

Factors for Radical Creativity, Incremental Creativity, and Routine, Noncreative Performance

Nora Madjar
University of Connecticut

Ellen Greenberg
Sofia University

Zheng Chen
University of South Florida

This study extends theory and research by differentiating between routine, noncreative performance and 2 distinct types of creativity: radical and incremental. We also use a sensemaking perspective to examine the interplay of social and personal factors that may influence a person's engagement in a certain level of creative action versus routine, noncreative work. Results demonstrate that willingness to take risks, resources for creativity, and career commitment are associated primarily with radical creativity; that the presence of creative coworkers and organizational identification are associated with incremental creativity; and that conformity and organizational identification are linked with routine performance. Theoretical and managerial implications are discussed.

Keywords: radical creativity, incremental creativity, performance

In this dynamic environment of global competition and economic pressures, organizations are trying to use employee creativity as a potential resource for change, innovation, and survival (Bharadwaj & Menon, 2000; Shalley, Zhou, & Oldham, 2004). Employees are encouraged to take initiative, be innovative, and develop creative solutions to work-related problems in addition to making their work more standardized, cost effective, and efficient. Moreover, high engagement in creativity has been defined as an alternative to the competing and, sometimes, more favorable option of minimal engagement and habitual actions (e.g., Ford, 1996). It is, however, unclear how employees approach these competing goals.

Creative ideas can range from minor adaptations to radical breakthroughs (Mumford & Gustafson, 1988). Certain proposals in the literature theorize different types of creativity (e.g., George, 2007; Sternberg, 1999; Unsworth, 2001), suggesting an even wider range of options (e.g., routine performance, incremental creativity, radical ideas), all with the potential to contribute positively to performance outcomes (Gilson, Mathieu, Shalley, & Ruddy, 2005). But, if so, we know little about what stimulates engagement

in creative behavior and its choice over routine work (Ford, 1996; Unsworth & Clegg, 2010) or about the level or type of creativity (incremental vs. radical). If we assume that engagement in creativity is a deliberate (required or voluntary), intentionally undertaken process (Ford, 1996), then, for example, when would advertising employees simply translate an already existing commercial from a different country into the local language? When might they decide to modify and adapt it to the national culture? And when would they propose a completely different advertising scheme for the same product?

A number of studies, guided by the two main theoretical frameworks of organizational creativity (the componential model of creativity; Amabile, 1996; and the interactionist perspective on creativity; Woodman, Sawyer, & Griffin, 1993), have investigated the substantial impact of a variety of personal and contextual characteristics and the interactions among them on work-related creativity (see Amabile, 1996; Mumford, 2000; Shalley & Zhou, 2008, for reviews). Although this stream of research has expanded our understanding of how these characteristics influence creativity, with few exceptions (e.g., Madjar & Ortiz-Walters, 2009; Miron, Erez, & Naveh, 2004; Oldham & Cummings, 1996), research has neglected to compare or contrast the effect of these factors on both creative and routine work. Studies suggest only that some differences may exist in how certain factors affect different types of performance; they do not explore the influences behind the choice between creative or routine work or the level of engagement in creativity. Van Dyne, Jehn, and Cummings (2002), for example, are the only ones who, in addition to finding different effects of "strain" on creativity and sales, speculated that strain may be one of the factors that tips the scale toward routine work. Thus, additional research is needed to understand better the multitude of factors that may influence engagement in creative behavior and its choice over routine performance.

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Nora Madjar, Department of Management, University of Connecticut; Ellen Greenberg, Department of Business Administration, Sofia University, Sofia, Bulgaria; Zheng Chen, St. Petersburg College of Business, University of South Florida.

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Correspondence concerning this article should be addressed to Nora Madjar, Department of Management, University of Connecticut, 2100 Hillside Road, Unit 1041, Storrs, CT 06269. E-mail: nora.madjar@business.uconn.edu

Our main objective is to provide a more comprehensive picture of the conditions that influence involvement in creative behavior, level of engagement, and the final outcome of these behaviors by employing a sensemaking perspective on creativity (Drazin, Glynn, & Kazanjian, 1999; Ford, 1996). According to this perspective, when individuals are confronted with a situation, they try to make sense of it by creating their own interpretation and meaning (Weick, 1995), which provide goals and motivation for subsequent action (Drazin et al., 1999; Drazin, Kazanjian, & Glynn, 2008). Employees' social cognitions and derived meanings may then lead to conclusions on issues pivotal to creative engagement, such as the appropriateness and acceptance of creative action in the work realm and the likelihood that it will be rewarded (Ford, 1996).

Particularly relevant is the sensemaking theoretical framework, which is based on Ford's (1996) view that creative and habitual actions are competing behavioral options and on Drazin et al.'s (1999) proposition that individuals use sensemaking to negotiate between conflicting frames of reference held by different groups they associate with. Both of these models suggest that the decision to engage in creative work, in addition to or together with personal and contextual factors, entails sophisticated cognitive processes and sensemaking activities on the part of the employee. In this respect, the sensemaking perspective on creativity (Drazin et al., 1999; Ford, 1996; Unsworth & Clegg, 2010) provides a useful framework for examining the determinants of how individuals make sense of a situation and how they perceive the requirement or opportunity for creativity. Moreover, a sensemaking perspective contributes to existing theories of creativity by acknowledging the role of the individual interpretation of the multitude of contextual and personal factors that influence creativity.

Although the effect of sensemaking is most salient when explaining meaning and action in ambiguous circumstances and much of organizational life consists of routine situations that do not demand one's full attention, individuals still constantly apply sensemaking (Gioia & Mehra, 1996; Weick, 1995, p. 43). New tasks and projects (e.g., a new advertising campaign or its adaptation to a particular market) also create complex, ambiguous situations and, occasionally, "mini-crises" that may require sensemaking (Drazin et al., 1999).

In this work we define routine performance, radical creativity, and incremental creativity. Next, guided by the sensemaking perspective, we examine factors expected to influence an individual's interpretation and, consequently, involvement in radical creativity, incremental creativity, or habitual actions. More specifically, we focus on factors that have been linked to the sensemaking perspective and that represent certain social and contextual influences or personality characteristics that may influence the schema or frame of reference for interpretation of a situation (sensemaking), as well as the individual choice between creative or routine action (Ford, 1996).

Routine Performance, Radical Creativity, and Incremental Creativity

Although routine performance refers to the quantity of work, or "the effectiveness with which employees perform activities that contribute to the organization's technical core" (Borman & Motowidlo, 1997, p. 99), creativity is a separate dimension of perfor-

mance. It refers to original and novel work, emphasizing the generation of new and original ideas (Amabile, 1996; Van Dyne et al., 2002). Following Ford's (1996) model, we consider creativity as an alternative to routine work and examine conditions that will encourage individuals to engage in creative actions and produce creative outcomes.

