly better fit than a series of alternative models in which the indicators of two or more variables were combined ( $p < 0.001$  for all tests). We then added an orthogonal latent method variable to the basic measurement model to test for presence and equality of method effects. The unmeasured latent method factor accounted for an average of 4.98% of the variance in the substantive indicators. Although we found evidence of a very small amount of CMV unequally distributed across substantive indicators, it did not affect key factor correlations that are associated with the core part of the research model and its proposed relationships. These findings indicate that CMV should have little to no effects on our hypotheses testing.

## Analytical Strategy

We conceptualized all variables and hypotheses at the individual level of analysis. Because each group leader rated incremental and radical creativity for multiple employees, our observations may violate the assumption of independence. The corresponding values of intraclass correlation coefficients (ICC<sub>1</sub>) for incremental and radical creativity were 0.42 and 0.44, indicating the multiple evaluations per leader were correlated. Therefore, we conducted multilevel analyses to examine the effects of individual-level predictors on creative performance while taking into account leaders' response tendencies in their ratings of employee creativity. We analyzed our data in Mplus 7.4 (Muthén & Muthén, 1998–2012) to conduct an integrative test of the first-stage moderated mediation model for incremental creativity and the dual-stage moderated mediation model for radical creativity. Because the bootstrapping method of resampling cannot be applied to multilevel analyses, we used the Monte Carlo approach of resampling to construct confidence intervals for the indirect and conditional indirect effects attributable to creative self-expectations

(Preacher, Zyphur, & Zhang, 2010). Specifically, we implemented an online interactive program (Selig & Preacher, 2008) by using the parameter estimates and their associated asymptotic covariance matrix. In addition, we standardized all predictors to examine first-stage and second-stage interaction effects.

## Results

Means, standard deviations, internal consistency reliabilities, and bivariate correlations for all variables are presented in Table 1. The correlation table shows that employee gender, age, job tenure, and educational level are all correlated with one or more of the outcome variables. We therefore retained them as controls in our analyses (cf. Becker, 2005). In addition, we rerun the analyses excluding all controls to fully reveal the impact of controls on the hypothesized relationships (Becker et al., 2016). The results without controls, which are reported in the Appendix, were essentially identical.

## Hypotheses Testing

The results of the hypotheses tests are presented in Table 2. Hypothesis 1 proposed a positive relationship between creative role expectations and creative self-expectations. As shown in Table 2, creative role expectations were found to be positively related to creative self-expectations ( $\gamma = 0.59$ ,  $p < 0.001$ ), providing support to Hypothesis 1.

Hypothesis 2 stated that perceived necessity for performance improvement augments the positive relationship between creative role expectations and creative self-expectations. Indeed, the interaction effect of creative role expectations and perceived necessity for performance improvement on creative self-expectations was significant and positive ( $\gamma = 0.15$ ,  $p = 0.003$ ). The simple slopes test demonstrated that creative role expectations were more positively related to creative self-expectations when employees perceived higher ( $\gamma = 0.74$ ,  $p < 0.001$ ;  $M + 1$  SD) rather than lower ( $\gamma = 0.44$ ,  $p < 0.001$ ;  $M - 1$  SD) necessity for performance improvement (see Fig. 2 for illustration). Hence, Hypothesis 2 was supported.

Hypothesis 3 suggested that creative self-expectations are positively related to incremental creativity. As indicated in Table 2, creative self-expectations had a significant positive relationship with incremental creativity ( $\gamma = 0.17$ ,  $p = 0.024$ ), supporting Hypothesis 3.

Hypothesis 4 suggested that the relationship between creative self-expectations and radical creativity depends on creative cognitive style such that creative self-expectations are more positively related to radical creativity when creative cognitive style is high rather than low. As shown in Table 2, creative self-expectations interacted with creative cognitive style to predict radical creativity ( $\gamma = 0.09$ ,  $p = 0.020$ ). The pattern



