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The Leadership Quarterly 15 (2004) 33–53

The
Leadership
Quarterly

What leaders need to know: A review of social and contextual factors that can foster or hinder creativity

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Abstract

This article provides a current review of research examining contextual factors that can either foster or hinder employee creativity at the individual, job, group, and organizational level. Specifically, we examine the role of leadership and the use of different human resource practices for developing a work context that is supportive of creativity. Finally, based on our review, we discuss practical implications for managers, propose areas that need further research attention, and highlight possible new directions for future research.

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Keywords: Creativity; Job characteristics; Supervisory support

1. Introduction

Increasingly, creativity has become valued across a variety of tasks, occupations, and industries. In today's fast-paced dynamic work environment, managers continue to realize that to remain competitive they need their employees to be actively involved in their work and trying to generate novel and appropriate products, processes, and approaches. Although the level of creativity required and the importance of creativity can differ depending on the tasks or job in question, most managers would agree that there is room, in almost every job, for employees to be more creative. Further, because individual creativity provides the foundation for organizational creativity and innovation (Amabile, 1988), and these have been linked to firm performance and survival (Nystrom, 1990), it is important, if not critical, that employees are creative in their work.

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While a fair amount is known about personality characteristics associated with creative individuals (i.e., Amabile, 1996), there is an increasing need for a greater understanding of the contextual factors that may enhance or discourage employees' creativity as well as the interaction between personal characteristics and the work environment. Further, it is important to identify the role that leadership can play in encouraging employee creativity. That is, most managers would say that they would like their employees to be more creative, but it has not always been clear how managers should lead for creative performance to occur.

To date, the focus of prior work on the importance of leadership for creativity (e.g., Mumford, Scott, Gaddis, & Strange, 2002) has predominantly centered on the relationship between leader behaviors and employee creativity and the creativity of the leader themselves (Sternberg & Vroom, 2002). However, an area where leaders can have a strong impact on employee creativity is through their influence on the context within which employees work. Therefore, while much has been written about the direct link between leader behaviors and creativity, less has been written about the more indirect, yet potentially equally or more important, relationship among leadership, context, and creativity. In this article, we focus on how human resource practices can be used by leaders to develop a work context that ultimately enhances their employees' creativity. As such, we complement the work of Mumford et al. (2002) on leading creative people, where they theorized about the specific attributes of leadership that are related to creativity and innovation, such as influence tactics. To this end, we begin by first defining creativity. Next, we provide an overview of recent theory and research that has examined social and contextual factors that can influence creativity. Following this review, we examine the role that leadership can play in developing and maintaining an environment that positively affects employee creativity.

2. Leadership and the definition of creativity

Much of the empirical research has defined creativity as an outcome, focusing on the production of new and useful ideas concerning products, services, processes, and procedures (e.g., Amabile, 1996; Ford, 1996; Oldham & Cummings, 1996; Shalley, 1991; Zhou, 1998). Using this definition, research has examined creative solutions to business problems, creative business strategies, and creative changes in job processes (Ford & Gioia, 2000; Taggar, 2002; West & Anderson, 1996). Creative outcomes can range from minor adaptations in workflow or products to major breakthroughs and the development of new products or processes (Mumford & Gustafson, 1988). Prior researchers have suggested that some level of creativity is required in almost any job (Shalley, Gilson, & Blum, 2000; Unsworth, 2001); therefore, understanding that there is a spectrum of what would be considered a creative outcome is crucial for those in a position to lead and evaluate creativity. Sometimes, organizations may desire more incremental creative solutions, while at other times it may be desirable to have employees achieve more monumental breakthroughs. Inherently, the level of creativity required may be dependent on the job in question. For example, when examining the tasks performed by R&D professionals, major breakthroughs may be desirable and necessary. In contrast, for the jobs of cashiers or assembly line workers, an incremental change in how the work is done may be a desirable creative outcome.

It also is important to clearly differentiate creativity from innovation. While the constructs of creativity and innovation are closely related, they are different. Specifically, creativity involves producing novel and useful products, processes, or services (e.g., Shalley, 1995; Woodman, Sawyer, & Griffin, 1993). Creativity differs from innovation in that innovation refers to the implementation of ideas at the individual, group, or organizational level (Amabile, 1996; Anderson & King, 1993;

Mumford & Gustafson, 1988). Creativity is important in and of itself and can be conceptualized as a necessary first step or precondition required for innovation (Scott, 1995). In this article, we are concerned solely with creativity and the relationship among leadership, context, and creativity.

Because creativity is considered by many to be historically, culturally, and socially bound (cf. Amabile, 1996), it is important to have agreement from those who are considered knowledgeable in the field concerning the level of creativity. For example, an architect, who may produce creative outputs in her own field, is not necessarily in a position to judge the creativity of a new chemical product. Therefore, with regards to creative outcomes, managers play a key role in that they are often the individuals best suited to make the determination of whether an employee's outcome should be regarded as creative.