Research, which has differentiated among factors for radical and incremental innovations (e.g., Dewar & Dutton, 1986) and between exploitation and exploration (Benner & Tushman, 2003), has considered them as two separate dimensions (Gupta, Smith, & Shalley, 2006). Amabile (1996) and others (e.g., Audia & Goncalo, 2007; Kirton, 1994; Mumford & Gustafson, 1988; Sternberg, 1999, 2006) also differentiated between creative work relying on familiar algorithms and minor adaptations and that relying on set-breaking heuristics and radical breakthroughs. However, in spite of this distinction and the acknowledgment of different individual styles (innovative and adaptive; Kirton, 1976), to date, most researchers (see Shalley et al., 2004, for a review) have empirically examined the originality or radicalness of ideas as one dimension. At the same time, Oldham and Cummings (1996) found different results for two types of creativity measures (employee suggestion-system ideas and patent disclosures) and suggested that the two measures may capture different types of creativity. Thus, the radical versus incremental distinction that appears in the innovation literature may hold with respect to individual-level creativity as well.

As creativity is usually viewed as the first step or ingredient for innovation, we decided to extend this analogy (Dewar & Dutton, 1986) and distinguish two types of creativity: radical and incremental. We define radical or "divergent" creativity as ideas that differ substantially from an organization's existing practices (Dewar & Dutton, 1986; Ettl, Bridges, & O'Keefe, 1984). Highly radical ideas should suggest new and set-breaking frameworks or processes. For example, "interactive advertising," or involving the consumer in a dialogue (instead of simply delivering a message with the ad), is a radically new way of promoting a product that diverges from already established practices. Incremental or "adaptive" ideas, on the other hand, imply few changes in frameworks and offer only minor modifications to existing practices and products. Modifying an existing print brochure to be presented in electronic form or using the same model and concept for shoe advertising to advertise jewelry are good illustrations of incremental ideas. It is important to recognize that the purpose of these distinctions is not to suggest that one type of creativity is inferior to the other. That is, radical creativity is not necessarily better or more valuable than incremental creativity, just as the innovative creative style is no less important than the adaptive style (Kirton, 1994). For example, the incremental idea of transferring printed advertising content to an online format may be as valuable and effective for generating profit as the radical idea of using advertising that shocks instead of appeals to target a completely different audience.

An idea or other creative outcome could be characterized as either incremental or radical, and we believe that the two concepts are orthogonal. A series of incremental ideas and changes (e.g., changing colors [from pastel to bright], sound, and music; changing the individuals targeted [stay-at-home mothers vs. working women]) could eventually lead to a radically different advertising scheme. The interpretation of the situation and its requirements

and the approach and motivation for this series of incremental ideas, though, may be very different from the factors that may lead directly to radically different outcomes (Amabile, 1996). These factors and interpretation may also differ substantially from the ones leading to the choice of routine work and the following of established procedures without any modifications.

Sensemaking Perspective and Creativity

Although sensemaking is an important component of an employee's decision to engage in creativity, the topic has received scant research attention (Drazin et al., 1999; Farmer, Tierney, & Kung-McIntyre, 2003; Ford, 1996; Unsworth & Clegg, 2010). Ford (1996) was the first to explicitly include sensemaking, together with motivation, knowledge, and ability, as a factor determining the engagement in creative, rather than habitual, action. He described how individuals' interpretations of multiple task domains affect their preference for habitual versus novel actions. Drazin et al. (1999) also proposed a multilevel model of organizational creativity and expanded the scope of creativity research by focusing on creativity more as a process rather than an outcome.

Our research adds to previous studies from a sensemaking perspective by integrating this theoretical framework with other models that look at contextual and personality factors for stimulating creativity (Ford, 2000). That is, we examine factors that may serve as the antecedents to certain individual interpretations, meanings, and motivations. We focus specifically on the sensemaking component in Ford's model and use some of the properties of sensemaking outlined by Weick (1995) to guide our choice of contextual and personality factors that may lead to important differences in schemas and interpretations (i.e., a threat or opportunity; requiring creativity [or not] to determine motivation and choice of action; Drazin et al., 2008; Ford, 1996).

Some of the main properties of sensemaking are that it is *social*, *grounded in identity construction*, and *retrospective* (Weick, 1995). The socially constructed meaning and interpretation of events or situations is formed by an interactive combination of the self-identity of the actors and the identity of the groups or communities to which they belong (Drazin et al., 2008; Weick, 1995; Weick, Sutcliffe, & Obstfeld, 2005). In addition, it has been suggested that conflict or partial inclusion in multiple social groups with different frames of reference may actually create a reason for sensemaking (Drazin et al., 1999, 2008). In this respect, commitment and identification in the workplace are two distinct, but closely related, concepts associated with the psychological attachment between an individual and his or her organization or occupation (Riketta & Van Dick, 2005). These may be useful mechanisms for examining the formation of schemas and their influence on issue interpretation and meaning creation as well as motivation and, hence, engagement in creative actions.

The *social* and *retrospective* properties of sensemaking also mean that it is influenced by the presence and experiences of others. Individuals need social anchors and a form of social reality (Weick, 1995), and this suggests that the groups to which an individual belongs and how creative they are, or the presence of creative coworkers and their tangible creative actions (Zhou, 2003), may significantly influence sensemaking. Sensemaking is also retrospective—that is, the individual's previous decisions, degree of previous engagement in creativity, and level of creativity

of the outcomes will be used as the context in which current and future decisions will be made (Weick, 2001). This feature of sensemaking also means that the history and context of the creative or routine work (how the members of the group interpreted and accepted previous instances of creativity) will provide the background for the current reflection and possibly shape the future expectations and occurrences of similar activities.

Another important characteristic of sensemaking is that it is *based on extracted cues* (Weick, 1995), which suggests that members attend to only parts of their environment. Typically, individuals are oriented toward those cues that are consistent with their personality and disposition (Ford, 1996). In this respect, personal disposition toward conformity, which has elements of loyalty, followership, and compliance (e.g., Miron et al., 2004; Zhou, 2003), will influence the selection of environmental cues that will discourage creativity. At the same time, willingness to take risks may create a different sensemaking perspective, resulting in a shift toward creative behavior.

The *enactment* and *plausibility* characteristics of sensemaking justify the inclusion of available resources for creativity as an important factor in determining engagement in creativity. That is, individuals will interpret a situation as requiring creativity and act upon this interpretation only if it is possible for them to produce creative outcomes via available resources. Both Ford (1996) and, more recently, Unsworth and Clegg (2010) have touched on the expectation of the existence of enabling resources and mechanisms, which make the link between extra effort and desired performance plausible. Available resources also provide the environmental cue that creativity is allowed and supported. In the sections that follow, we outline how the mentioned contextual and personality factors may influence the sensemaking schemas and interpretations and eventually the level of engagement and degree of creativity of the outcome.