**Table 1** Means, standard deviations, and correlations

Variables	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10
1. Gender	0.46	0.50										
2. Age	30.87	5.51	0.05									
3. Education	0.62	0.49	-0.11*	0.20**								
4. Job tenure	5.18	5.92	0.15*	0.84**	-0.02							
5. Creative role expectations	5.32	1.02	-0.07	0.06	0.18**	0.04	(0.91)					
6. Perceived necessity for performance improvement	4.87	1.13	-0.01	0.12*	0.02	0.10†	0.13*	(0.87)				
7. Creative self-expectations	5.49	0.93	-0.05	0.02	0.18**	-0.00	0.62**	0.13*	(0.79)			
8. Creative cognitive style	4.82	0.99	-0.19**	0.07	0.01	0.02	0.42**	0.12*	0.47**	(0.81)		
9. Incremental creativity	5.08	1.05	0.06	0.12*	0.14*	0.13*	0.10†	0.02	0.17**	0.03	(0.92)	
10. Radical creativity	4.65	1.27	-0.17**	0.04	0.35**	-0.01	0.21**	-0.01	0.23**	0.16**	0.48**	(0.94)

Note. *N* = 325. Values in parentheses are Cronbach's alpha coefficients. For gender, 0 = "male," 1 = "female"

†  $p < 0.1$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

of this interaction is illustrated in Fig. 3. Specifically, creative self-expectations were significantly and positively related to radical creativity ( $\gamma = 0.23$ ,  $p = 0.012$ ) for employees with a high creative cognitive style ( $M + 1$  SD), whereas this relationship ( $\gamma = 0.06$ ,  $p = 0.483$ ) was nonsignificant for those with a low creative cognitive style ( $M - 1$  SD). As such, these results supported Hypothesis 4.

Hypothesis 5 stated that the indirect effect of creative role expectations on incremental creativity through creative self-expectations is contingent upon perceived necessity for performance improvement. With 20,000 Monte Carlo replications, we found that the indirect effect of creative role expectations on incremental creativity through creative self-expectations was stronger when perceived necessity for performance improvement was high (indirect effect = 0.13; CI = 0.021 to 0.242) as compared to when perceived necessity for

performance improvement was low (indirect effect = 0.08; CI = 0.012 to 0.156). Thus, Hypothesis 5 was supported.

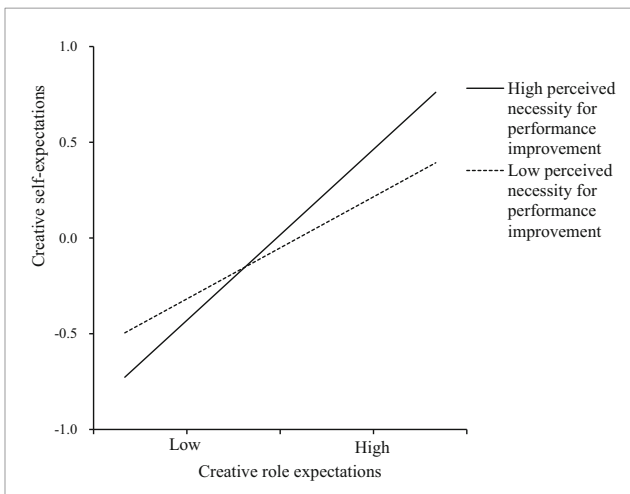
Hypotheses 6 suggested that the indirect effect of creative role expectations on radical creativity through creative self-expectations depends on both perceived necessity for performance improvement and creative cognitive style. Results indicated that creative self-expectations mediated the effect of creative role expectations on radical creativity when both perceived necessity for performance improvement and creative cognitive style were high (indirect effect = 0.17; CI = 0.033 to 0.318) and when perceived necessity for performance improvement was low and creative cognitive style was high (indirect effect = 0.10; CI = 0.019 to 0.208). In the other two combinations of perceived necessity for performance improvement and creative cognitive style (high–low, low–low), the indirect effects of creative role expectations on radical

**Table 2** Results of moderated mediation analyses

Predictor	Creative self-expectations			Employee incremental creativity			Employee radical creativity		
	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>
Gender	0.01	0.05	0.904	0.01	0.04	0.762	-0.11*	0.05	0.028
Age	-0.07	0.10	0.497	0.01	0.11	0.913	-0.04	0.12	0.752
Education	0.09*	0.04	0.038	0.15*	0.06	0.022	0.30***	0.07	0.000
Job tenure	0.03	0.09	0.706	0.14	0.10	0.188	-0.04	0.13	0.729
Creative role expectations	0.59***	0.08	0.000	-0.05	0.07	0.495	0.02	0.08	0.818
Perceived necessity for performance improvement	0.03	0.05	0.499						
Creative role expectations × perceived necessity for performance improvement	0.15**	0.05	0.003						
Creative self-expectations				0.17*	0.08	0.024	0.14†	0.08	0.067
Creative cognitive style				0.01	0.06	0.859	0.09	0.07	0.177
Creative self-expectations × creative cognitive style				0.03	0.04	0.328	0.09*	0.04	0.020