At any given time, a single manager may be overseeing employees who are working toward creative outcomes. As such, a key component necessary for creativity is the context within which the creativity takes place because creative outcomes cannot and do not occur in a vacuum. Mumford et al. (2002) discussed creative work as being *contextualized* (p. 709, emphasis theirs) in that the success of creativity depends on the capabilities, pressures, resources, and sociotechnical system in which employees find themselves (Csikszentmihalyi, 1999). In order for creativity to occur, leadership needs to play an active role in fostering, encouraging, and supporting creativity. Hence, the role of leaders is to ensure that the structure of the work environment, the climate and culture, and the human resource practices (e.g., rewards, resources, goals, and expected evaluations) are such that creative outcomes can and do occur (e.g., Drazin, Glynn, & Kazanjian, 1999; Mumford, 2000; Mumford et al., 2002; Oldham & Cummings, 1996; Shalley et al., 2000). In Section 3, we will review the social and contextual components of the work environment that have been found to influence the occurrence of creativity. Following this, we discuss how managers can use this research to lead their employees to be more creative.

3. Social and contextual factors

The theoretical works of Amabile (1988, 1996) and Woodman et al. (1993) serve as general frameworks that describe a variety of relevant factors that can either enhance or stifle employee creativity. Although these models do not specifically define any particular contextual factor, they present a foundation for suggesting why the context in which employees work is important for their creativity. Based, in part, on these models, several researchers have included context in their work on creativity (i.e., Drazin et al., 1999; Mumford, 2000; Mumford et al., 2002; Oldham & Cummings, 1996; Shalley et al., 2000). However, a clear picture regarding what is important and when is still emerging. In general, these two models have categorized the major components of the work context into individual, job, group or team, and organizational level factors. In the following sections of this article, we will use the same categorization to discuss how leadership can play a role at all levels. Essentially, we argue that if managers are aware of the important social and contextual factors at all levels, they should be better able to positively affect the occurrence of creativity.

3.1. Individual-level factors

Individual creativity is said to be a function of personality factors, cognitive style and ability, relevant task domain expertise, motivation, and social and contextual influences (e.g., Woodman et al., 1993). For instance, researchers have identified a set of core personality traits that are reasonably stable across

fields and result in some individuals being more creative than others (Barron & Harrington, 1981; Gough, 1979). These traits include broad interests, independence of judgment, autonomy, and a firm sense of self as creative.

In addition to personality traits, creative performance requires a set of skills specific to creativity (i.e., creativity relevant skills; Amabile, 1988). Creativity relevant skills can be defined as the ability to think creatively, generate alternatives, engage in divergent thinking, or suspend judgment. These skills are necessary because creativity requires a cognitive-perceptual style that involves the collection and application of diverse information, an accurate memory, use of effective heuristics, and the ability and inclination to engage in deep concentration for long periods of time (Amabile, 1988). When individuals access a variety of alternatives, example solutions, or potentially related ideas, they are more likely to make connections that lead them to be creative (Amabile, Conti, Coon, Lazenby, & Herron, 1996). In addition, skills such as problem finding, problem construction, combination, and idea evaluation are important for creativity (e.g., Mumford, Baughman, Maher, Costanza, & Supinski, 1997; Reiter-Palmon, Mumford, Boes, & Runco, 1997; Vincent, Decker, & Mumford, 2002).

At the individual level, having depth and breadth of knowledge also has been linked to creativity. In contrast to personality traits and creativity relevant skills, domain-specific knowledge reflects an individual's level of education, training, experience, and knowledge within a particular context (Gardner, 1993). Education provides exposure to a variety of experiences, viewpoints, and knowledge bases, reinforces the use of experimentation and divergent problem solving skills, and develops individuals cognitively so that they are more likely to use multiple and diverse perspectives and more complicated schemas (Perkins, 1986). Training also can provide employees with guidance on how to generate novel ideas as a part of what they do rather than the exception. For instance, training strategies have been found to enhance individual creative thinking skills and problem solving ability (e.g., Feldhusen & Goh, 1995). In addition, by developing a more extensive skill set, employees should be more comfortable in trying new things and more aware of different alternatives and opportunities.

Experience in a field also can be a necessary component for creative success because an individual needs some level of familiarity to perform creative work (Weisberg, 1999). That is, it would be difficult to be creative in an area without having some experience and knowledge about what has historically been constituted as routine or the status quo. Although, in some cases, task familiarity could lead to more "habitual" performance (Ford, 1996), it also can provide the needed opportunity to prepare for creativity through deliberate practice of task domain skills and activities.