Factors for Radical Creativity, Incremental Creativity, and Noncreative Performance

Career Commitment and Organizational Identification

Identification is related to the incorporation of a group's beliefs and values into one's own identity and self-image (Pratt, 1998), whereas commitment represents a psychological state that binds the individual to an organization or social group (Allen & Meyer, 1990). The two concepts, though distinct, are strongly related, and theorists have viewed identification as an integral part of commitment (Dutton, Dukerich, & Harquail, 1994). Both concepts may have different foci, such as organizational (e.g., Mathieu & Zajac, 1990; Meyer & Allen, 1991) or occupational (e.g., Blau & Lunz, 1998; Meyer, Allen, & Smith, 1993), and have been linked to multiple work-related outcomes, such as task and contextual performance, satisfaction, cognitive withdrawal, and turnover (Mathieu & Zajac, 1990; Meyer, Stanley, Herscovitch, & Topolnysky, 2002; Riketta, 2005). Based on these previous results and theory, the expectation is that commitment and identification, by providing the identity grounding for sensemaking (Weick, 1995), will be positively associated with both routine and creative performance. To date, however, empirical research has not directly linked them to creativity, and their nature suggests a more complex relationship.

More specifically, stronger identity and commitment usually entail job involvement and a solid motivation to perform well (Meyer, Becker, & Van Dick, 2006), as well as loyalty to the status quo and some degree of conformity and compliance with established practices (Pratt, 1998). In addition, Drazin et al. (1999) discussed the complex influence on creativity of partial inclusion in multiple social groups, often with competing influences and demands (e.g., organization vs. occupation). Thus, it may be useful to consider different foci of commitment and identification (e.g., career and organization) and whether conformity to the local community (organization) or commitment to a more cosmopolitan group (profession; Gouldner, 1957) is the more salient driver of behavior.

We examine commitment to one's occupation/career as representing attachment to a more cosmopolitan group. We look at organizational identification or local orientation as the driver of social pressure for loyalty and conformity to established values, routines, requirements, and demands. Cosmopolitans are believed to use an outer reference group orientation and are high on commitment to their professional affiliation, whereas locals are considered loyal to the employing organization and likely to use an inner reference group orientation (Gouldner, 1957).

Thus, what is salient for the individual (i.e., their commitment or identification with a more cosmopolitan or a more local focus) may be driving the interpretation and meaning of a situation and the motivation for action (Ford, 1996).

Career commitment may provide a broader, more open perspective (Unsworth & Clegg, 2010) that may, in turn, cause individuals to interpret situations as opportunities for growth and creativity and may provide more options for action and a diversity of acceptable alternatives. These interpretations and created meanings may motivate a higher level of engagement in creative action and behaviors leading to change and may provide the necessary support and initiative that will enable radical change and innovativeness. Research has also positively related cosmopolitanism and innovativeness (Robertson & Wind, 1983; Rogers, 1983), which suggests that cosmopolitans (individuals with a more far-reaching orientation) are more open to change and innovation than locals, who are oriented toward their immediate group or organization. High career commitment may also mean less social pressure to conform, whereas high attachment to an organizational or in-group unit, more proximal in location, represents more requirements and demands than open opportunities. Thus, we expect that a salient commitment and identification with a career/profession, or a more cosmopolitan perspective, although still beneficial for all types of performance, will have a stronger facilitating effect on radical creativity than on the other two dimensions.

Organizational identification (a more local orientation), on the other hand, may be the driver of social pressure for loyalty and conformity to established values and routines, which, although beneficial for routine performance and incremental ideas, may also trigger more compliance and loyalty (O'Reilly & Chatman, 1986) and inhibit the desire to be involved in radical creativity. It is important to note that although organizational identification, especially with a creative company, may allow engagement in creative behaviors, it is still associated with certain organizational constraints (e.g., ideas are evaluated by established processes, need to be accepted, and must match a certain image or established reputation) that may inhibit radical creativity and lead to more incre-

mental improvements. Although the salient group (organization vs. profession, cosmopolitan vs. local) may determine the degree of creativity of the outcome (radical vs. incremental), the nature of the values, particularly of the organization (more proximal in location and presenting more requirements and demands), may determine the choice between routine work and incremental creativity. The proximity of the group may also strengthen the effect of organizational identification on routine work, whereas career commitment may have less influence on this performance dimension. Thus, we propose the following:

Hypothesis 1: The relationship between career commitment and radical creativity will be significantly greater than the relationship between career commitment and incremental creativity or routine performance.

Hypothesis 2: The relationship between organizational identification and radical creativity will be significantly smaller than the relationship between organizational identification and incremental creativity or routine performance.

Presence of Creative Coworkers

The presence of creative coworkers (Zhou, 2003) or creative role models is another contextual factor that may influence the sensemaking perspective of a situation and, hence, the engagement in creative behavior. As sensemaking is *social*, we believe that a group of creative others will shift the interpretation of a task toward a cognitive frame that requires and desires creativity over routine performance and may be a motivational factor for engagement in creative actions (Ford, 1996; Unsworth & Clegg, 2010). Sensemaking is characterized as *retrospective*, *ongoing*, and *based on narrative* (Weick, 1995), which means that the presence of other creative individuals may provide more opportunities to reflect on situations where creativity was exhibited and on examples that may facilitate the establishment of meanings that, in turn, facilitate creativity. Research also suggests that the presence of role models may positively influence performance related to the set example (e.g., Shalley & Perry-Smith, 2001); Simonton's (1975) studies on gifted individuals linked creative emulation to an increase in creative potential. Creative coworkers also mean fewer tensions and struggles between established routines and new ideas. We expect the presence of creative coworkers to have no effect on routine performance (Jaussi & Dionne, 2003). Thus, we propose the following:

Hypothesis 3: The relationship between the presence of creative coworkers and routine performance will be significantly smaller than the relationship between the presence of creative coworkers and incremental or radical creativity.

Resources for Creativity

As noted previously, one of the contextual factors that may create a different interpretative schema and have a different relationship to the three types of performance (radical creativity, incremental creativity, and noncreative work) may be the availability of resources that enable creativity. Resources are needed both to allow and to enable creativity (Amabile, 1996; Damanpour, 1991), and we focus on the resources (e.g., material, time, exper-

tise, autonomy, financial means) that will specifically facilitate creativity (Amabile, Conti, Coon, Lazenby, & Herron, 1996).

Sensemaking, based on its enactment and plausibility characteristics, can be considered the reciprocal interaction of seeking cues, assigning meaning, and moving to plausible action (Thomas, Clark, & Gioia, 1993). The extracted cues from one's environment (e.g., availability of resources for creativity) may act as triggers or may signify that certain meaning is required (Weick, 1995, p. 110). In this respect, resources for creativity, as an extracted cue from the context, signal that creativity is both desirable and allowed. Their availability symbolically demonstrates that the organization or field that provides these resources values and is ready to support creative action. They also facilitate an interpretation of the situation as requiring or at least valuing creativity. On the opposite side, constrained resources provide a different cue and interpretation of the same situation. Lack of available resources will be a strong enough reason for sensemaking and an important cue from the environment that may limit radical ideas. When resources are unavailable, individuals will not see the potential for their idea implementation, which will limit the enactment potential of a creativity frame of reference. It may trigger an interpretation that may tip the scale toward routine performance or just incremental creativity.