Note. *N* = 325

†  $p < 0.1$ ; \*  $p < 0.05$ ; \*\*  $p < 0.01$ ; \*\*\*  $p < 0.001$

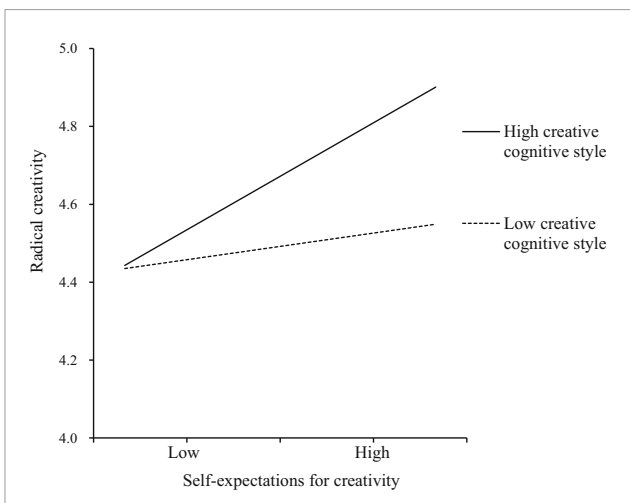


**Fig. 2** The interaction of creative role expectations and perceived necessity for performance improvement on creative self-expectations

creativity through creative self-expectations was nonsignificant. Hence, these results confirmed Hypothesis 6.

**Supplementary Analyses**

Because prior research has mainly focused on instrumentality-based reasons to account for the fulfillment of creative role expectations, we conducted additional analyses to evaluate creative self-expectations’ unique ability to mediate the effect of creative role expectations on creative behavior above and beyond employees’ cognitive appraisal of personal consequences. By including expected positive performance outcomes and expected image gains as simultaneous mediators in our hypothesized model (Preacher & Hayes, 2008), we were able to determine the relative magnitudes of the different mediating mechanisms that linked creative role expectations to employee incremental and radical creativity.



**Fig. 3** The interaction of creative self-expectations and creative cognitive style on radical creativity

Specifically, we included expected positive performance outcomes and expected image gains together with self-expectations for creativity as mediators within a single integrated model. Expected positive performance outcomes were measured by Yuan and Woodman’s (2010) three-item scale ( $\alpha = 0.85$ ). Expected image gains were measured by four items (Yuan & Woodman, 2010;  $\alpha = 0.92$ ). Results showed that including instrumentality-based considerations as mediators in the analyses did not affect the direction of results reported above, albeit that the path from creative self-expectations to incremental creativity dropped to marginal significance ( $\gamma = 0.15, p = 0.080$ ). This is likely due to the suppressing effect of expected positive performance outcomes and expected image gains and the attendant loss of statistical power. We also found that creative role expectations were positively related to expected positive performance outcomes ( $\gamma = 0.55, p < 0.001$ ) and expected image gains ( $\gamma = 0.31, p < 0.001$ ). However, neither expected positive performance outcomes ( $\gamma = -0.03, p = 0.687$ ) nor expected image gains ( $\gamma = 0.07, p = 0.308$ ) had a significant effect on radical creativity, and expected image gains only had a marginally significant effect on incremental creativity ( $\gamma = 0.11, p = 0.052$ ). Overall, these findings demonstrate the robustness of the mediating role of creative self-expectations in explaining the effects of creative role expectations on employee incremental and radical creativity.