Some empirical results have shown that individuals are more innovative when given fewer, rather than more, resources for problem solving (Moreau & Darren, 2005), whereas other studies (Payne, 1990; West & Anderson, 1996) have shown no relation, or a curvilinear relation, between the availability of resources and innovation/creativity (Herold, Jayaraman, & Narayanaswamy, 2006). One explanation for these mixed results may be the type of creativity and type of resources (general vs. specific for creativity) that are considered. As radical ideas usually require more depth of resources (more diverse expertise, more time flexibility, more material means for experimentation) and involve more risks (Christensen, 1997), the availability of additional resources for creativity is needed to buffer these risks and increase the ability to engage in creative behavior and generate radical ideas. At the same time, most incremental ideas require fewer resources for their implementation (Christensen & Raynor, 2003) and may receive little benefit from additional time and support. Thus, lack of resources, where incremental creativity is concerned, may not trigger sensemaking. In other words, scant resources may provide cues and interpretation of the context as discouraging only for radical creativity, which may require more substantial initial investment (Sternberg, Kaufman, & Pretz, 2003). In this respect, radical creativity and incremental creativity may be differently related to resources for creativity (Herold et al., 2006). On the basis of the enactment and plausibility characteristics of sensemaking, we do not expect resources for creativity to be related to routine work and established practices.

Hypothesis 4: The relationship between resources for creativity and radical creativity will be significantly greater than the relationship between resources for creativity and incremental creativity or routine performance.

In addition to the social and contextual influences and attachment to different groups, personal characteristics may also have an impact on the interpretative schemas individuals use to make sense

of a situation (Ford, 1996; Weick, 1995), as well as their motivation for creative behavior. Thus, we explore two personality characteristics, willingness to take risks and conformity, that have been linked to individuals' preference for an innovative versus an adaptive creative style (Goldsmith, 1984; Kirton, 1994).

Willingness to Take Risks

One individual characteristic that may influence the sensemaking interpretation of a situation is willingness to take risks. Risk is usually associated with courage, stimulation, challenge, and openness to change (West & Richter, 2008). In general, new ideas and behaviors are viewed as risky, as they represent disturbances in the status quo and power balances (Albrecht & Hall, 1991). As creativity is often a risky enterprise and challenges the current state of affairs, it can often be seen as raising levels of uncertainty and reducing predictability and control (George, 2007). However, in spite of vast anecdotal evidence (e.g., Shalley, 1995; Zhou & George, 2001), few empirical studies have examined and found a link between risk and creativity (Agarwal & Kumari, 1982; Dewett, 2006, 2007; Eisenman, 1987).

One possibility is that the willingness to take risks is an important characteristic that determines the interpretative schema for engagement in only certain types of creativity and ideas. We believe that the individual's willingness to take risks affects both the selection of extracted cues from the environment for sensemaking and the perception of the potential outcome from the activity. Individuals who have a high willingness to take risks will possess the courage to immediately seize every opportunity to be creative as a way to satisfy their need for challenge and stimulation. On the contrary, individuals with a low level of willingness to take risks will interpret engagement in creativity as too risky, without a high personal reward and with the possibility of failure. Ford (1996) suggested that creative actions will be forsaken, even under conditions favorable to creativity, when habitual actions remain more attractive—that is, they do not require one to take risks. In this respect, given the choice, individuals' low level of willingness to take risks may reinforce their preference and choice of routine work as the safest alternative.

Although radical creativity may require willingness to accept high levels of uncertainty and risks, we suggest that incremental ideas are usually less costly and create less risk. Thus, incremental creativity, similar to routine work, will be less susceptible to employees' willingness to take risks and more responsive to external pressures for adaptation or the social factors discussed previously. Thus,

Hypothesis 5: The relationship between willingness to take risks and radical creativity will be significantly greater than the relationship between willingness to take risks and incremental creativity or routine performance.

Conformity

Organizations and jobs usually have policies, procedures, and rules, all aimed at achieving order (Levitt, 1963/2002). The tendency to conform means adherence to norms, unwillingness to be different (Pech, 2001), and reluctance to engage in creative behavior. An individual's preferred level of conformity may serve as the

lens through which one interprets the situation. As sensemaking is based on extracted cues from the environment, conformity may lead to filtering out aspects of the situation that suggest change and novel approaches and to increasing the salience of aspects that focus on established routine. A recent study by Zhou, Shin, Brass, Choi, and Zhang (2009) provided some evidence for this view by demonstrating that only individuals with a low conformity value could take advantage of the diversity of information and resources from weak social ties. Thus, a high level of conformity to established standards skews the interpretation of a situation toward routine performance and may discourage engagement in radical creativity. At the same time, conformity may facilitate routine performance, idea implementation, efficiency, quality (Miron et al., 2004), and, perhaps, small modifications and incremental changes.

To understand the effect of conformity, it is important to differentiate it from role modeling, especially creative role modeling (Shalley & Perry-Smith, 2001). Although imitating creative role models and examples (e.g., the presence of creative coworkers) may involve learning and active application of that knowledge in similar situations, we consider conforming as a controlling mechanism that discourages novel approaches and radical innovations and pushes more direct applications or small modifications. We argue that the effect of conformity is true even in creative organizations. In this case, a high value of conformity may create a sensemaking frame that leads to the replication of established procedures and creative processes and some incremental ideas but may not be a beneficial practice for radical breakthroughs. Highly creative organizations avoid the conformity trap not because conformity to established procedures and processes is beneficial for creativity, but because highly creative people are usually not conformist (Kirton, 1994). Thus,

Hypothesis 6: The relationship between conformity and routine performance or incremental creativity will be significantly greater than the relationship between conformity and radical creativity.

Method

Sample and Procedure

We conducted our research in 12 advertising agencies in Bulgaria. The advertising industry was appropriate in this case because it allowed exposure to all three types of performance (radical creative, incremental creative, and noncreative). In addition, although overall creativity may be restricted by client preference, budget, and time constraints, advertising agencies' creative departments and their employees have more opportunities to express their creative ideas internally. They are usually shielded from most of these constraints by account managers (Sutherland, Duke, & Abernethy, 2004; Vanden Bergh, Smith, & Wicks, 1986), who are more open to creativity, serve as mediators/negotiators, and advocate for the full range of ideas (from radical to incremental to routine). Thus, the setting was open to creativity, and, at the same time, the participants in our sample could choose their level of engagement or disengagement in creative action. There was also opportunity for routine performance, when participants had to repeat a previously used process or model exactly or execute an

idea without implementing any modifications or radical changes. This potential for variance in creative activities allowed a clear differentiation between the two dimensions of creativity and routine performance.

We contacted general managers and all employees from the creative departments of each organization and asked them to participate in the study. We explained that the research involved the possible effects of personal and contextual conditions on employee performance. A total of 157 employees (out of 238 contacted) agreed to participate, representing a response rate of 66%. Thirty-five percent of the participants were women and 65% were men. The mean age was 28 years, and the mean tenure level was 5 years. The modal education level was "some college."

Two types of data were collected on site. First, all employees received an e-mail invitation to complete an online survey. Before completing questionnaires, employees were assigned code numbers and assured that all information would be kept confidential. After all employee questionnaires were completed, the authors met individually with the supervisors of the participating employees. These supervisors ($N = 12$) completed questionnaires assessing different aspects of creative and routine performance of each participating employee. The items in all questionnaires were first developed in English and then translated into Bulgarian by a certified translator. The Bulgarian version was then translated back (by a different translator) into English to confirm consistency in meaning of the items (Brislin, 1970). The questionnaires were administered in Bulgarian to all participants.

Measures

Organizational identification. A five-item scale developed by Mael and Ashforth (1992) was used to assess the extent to which the participants identified with their organization. A representative item is "If I were to talk about this organization, I would say 'we' rather than 'they.'" Cronbach's alpha for this scale was .76.

Career commitment. A six-item scale ($\alpha = .88$), developed by Blau (1989), was used to assess employees' devotion to their career. A sample item includes "I like this career too well to give it up."

Resources for creativity. Three items were developed to assess the extent to which resources were available specifically for creativity. The items were "Lack of resources is the main factor that restricts creativity around here," "The available resources in this organization do not allow the exploration of new ideas" (reversed), and "The creativity in this organization is not affected by lack of resources" ($\alpha = .84$).

Conformity. This variable was measured with four items from Miron et al. (2004). A sample item is "I try not to oppose my colleagues" ($\alpha = .69$).

Willingness to take risks. This was measured with three items from Andrews and Smith (1996). A sample item is "I like to play it safe when I am developing new ideas" (reversed; $\alpha = .84$).

Presence of creative coworkers. This was a three-item measure ($\alpha = .71$), taken from Zhou (2003). A sample item is "I

consider my coworkers to be role models for creative behavior at work.”

Radical/incremental creativity and routine performance.

We measured the two types of creativity with three items each. The items were generated by first reviewing and modifying items from previously used creative performance measures (Madjar, Oldham, & Pratt, 2002; Oldham & Cummings, 1996; Zhou & George, 2001) to better reflect the differences between the two types of creativity and to capture the perceptions and views expressed by top-level Bulgarian advertising experts in personal conversations with the first and third authors. Items for radical creativity include “Is a good source of highly creative ideas,” “Demonstrates originality in his/her work,” and “Suggests radically new ways for doing advertising.” Items used for incremental creativity were “Uses previously existing ideas or work in an appropriate new way,” “Is very good at adapting already existing ideas or ads,” and “Easily modifies previously existing work processes to suit current needs.” On the basis of the views of these experts and by consulting previous measures of routine performance (e.g., Borman & Motowidlo, 1997; Hackman & Oldham, 1976), we used two items to measure routine, noncreative performance: “How much effort does this person put into his/her work?” and “How much work does this employee do?”

To check for construct independence and to determine the discriminant validity of all the variables involved, we performed confirmatory factor analyses (CFAs) on all nine constructs (three performance dimensions and all independent variables). First, we fitted a nine-factor model with all factors loading separately, which provided a reasonably good fit, $\chi^2(99, N = 171) = 157.9, p < .00$; confirmatory fit index (CFI) = .96; root-mean-square error of approximation (RMSEA) = .06. Next, we tested an eight-factor model by merging incremental and radical creativity, $\chi^2(107, N = 171) = 268.9, p < .00$; CFI = .89; RMSEA = .09; and a seven-factor model with all performance dimensions combined into one, $\chi^2(114, N = 171) = 314.3, p < .00$; CFI = .86; RMSEA = .11. We then merged the two personality dimensions (conformity and willingness to take risks), $\chi^2(120, N = 171) = 383.2, p < .00$; CFI = .82; RMSEA = .12; combined organizational identification and career commitment, $\chi^2(126, N = 171) = 469.79, p < .00$; CFI = .76; RMSEA = .14; and merged resources for creativity and the presence of creative coworkers (the two contextual factors), $\chi^2(131, N = 171) = 645.43, p < .00$; CFI = .64; RMSEA = .16. We also tested a three-factor model composed of (a) all dependent variables, (b) all personality characteristics, and (c) all contextual factors, $\chi^2(135, N = 171) = 764, p < .00$; CFI = .56; RMSEA = .20; a two-factor model composed of all dependent variables and all antecedents, $\chi^2(138, N = 171) = 824.4, p < .00$; CFI = .52; RMSEA = .21; and a one-factor model, $\chi^2(140, N = 171) = 1,306.5, p < .00$; CFI = .18; RMSEA = .30. All of these models provided a significantly worse fit than did the previous, hypothesized nine-factor model; $\Delta\chi^2$ s, respectively, were 110.98 (8-factor model), 45.38 (7-factor model), 68.87 (6-factor model), 86.6 (5-factor model), 175.64 (4-factor model), 118.54 (3-factor model), 60.43 (2-factor model), and 482.10 (1-factor model), $p < .01$ for all model comparisons. They confirm the convergent and discriminant validity of the measures and suggest that it is appropriate to create three separate performance indices and consider the other six factors separately. We created a Radical Creative Performance Index by averaging scores for the

first three radical creativity items ($\alpha = .92$). We averaged scores from the incremental creativity items to form an Incremental Creative Performance Scale ($\alpha = .87$). The two routine performance items were averaged to form a Routine, Noncreative Performance Index ($\alpha = .85$).

Unless otherwise noted, responses to all items were measured on 7-point Likert-type scales, ranging from *strongly disagree* (1) to *strongly agree* (7).

Control variables. To reduce the likelihood that employees' demographic characteristics would confound the relationships examined, four demographic characteristics were measured and controlled for in substantive analyses: age (in years), organizational tenure (in years), gender (1 = *male*, 0 = *female*), and education (1 = *elementary school* to 5 = *graduate degree*). As we collected data in 12 organizations, we created 11 dummy variables to control for organization in the analyses.

Results

Table 1 contains descriptive statistics and interitem correlations for all variables. The results of our CFA and the moderate correlations demonstrate that the three types of performance could be considered interrelated, but separate, constructs.

Different Relationships With Different Factors

In order to assess whether the relationships between a given factor of interest and the three types of performance are comparable (Hypotheses 1–6), we ran several regression analyses. First, three sets of analyses (one for each type of performance) were conducted so that the relationship between the factor and performance type could be assessed beyond the effect of the demographic control variables. From these, comparisons can be made of the significance levels of the betas for each factor across equations, with radical creativity versus incremental creativity versus routine performance as the dependent variable. Results from these analyses are reported in Table 2. As shown in the table, consistent with our hypotheses and as expected, willingness to take risks, career commitment, and resources for creativity were positively and significantly related to radical creativity; the presence of creative coworkers, organizational identification, and conformity were associated with incremental creativity; and organizational identification and conformity were positively and significantly associated with routine performance.¹

¹ The participants in the study were nested within 12 organizations, and ordinary least squares regression does not take into account the interdependence of individual-level observations nested within higher level work units; hence, test statistics may not be valid. Thus, in addition to the regression analyses, we tested the same relationships using hierarchical linear modeling (HLM), which explicitly accounts for the nested nature of data (Raudenbush, Bryk, Cheong, & Congdon, 2001). Following the recommendation of Hofmann and Gavin (1998), we grand-mean-centered all predictors (all are at Level 1) for the HLM model. Results from the HLM models (tabled results are available from the authors upon request) were parallel and almost identical to the hierarchical regression results, which is another confirmation of the validity of the regression results and tests. They also demonstrated that most of the variance was at the individual level, that is, within and not between organizations.