Finally, due to the correlational design of the present study, we conducted additional regression analyses to examine the possibility of reversed causality that employee creativity might influence perceptions and judgments of creative role expectations, necessity for performance improvement, creative self-expectations, and creative cognitive style and compared our hypothesized model with these alternative causal models by means of information criteria, including Akaike information criterion (AIC), Bayesian information criterion (BIC), and sample-size adjusted BIC (SSBIC).<sup>1</sup> First, we estimated an alternative model in which incremental and radical creativity trigger variations in the other four study variables. Although the main effect of radical creativity on creative self-expectations ( $\gamma = 0.15, p = 0.028$ ) and creative cognitive style ( $\gamma = 0.23, p = 0.002$ ) reached significant levels, all other path coefficients were not significant, and the model had a worse fit than our hypothesized model. Second, we estimated an alternative model in which creative cognitive style is specified to moderate the path from radical creativity to self-expectations for creativity and perceived necessity of performance improvement to moderate the path from self-expectations for creativity to role expectations for creativity. We did not find any empirical support for the interaction of radical creativity and creative cognitive style on creative self-expectations and

<sup>1</sup> We thank an anonymous reviewer for suggesting to us to compare the hypothesized model with alternative models using this analytic approach.

the interaction of creative self-expectations and perceived necessity for performance improvement on creative role expectations. Furthermore, this alternative model also had a worse fit than our hypothesized model.

### Additional Study

To further test our purported theoretical mechanisms based on self-determination theory, we conducted an additional study in which we tested whether the needs to satisfy autonomy and competence facilitate the internalization process between creative role expectations and creative self-expectations.<sup>2</sup> We used Amazon Mechanical Turk to recruit 201 US participants with full-time jobs. The study was described as examining employees' responses to jobs in which they are expected to engage in creative behavior. Each participant was compensated 1 USD for their participation. Participants' average age was 39.68 years ( $SD = 9.23$ ), average work experience was 6.54 years ( $SD = 5.68$ ), and most (95%) had a college education or higher.

We used the same measures to assess creative role expectations ( $\alpha = 0.92$ ) and creative self-expectations ( $\alpha = 0.94$ ). We measured basic need satisfaction for competence ( $\alpha = 0.79$ ), autonomy ( $\alpha = 0.79$ ), and relatedness ( $\alpha = 0.88$ ) using a 21-item instrument developed by Deci et al. (2001). Confirmatory factor analyses in Mplus 7.4 (Muthén & Muthén, 1998-2012) revealed that the hypothesized five-factor model had a marginal fit to the data ( $\chi^2 [367] = 1125.78$ ,  $CFI = 0.81$ ,  $TLI = 0.79$ ,  $RMSEA = 0.10$ ,  $SRMR = 0.10$ ). The factor loadings indicated that the compromised fit was due to the basic need satisfaction measure, which is known to have insufficient discriminant validity among the three needs (see Van den Broeck, Ferris, Chang, & Rosen, 2016 for a review). Chi-square difference tests showed that the hypothesized measurement model had a significantly better fit than alternative models in which the indicators of two or more variables were combined to represent a single factor ( $p < 0.001$  for all tests).

We used PROCESS (Hayes, 2013) to assess the indirect relationship between creative role expectations and creative self-expectations as simultaneously mediated by the satisfaction of needs for competence, autonomy, and relatedness (cf. Preacher & Hayes, 2008), controlling for participants' gender, age, education, and job tenure. Results showed that creative role expectations were positively related to competence satisfaction ( $B = 0.35$ ,  $p < 0.001$ ) and autonomy satisfaction ( $B = 0.40$ ,  $p < 0.001$ ). In turn, only competence satisfaction significantly predicted creative self-expectations ( $B = 0.28$ ,  $p = 0.008$ ), whereas autonomy satisfaction was not significantly related to creative self-expectations ( $B = 0.09$ ,  $p =$

0.400). The indirect effect of creative role expectations on creative self-expectations via competence satisfaction was significant (indirect effect = 0.10; 95%  $CI = [0.021$  to  $0.200]$ ). However, contrary to our expectations, the indirect effect of creative role expectations on creative self-expectations via autonomy satisfaction was not significant (indirect effect = 0.04; 95%  $CI = [-0.093$ ,  $0.151]$ ).<sup>3</sup> Our findings imply that employees who face creative role expectations generally experience more satisfaction of their need for competence, and thus, accept them as their own. This is not surprising given the fact that the need to feel competent is a *primary propensity* in humans (White, 1959).