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Table 1
Means, Standard Deviations, and Correlations Among Variables

Variable	M	SD	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
1. Gender	1.55	0.68	—																							
2. Age in years	27.79	3.87	-.16	—																						
3. Education	1.84	0.71	.73**	-.04	—																					
4. Organizational tenure	5.09	2.50	-.01	.09	.09	—																				
5. Organization 1	0.10	0.29	-.14	-.03	-.09	.07	—																			
6. Organization 2	0.08	0.27	-.08	-.11	-.14	-.13	-.09	—																		
7. Organization 3	0.05	0.22	.03	.01	-.03	.03	-.08	-.07	—																	
8. Organization 4	0.06	0.24	.02	-.03	-.13	-.24**	-.08	-.06	-.06	—																
9. Organization 5	0.06	0.24	-.06	.23**	-.05	-.09	-.08	-.08	-.06	-.07	—															
10. Organization 6	0.11	0.31	.11	.06	.02	-.05	-.11	-.10	-.08	-.09	-.09	—														
11. Organization 7	0.06	0.24	-.06	.08	-.05	.05	-.08	-.08	-.06	-.07	-.07	-.09	—													
12. Organization 8	0.15	0.35	.01	.08	.07	.19*	-.13	-.12	-.10	-.11	-.11	-.14	-.11	—												
13. Organization 9	0.08	0.28	.00	-.09	.07	.05	-.10	-.09	-.07	-.08	-.08	-.10	-.08	-.12	—											
14. Organization 10	0.09	0.29	.15	-.07	.27**	.00	-.10	-.09	-.07	-.08	-.08	-.11	-.08	-.13	-.09	—										
15. Organization 11	0.08	0.28	.00	-.09	-.03	-.01	-.10	-.09	-.07	-.08	-.08	-.10	-.08	-.12	-.09	-.09	—									
16. Willingness to take risks	3.51	0.85	.08	.07	.04	.04	.04	.05	.08	.03	-.04	.02	-.01	-.21*	.02	-.07	.15	—								
17. Resources for creativity	4.34	0.79	.09	-.08	.12	.04	-.08	.06	.11	.04	-.27*	-.08	-.02	.20*	.13	-.15	-.08	.23**	—							
18. Career commitment	5.30	1.19	.03	-.01	.13	.18*	.08	-.01	.01	-.13	-.07	-.10	.10	.05	-.07	.14	.01	.23**	.26**	—						
19. Organizational identification	5.56	0.93	.09	-.17*	.07	.09	-.06	.00	.00	.01	-.02	-.09	.06	-.10	-.07	.07	.10	.11	.11	.15	—					
20. Presence of creative coworkers	4.62	1.43	-.01	.10	.12	.04	-.07	.03	.05	-.02	-.20*	.08	.02	.12	-.06	-.05	-.06	.08	.25**	.09	.18*	—				
21. Conformity	4.79	1.17	.02	-.11	.10	-.03	.05	.05	.04	.13	-.13	-.05	-.05	-.11	.00	.01	.01	.19*	.21**	.22**	.18*	.27**	—			
22. Radical creativity	4.70	1.32	.03	-.14	.06	.02	.05	-.07	.02	-.02	.09	-.04	-.14	-.13	.11	-.12	.19*	.40**	.39**	.36**	.20*	.12	.28**	—		
23. Incremental creativity	4.98	0.92	.02	-.13	.04	.04	-.06	-.02	.03	-.03	-.01	-.11	.09	-.13	.03	.04	.02	.17*	.23**	.30**	.44**	.30**	.33**	.49**	—	
24. Routine performance	5.51	1.12	.16*	-.19*	.10	-.06	.09	-.04	.05	-.10	.08	-.02	-.05	-.16	-.07	.12	.00	.08	.13	.17*	.29**	.11	.47**	.44**	.54**	—

Note. N = 152.
* p < .05. ** p < .01.

Table 2
Results of Regression Analysis

Variable	Radical creativity	Incremental creativity	Routine performance
Age	-.15*	-.08	-.11
Gender	-.04	.05	.28*
Education	.01	-.11	-.21
Organizational tenure	.00	.00	-.07
Organization 1	-.01	-.16	.05
Organization 2	-.16	-.16	-.13
Organization 3	-.07	-.10	-.03
Organization 4	-.06	-.16	-.24*
Organization 5	.20*	.00	.14
Organization 6	-.03	-.19	-.05
Organization 7	-.17*	-.03	-.07
Organization 8	-.18	-.24*	-.16
Organization 9	.03	-.06	-.10
Organization 10	-.12	-.07	.06
Organization 11	.10	-.12	-.07
Conformity	.11	.18*	.44**
Willingness to take risks	.23**	.03	-.06
Presence of creative coworkers	.07	.21**	.03
Career commitment	.21**	.12	.05
Organizational identification	.05	.30**	.16*
Resources for creativity	.32**	.11	.11
R ² for total equation	.47	.37	.41
F for total equation	5.51**	3.70**	4.28**
df for total equation	21, 130	21, 130	21, 130

Note. Unless otherwise noted, entries are standardized beta coefficients.
* $p < .05$. ** $p < .01$.

Although a difference in p value for each factor's beta across these equations is relevant to our hypotheses, the true test of our hypotheses requires more rigorous analysis. To test whether the magnitude of the relationship between the antecedent and each type of creativity is indeed statistically significant requires a test of the difference between betas for different dependent variables from a single sample (Cohen, Cohen, West, & Aiken, 2003). Whether the difference in magnitude of the relationship between the antecedent of interest and each type of creativity is statistically significant is indicated by the significance of that antecedent's beta weight in a regression equation in which the dependent variable represents the difference between radical creativity and the standardized predicted value of incremental creativity or routine performance, as derived from regression equations using the same set of independent variables. Results from this analytic approach are reported in Table 3.

As indicated in Table 3 (the first two columns), the effects of career commitment, resources for creativity, and willingness to take risks on radical creativity were significantly greater than their effect on incremental creativity or routine performance, providing full support for Hypotheses 1, 4, and 5. As hypothesized, results demonstrate that the effect of organizational identification on radical creativity was significantly smaller than its effect on incremental creativity; unexpectedly, there was no difference in this effect between radical creativity and routine performance, providing partial support for Hypothesis 2.