### Discussion

In an attempt to examine why, when, and how creative role expectations result in incremental and radical creativity, we theorized and demonstrated that creative role expectations externally imposed by the organization do positively relate to creative self-expectations in employees and that perceived necessity for performance improvement strengthens this positive relationship. Furthermore, we suggested and demonstrated that creative self-expectations are positively related to incremental creativity and that creative cognitive style acts as a boundary condition for turning such self-expectations into the generation of radical creative ideas. Moreover, we found empirical evidence for our first-stage moderated mediation model for incremental creativity whereby the indirect effect of creative role expectations on incremental creativity via self-expectations for creativity is more pronounced when employees perceive there is a necessity to improve the current performance of their work unit or organization. Our survey results also provided support for the dual-stage moderated mediation model for radical creativity such that the indirect effect of creative role expectations on radical creativity via creative self-expectations is stronger when both perceived necessity for performance improvement and creative cognitive style are high as opposed to low. Finally, we demonstrated that the internalization process is primarily facilitated by a competence need satisfaction.

### Theoretical Implications

Our theorizing and empirical findings have implications for various streams of literature, particularly for the literature on organizational role theory, the sensemaking perspective of creativity, and SDT, as well as the more specific literature on creative role expectations, incremental and radical creativity, and creative cognitive style.

<sup>2</sup> We thank an anonymous reviewer for suggesting to us to directly test our arguments for Hypothesis 1.

<sup>3</sup> More detailed results of the additional study are available from the first author.

First, we contribute to organizational role theory (Ilgen & Hollenbeck, 1991; Katz & Kahn, 1978) and the sensemaking perspective of creativity (Drazin et al., 1999; Ford, 1996) by identifying self-expectations for creativity as a process mechanism that explains how employees make sense of role expectations for creativity and how their sensemaking efforts affect subsequent role enactment. Our findings suggest that creative role expectations trigger a sensemaking process through which employees establish a psychological link between facing creativity performance expectations and personal significance, thereby internalizing the role-based expectations for creativity as their own. Prior research has mainly focused on an instrumental view to interpret the effect of innovation job requirement on required innovative behavior (e.g., Yuan & Woodman, 2010). We further integrate the sensemaking perspective with SDT (Deci & Ryan, 2000) to offer a theoretical account for why creative role expectations can be personally meaningful to the self. That is, employees are provided more opportunities to fulfill their basic needs for competence in the context of creative roles.

Second, as an extension of our first contribution, this study contributes to the sensemaking perspective of creativity (Drazin et al., 1999; Ford, 1996) by revealing how the interaction between multiple contextual cues can make the meaning of creative actions more salient. In particular, we identify perceived necessity for performance improvement as a contingency condition shaping the relation between external role expectations for creativity, creative self-expectations, and creative behavior. Our results suggest that employees are more likely to recognize the importance of expected creative behavior when they perceive that the performance of their work unit or organization needs to be improved. While creative role expectations serve as the institutional, normative cue to instigate employees' self-expectations for creativity, perceived necessity for performance improvement gives diagnostic, specific information to decipher how performing the expected creative behavior will contribute to organizational effectiveness. Our theoretical logic is in line with a recent study conducted by Shin et al. (2017), who also employed a sensemaking perspective to demonstrate that employees with low intrinsic interest in innovation are likely to comply with innovation job requirement when they perceive the value of the requirement for their organization. Moreover, this study also contributes to the interactionist perspective of creativity by showing how contextual characteristics interact with one another to influence employee creativity via the sensemaking process (Shalley et al., 2004; Woodman et al., 1993).

Third, our study contributes to an increasing body of research that examines differential effects of certain antecedent on incremental and radical creativity (Gilson et al., 2012; Gilson & Madjar, 2011; Jaussi & Randel, 2014; Madjar et al., 2011). More specifically, we find that self-expectations for creativity function as a motivational force that

directly drives employees to generate ideas that incrementally improve existing products and processes and that creative cognitive style is crucially needed for turning such self-expectations into ideas that radically alter the status quo. Creativity researchers have noted that the fundamental difference in the nature of the two types of creativity is that incremental creativity tends to operate within the established paradigms, whereas radical creativity attempts to break away from the accepted modes of thought and action (Dane, 2010; Mumford & Gustafson, 1988). Hence, our results support the conceptual distinction between incremental and radical creativity and particularly highlight the higher threshold of creative thinking for developing radical breakthrough ideas. Previous studies have established the advantages of creative thinking style for general creativity (e.g., Tierney, Farmer, & Graen, 1999) and investigated individual differences in problem-solving style as a key boundary condition regulating the effects of contextual factors on employee creativity or innovation (e.g., Carnabuci & Diószegi, 2015), but remain silent on how creative thinking tendency plays a qualifying role for radical creativity. Thus, our results also add to the literature on creative cognitive style by showing that a highly creative way of thinking is particularly beneficial for the occurrence of radical creative outcomes.

## Practical Implications

Our research bears several actionable implications for managers and practitioners interested in enhancing employee incremental and radical creativity. First, a core message from the present study is that setting role expectations for creativity is an effective way to boost employee creativity. These role expectations can be set in various ways, for example, by explicitly incorporating creativity into job descriptions or by clearly communicating that part of employees' outputs should be creative (Shalley, 2008; Yuan & Woodman, 2010). Moreover, our results indicate that perceived necessity for performance improvement is especially useful in facilitating employees to draw on themselves to assume creative roles because employees who seek to improve the current performance of their current work situation are more likely to endorse the value of being creative. Hence, if an organization has a strong mission for creativity, managers need not only formalize creative roles into a position but should also sensitize employees to the potential room for improvement. Managers can also achieve this by directly delineating the rationale of setting creative role expectations so that employees can understand that finding new and better ways of doing things in the conduct of their daily work will ultimately contribute to the performance of their organization.

Second, our findings indicate that while self-expectations for creativity motivate employees to initiate and sustain efforts to engage in creative actions, creative cognitive style qualifies

whether the ideas generated are more incremental or radical. That is, self-expectations for creativity are sufficient for employees to develop incrementally creative ideas. However, the personal cognitive style of employees must also be taken into account if their radically creative endeavors are to be successful. These results highlight that managers need to collect data on employees' cognitive style through the use of assessment instruments. These data would help managers to achieve person–job fit so as to achieve the desired form of creative ideas depending on situational demands. For example, if a manager wants to introduce major breakthroughs to refresh the company's certain product line, they need to recruit or arrange employees who have a cognitive preference for original and unusual problem solving. In addition, although problem-solving style seems not to be readily altered over a short period of time (Kirton, 1994), creative cognitive style essentially reflects the component of creativity-relevant skills (Amabile, 1983), which could be enhanced through training and development programs. Managers can consider investing in skill development specific for creativity, which would be helpful for employees to enhance cognitive fluency and originality, obtain flexible ideational skills, and develop their own strategies for creative thinking.

### Limitations and Future Directions

Although the present research has clear practical and theoretical implications, there are also several theoretical and methodological limitations that warrant a careful interpretation of our results. In terms of methodological issues, we have employed a cross-sectional design across two studies, which bears several limitations. First, although the hypothesized causal relations among our variables and results accord well with the current theorizing and data, the correlational nature of our studies precludes a clear justification of the direction of causality. Future research could employ longitudinal field investigations or controlled field experiments to more fully substantiate the proposed patterns of causality. Second, there is a potential that the common method variance in our studies has inflated the magnitude of the linear effects (Podsakoff et al., 2003). Common method variance, however, tends to attenuate the strength of interaction effects, making it more difficult to be detected in regression estimates (cf. Siemsen, Roth, & Oliveira, 2010). Despite the presence of potential common method variance, we still detected two significant interaction effects, which suggests that common method variance is unlikely to have a large statistical impact on our primary conclusions. Third, we collected data in a single job family in one organization. Although this allows us to rule out potentially confounding job-related explanations (e.g., job complexity) for the observed findings, it is possible that the features of occupation we studied may have influenced our findings. As participants work in the field of academia, the strong occupational identity in this sample might

have promoted the integrative processes of persons in creative roles. Given that we also observed the internalization of creative role expectations in the additional study using a diverse sample from different organizations and different task backgrounds, some confidence in the generalizability of our findings is warranted. Future research that replicates the present investigation in other contexts should promote further confidence in its generalizability. Taken together, these methodological issues have the potential to bias our results. Although we are confident that they are unlikely to severely inflate our results, future research could employ an experimental or longitudinal design to tackle these issues.