Results also provide partial support for Hypothesis 3 by demonstrating that the presence of creative coworkers was most strongly related to incremental creativity. This effect is signifi-

cantly different from the relationship between the presence of creative coworkers and routine performance; however, the effect of this factor on radical creativity was not significantly different from that on routine work. Conformity, as expected, was most strongly related to routine performance, an effect significantly different from that of radical creativity but not of incremental creativity, which partially supports Hypothesis 6. These different effects provide additional proof that radical creativity, incremental creativity, and routine performance are three distinct, but interrelated, dimensions of performance.

Discussion

We attempt to distinguish between three types of performance: routine, noncreative work; radical creativity; and incremental creativity. Our goal was to extend creativity theory by first empirically differentiating between two dimensions of the creativity construct (radical and incremental) and routine performance. We also wanted to clarify and expand our understanding of how certain factors may influence the interpretation of a task or situation and, hence, determine the level of engagement in creativity. In this respect, we compared and contrasted the effects of different drivers on the three different dimensions of performance through the prism of sensemaking (Drazin et al., 1999; Ford, 1996).

In general, results provide substantial support for our arguments. Consistent with our expectations, results of a CFA indicated that the measures of both incremental and radical creativity appear as distinct constructs, which are also different from the measure of routine performance. Our findings contribute to the creativity literature by reconceptualizing individual creativity and separating it into two dimensions driven by different factors. This result is consistent with previous findings and integrates some of the psychological research on incremental versus divergent creativity (Kirton, 1976, 1994) with the macro research on incremental and radical innovation (Dewar & Dutton, 1986) and on exploitation and exploration (Benner & Tushman, 2003; Levinthal & March, 1993) by examining the multidimensionality of the construct at the individual levels of analysis. Ours is also one of few studies (see Madjar & Ortiz-Walters, 2009; Oldham & Cummings, 1996; Van Dyne et al., 2002, for exceptions) that examines creative performance together with routine, noncreative work.

Table 3
Results of Comparison Analyses

Variable	Incremental vs. radical	Routine vs. radical	Routine vs. incremental
Conformity	.02	.25**	.14
Willingness to take risks	-.27**	-.34**	-.11
Presence of creative coworkers	.10	-.06	-.30**
Career commitment	-.17*	-.23**	-.14
Organizational identification	.20**	.07	-.32**
Resources for creativity	-.33**	-.31**	-.06
R ² for total equation	.49	.55	.45
F for total equation	5.96**	7.65**	5.03**
df for total equation	21, 130	21, 130	21, 130

Note. Unless otherwise noted, entries are standardized beta coefficients.
* $p < .05$. ** $p < .01$.

Our results demonstrate that a different configuration of contextual (social) and personal factors drives different sensemaking frameworks and leads to different performance outcomes (radical creativity, incremental creativity, and routine work). More specifically, resources for creativity, willingness to take risks, and career commitment were the strongest predictors of radical creativity, whereas organizational identification, presence of creative coworkers, and conformity best predicted incremental creativity. Conformity, together with organizational identification, was the strongest predictor of routine, noncreative performance.

By using a sensemaking perspective, our results contribute theoretically to the creativity literature in multiple ways. First, whereas previous studies (Drazin et al., 1999; Ford, 1996) have suggested the connection between sensemaking and creativity, we expand this line of research by examining specific factors (contextual and personal) that may determine the frame of reference, influence the created meaning of a situation, and, hence, affect the engagement or disengagement with creativity. Second, we use sensemaking to understand the difference not only between engagement in creativity versus routine performance but also between incremental and radical creativity. Third, we contribute to established theories by recognizing the role of the individual's cognitive processes, interpretations, and sensemaking activities in determining how these contextual and personal factors influence creativity.

In addition to the overall picture that these sensemaking frames provide, the findings concerning the effect of each examined factor also deserve attention. The varying results for resources for creativity and willingness to take risks are important and clarify some inconsistencies found in previous studies (e.g., Dewett, 2007; West & Anderson, 1996). We also see some of our most significant contributions in the different effects of career commitment and organizational identification. First, they demonstrate that the focus of attachment (i.e., organization as a local entity or career/occupation with a cosmopolitan orientation) may determine the interpretation of the situation and its demands and, consequently, have an impact on the different dimensions of performance. Another possible explanation for these results may be that, although the two concepts are highly related, they are, ultimately, different, thus prompting different motivations (intrinsic vs. extrinsic) and somewhat different behaviors. As discussed previously in the literature (Meyer et al., 2006), commitment may be stronger motivationally and may have a stronger influence on extrarole behavior than does identification.

Although in the separate regressions in Table 2 the significant effect of organizational identification on the three types of performance was as hypothesized; unexpectedly, the level of difference of that effect, especially on radical creativity compared with routine performance, was not significant. One possibility may be that organizational identification, as part of the context for sensemaking, drives two very separate motivations: Individuals with strong organizational identification may be driven to go over and above their regular call of duty and initiate improvements and changes that help and enhance the organization, and at the same time, strong organizational identification may be associated with more constraints and lead to loyalty to established practices to assure acceptance and conformity (Pratt, 1998). These two diametrically opposite motivations may lead to a sensemaking framework that gravitates more toward incremental creativity and away from both

radical creativity and routine performance. Future research that examines these effects in a different industry and explores different foci of commitment and identification and the mechanisms through which they encourage or discourage creativity is needed. In addition, research is needed to investigate further the effect of different levels of creativity norms for these organizations or professions on the choice between routine work and incremental creativity.

In general, our findings confirmed the beneficial effects of the presence of creative coworkers for creativity (Zhou, 2003), but unexpectedly, the findings demonstrated that the effect of creative coworkers is more helpful for incremental creativity (see Table 2) than for radical creativity. This finding may shed some light on earlier mixed and inconclusive results for this contextual factor (see Amabile, 1996, for a review). That is, it may be that research reporting no positive effect of presence of creative models was capturing the effect on radical creativity, whereas other studies were measuring incremental ideas. Future research may further examine the nature of the influence of the creative coworker and the mechanisms through which they affect the sensemaking frame of reference or stimulate or restrict certain types of creativity.

One of the most interesting results concerns the effect of conformity on all three dimensions of performance. We found that as expected, conformity made a positive and significant contribution to incremental creativity in addition to its influence on routine performance. This result makes sense, especially if we look at incremental creativity not as "thinking outside the box" but as finding a solution "within the box," adhering to established rules and procedures or following certain guidelines. Our findings confirm this view and suggest that discovering new solutions is sometimes necessary; however, a new solution needs to conform to current standards and established practices to be deemed acceptable. That is, conformity may be a constraint that makes creative ideas more acceptable and more likely to garner support, be shared, and be implemented. As shown in Table 3, although the differential effect of conformity on routine performance versus radical creativity is very clear, its influence on incremental creativity was not significantly different from the way it affects radical creativity. One possible explanation for this finding may be that the positive effect of conformity on incremental creativity is due mostly to the nature of our sample (employees of advertising agencies where the norm is to be creative and original). Thus, conformity to scripts and procedures in creative organizations, although not contributing significantly to radically novel ideas, may still produce creativity. Alternatively, as creativity is the "norm" in this setting, it could still have some marginal influence even on radical creativity through employee conformity to standards and processes that may lead to these radical ideas. Conformity in other industries and organizations, with different principles and norms, may have a completely different effect on creativity. Future research should investigate the generalizability of this finding to other industries and jobs.