In terms of theoretical issues, our research has several limitations that suggest avenues for future inquiry. First, we did not examine the mechanism through which creative self-expectations lead to employee incremental and radical creativity. As such, a fruitful direction for future research is to uncover the intermediate processes linking creative self-expectations to the two forms of creativity. The motivation sequence framework (Locke, 1991, 2001) suggests that the motivational core (e.g., self-expectations) drives proximal motivational states (e.g., developing personal goals), which in turn lead to behavior and performance outcomes. Drawing on this theoretical framework, personal creativity goal, defined as the personal standard or aspiration that one's own job output should be creative (cf. Gong, Wu, Song, & Zhang, 2017), may help channel creative self-expectations into creative outcomes.

Second, we limited our study to focus on perceived necessity for performance improvement as a contingent factor in facilitating the internalization of creative role expectations. More future work needs to be done to identify other moderators that may affect employees' responses to external role expectations for creativity. Individual characteristics such as proactive personality (Crant, 2000), work promotion focus (Neubert, Kacmar, Carlson, Chonko, & Roberts, 2008), and growth need strength (Shalley et al., 2009) essentially capture the motivational readiness to embrace creative roles and therefore may influence the extent to which employees invest their psychological resources into creative roles. Additionally, research has shown that the complementarity between supportive work environment and creativity job requirement is crucial to employee job satisfaction and intentions to leave (Shalley et al., 2000). Thus, contextual conditions that facilitate fulfilling creative role expectations are also possible moderators in the relationship between creative role expectations and employee creativity.

Third, we have shown that creative cognitive style is especially important for turning creative self-expectations into radical creativity, but how to enhance incremental creativity still awaits further exploration. For instance, systematic cognitive style might be needed to develop incremental ideas for problem solution because it involves the tendency to rely on

consistent rules and disciplinary boundaries, and logically evaluate various alternatives (Sagiv, Arieli, Goldenberg, & Goldschmidt, 2010). Moreover, as cognitive persistence is characterized by effortful and in-depth exploration of only a few categories or perspectives (Nijstad, De Dreu, Rietzschel, & Baas, 2010), it could be the case that cognitive persistence serves as a boundary condition that facilitates the production of incremental creative ideas.

Last but not the least, while we framed creative role expectations as conducive to the occurrence of in-role creative behavior, the highly demanding nature of facing role expectations for creativity may also lead to stress reactions, relationship tensions, and other unintended consequences for role occupants (Janssen, Van de Vliert, & West, 2004). In order to truly capitalize on the benefits of setting creativity as in-role expectations while minimizing its costs, we need to gain a more comprehensive understanding of its bright and dark sides. Future research is much needed to consider a broader range of individual outcomes that role-based creativity expectations may bring about for employees who face such expectations.

## Conclusion

This study contributes to a growing literature on the distinction between incremental and radical creativity and provides empirical evidence for differential nurturing conditions needed for incremental and radical creativity. Building on organizational role theory and the sensemaking perspective of creativity, the current study takes one step toward a better understanding of how employees make sense of role expectations for creativity and enact creative roles. Specifically, we identify creative self-expectations as a mediator to explain why creative role expectations promote employee incremental and radical creativity. Perceived necessity of performance improvement further facilitates the internalization of role expectations for creativity into the sense of self. In turn, self-expectations for creativity directly lead to the generation of incremental creative ideas. However, the cognitive threshold for radical creativity is higher, requiring employees to be high on creative cognitive style in order to turn their creative self-expectations into radical breakthrough ideas. We hope these findings will stimulate future research to unravel more antecedents, process mechanisms, and boundary conditions for incremental and radical creativity. As this unraveling occurs, practitioners may be better able to align their work factors with the desired form of creativity.

## Appendix

### Results of moderated mediation analyses without controls

Predictor	Creative self-expectations			Employee incremental creativity			Employee radical creativity		
	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>	Estimate	SE	<i>p</i>
Creative role expectations	0.61***	0.07	0.000	−0.03	0.07	0.727	0.05	0.09	0.600
Perceived necessity for performance improvement	0.03	0.05	0.476						
Creative role expectations × perceived necessity for performance improvement	0.15**	0.05	0.003						
Creative self-expectations				0.18*	0.08	0.021	0.18*	0.08	0.028
Creative cognitive style				0.01	0.05	0.815	0.09	0.07	0.170
Creative self-expectations × creative cognitive style				0.05	0.03	0.176	0.10**	0.03	0.004

Note. *N* = 325

\**p* < 0.05; \*\**p* < 0.01; \*\*\**p* < 0.001

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