In sum, our findings provide a complex picture of the different dimensions of creativity as well as the different effects of certain factors on incremental creativity, radical creativity, and routine work. They also suggest some explanations for the inconsistent results obtained in earlier studies examining the effects of different factors on performance.

In addition to establishing these different effects, it is important to look at the similarities. It is clear that the factors influencing incremental creativity, although different, are more similar to the factors for routine performance than to those for radical creativity. This was not our initial expectation, as we started with the premise that sensemaking would more likely determine the choice between habitual action and creativity; we then refined this to differentiate between two different types of creativity. As demonstrated through the CFAs, we do not believe that this means an equivalence of incremental creativity and routine work. We still see them as two separate dimensions of performance. Unsworth, Wall, and Carter's (2005) concept of creativity requirements may provide one possible explanation for our finding. In line with our theorizing about the sensemaking schema for radical creativity, these authors demonstrated that interpreting a situation as allowing or requiring creativity leads to a higher level of creative action. Thus, the creative requirements of a job may explain a good part of the variance in creativity—in our case, just the interpretation of a new task or situation as allowing and enabling creativity may lead to a higher level of creativity engagement.

In addition, as an alternative explanation, we have to acknowledge that routine work and incremental creativity are more likely to coexist in the examined industry (e.g., an employee may follow a routine procedure throughout a project and just add incremental improvements to make the solution better in the final stage). This coexistence may be preventing us from capturing the different sensemaking mechanisms leading to these two types of performance. Future work in other industries and qualitative investigations of the choice process between the two types of performance may be needed to establish a better conceptualization of the differences.

Future research should further investigate the similarities and differences of the drivers and enablers of these three types of performance. Other factors not included in this study may need to be examined to better understand the choice between incremental creativity and routine work. For example, as suggested by Ford (1996), individual motivation (extrinsic vs. intrinsic) or reward systems and goal orientation, in combination with specific sensemaking, may tip the scales more toward routine work or incremental improvements. Moreover, further research should investigate whether the decision to engage in one type of performance versus another happens at the initiation stage, right after one makes sense of a situation and its requirements or opportunities, or later in the process, depending on enabling factors. Longitudinal data that examine the entire process from engagement in creative behavior to the successful achievement of a creative outcome may be needed. Research may also need to consider the triggers that change the sensemaking framework and, hence, change performance direction (toward radical creativity, incremental creativity, or routine work).

In addition to expanding creativity theory, our results relating to career commitment and organizational identification contribute to the employee attachment literature by providing a more detailed view of the potential contributions of employee attitude to the different aspects of work performance. They are in line with previous research showing mixed results for the effect of commitment and identification on performance (Mathieu & Zajac, 1990). Moreover, results suggest that stimulating identification and commitment to certain social groups (organization, profession, or

occupation) has to be done carefully, as they may modify the prevalence of one type of performance versus another.

There are limitations to our study that call for caution when interpreting the results. First, the study was conducted in advertising agencies, where creativity is expected and recognized; we believe this fact facilitated the differentiation of the three dimensions of performance (radical creativity, incremental creativity, and routine, noncreative work). Although we consider this an appropriate setting for testing our hypotheses, different results might be obtained in industries where creativity is not as prevalent and where it is difficult to differentiate between radical versus incremental ideas, or where the nature of the job (e.g., air traffic controller) does not require or encourage creativity. In addition, we used the same sample to validate the modified measures of radical and incremental creativity and to test our hypotheses. Future work should consider establishing the same multidimensional structure of creativity with a different sample, based on different industries and jobs.

Third, we argue that career commitment more likely leads to radical creativity, although organizational identification more likely leads to routine work and incremental creativity. We examined mainly the difference of the foci of commitment/identification rather than differences between the two constructs. Although highly related, it may be that differences are due not primarily to the individualistic/collectivistic nature of the foci but more to the differences between the constructs themselves (Pratt, 1998). Future research is needed to examine how these differences affect different dimensions of performance.

Next, we used a measure of effort on the job as part of our measure of routine performance, yet effort alone may not determine the outcome of performance and may also be associated with creativity. Our factor analyses and conversations with the rating managers provided some justification for separating effort from creativity; however, this result should be considered with caution.

Our study did not examine an important issue concerning personality differences associated with the dimensions of radical and incremental creativity: the adaptor–innovator creative style, or KAI (Kirton, 1976). According to Kirton (1976, 1994), adaptors have a preference for small modifications or incremental ideas, whereas innovators prefer and are more adept at radical changes. In this respect, people with different personality styles may interpret and make sense of the tasks they face somewhat differently to fit them to their cognitive style. Future research should investigate the effect of the adaptor–innovator cognitive style on incremental and radical creativity, on the ways individuals make sense of a situation for creativity, and on the choice between habitual action and creativity.

Finally, although we have argued throughout that personal and contextual conditions affect creativity, our study was not experimental, and such causal inferences are not technically justified. It is possible that creative employees simply described their contexts and personalities differently. Research is now needed that examines issues of reverse and reciprocal causality. Additionally, to explore more fully the dynamic aspects of sensemaking, a study involving more qualitative methods and observations over time may be appropriate.

These results have important implications for researchers and practitioners interested in creating the conditions that stimulate the appropriate type of performance. First, this study is the first to

empirically establish the multidimensional nature of the creativity construct, which has been lacking in the creativity literature (Shalley et al., 2004). Second, given that the two types of creativity appear to be motivated by different factors and personal characteristics, another benefit of these results is a better understanding of the predictors of radical versus incremental ideas. Moreover, given the role of individual sensemaking, managers may need to obtain a better understanding of the complex cognitive processes and sensemaking activities on the part of the employee. They can then use leadership strategies and other mechanisms for “sense-giving” to shift the sensemaking frames of reference and create conditions for identity salience, interpretations, and meanings that lead to the desired frame of reference. More specifically, they should establish and communicate the creative norms of the organization and orient the employees toward the desired behavior and performance type. As suggested by Farmer and Van Dyne (2010), managers may also find it useful to provide ongoing socialization programs in order to strengthen employees’ organizational identification and reinforce strong creativity norms within the organization. If radical creativity is desired, then they may provide employees with more opportunities for exposure to the broader professional community and increase the salience of career commitment through professional conferences or competitions. By providing a suitable meaning of the tasks and salient interpretation of a situation, managers may be more effective in stimulating the more appropriate type of creativity, especially ideas that will benefit the firm. The study also contributes to the organizational/career and commitment/identification literatures by providing a more detailed view of their potential contributions to the different aspects of work performance.

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