Creativity also requires some level of internal, sustaining force that pushes individuals to persevere in the face of challenges inherent to creative work. Much of the research on individual creativity has focused on the importance of intrinsic motivation (i.e., their feelings of competence and self-determination on a given task) for creativity (Amabile, 1987, 1988; Shalley, 1991; Shalley & Oldham, 1997). Essentially, research based on the intrinsic motivation perspective has argued that specific contextual factors influence individuals' intrinsic motivation that, in turn, influences individuals' creativity. For example, R&D professionals have reported that intrinsic motivation is critical for creativity (e.g., Amabile & Gryskiewicz, 1987).

Finally, creativity inherently involves risks (Tesluk, Farr, & Klein, 1997). That is, to develop new and useful products or processes, individuals have to be willing to try and to possibly fail. For many, this is not an easy thing to do and can, in part, depend on the individual's predisposition toward risk as well as the organizations culture, which will be discussed later in this article. Research has indicated that people tend to avoid risk and prefer more certain outcomes (Bazerman, 1994). However, because creativity does

not just happen but rather evolves through a trial-and-error process that involves risk taking, failure will often occur along with success. If employees are risk averse, it is much easier for them to continue performing in more routine ways rather than take a chance with a new, and potentially better, approach. Therefore, a key in the motivation of employees toward creativity is to ensure that they feel encouraged to take risks and break out of routine, safe ways of doing things.

This discussion highlights the point that while there are individual differences with regards to creativity, social and contextual factors can enable the expression of creative activity and motivate its applications. Therefore, if creativity is desired, managers can try to hire individuals that are more predisposed to be creative. Additionally, they can use an individual's predisposition for creativity as a factor in placing them in jobs where creativity may be more desirable or critical. However, if managers do not want to screen for high innate levels of creativity ability or intrinsic motivation, they need to focus on affecting the social and contextual influences in the work environment that would be more likely to lead to creativity. This would be particularly useful for managers who already have a pool of employees that they want to be more creative. To this end, managers need to ensure that their employees are well trained so that they have the skills necessary to perform not only their work but also a depth and breadth of knowledge that should encourage them to be curious about other solutions, options, or ways of doing their work. For instance, while job rotation has become popular, managers need to ensure that employees have enough experience in an area of work if they want them to be creative. Therefore, while individuals from different areas may bring a new perspective to the work, they also need to have sufficient experience and familiarity with the target area so that creativity can occur.

3.2. Job-level factors

3.2.1. Job characteristics

Objective job characteristics have a long history of being important in influencing individuals' motivation and attitudes toward work (Hackman & Oldham, 1975). Based on Amabile's (1988) model of creativity, job characteristics should be a vital component that leaders need to consider when managing for creativity. With regards to job characteristics, it has been suggested that the way jobs are structured contributes to employees' intrinsic motivation and creative output at work (e.g., Oldham & Cummings, 1996).

Specifically, when jobs are complex and demanding (i.e., high on challenge, autonomy, and complexity), individuals should be more likely to focus all of their attention and effort on their jobs, making them more persistent and more likely to consider different alternatives, which should result in creative outcomes. On the other hand, jobs that are more simple and routinized may not motivate employees or allow them the flexibility to try new ways of doing things, to take risks, and potentially to perform creatively. In support of this, Shalley et al. (2000) found that when the work environment complemented the creative requirements of the job, individuals had higher job satisfaction and lower intentions to turnover. Therefore, leaders need to think about objective job characteristics as they differentiate between jobs. For example, is the job designed to be sufficiently challenging to motivate individuals to be creative? Taken together, the key is to provide employees with jobs that are sufficiently challenging but not so overstimulating that employees feel overwhelmed and unable to break out of habitual ways of doing their work.

Finally, of all the job characteristics, autonomy has probably received the most attention (Ford & Kleiner, 1987), with research suggesting that for idea exploration and creativity, employees need to feel

that they have some autonomy over either how their time is allocated or in the determination of how their work is to be done. We recognize that managers are sometimes wary of giving employees too much autonomy, such as giving them full control over how their work is planned and conducted. However, giving appropriate levels of autonomy to employees may be useful. For example, in a study of R&D professionals, [Bailyn \(1988\)](#) found that these individuals did not expect to have full autonomy and were satisfied with being able to determine the approach they took to their research after the agenda had been set. This finding also provides a clear link to the importance of role expectations that will be discussed in Section 3.2.2.

3.2.2. *Role expectations and goals*

One way in which leaders can influence the occurrence of creative activity is through goal setting. Goals influence motivation through their impact on self-regulatory mechanisms ([Kanfer & Ackerman, 1989](#)) and research has indicated that goal setting is an extremely effective motivational technique ([Locke & Latham, 1990](#)). Goals increase attention and effort by providing clear targets toward which individuals can direct their energies. Goals regulate action directly by affecting what people pay attention to, how hard they work, and how long they persist on a task. In addition, goals affect action indirectly by motivating people to discover and use task strategies that will facilitate goal achievement. Finally, goals are more likely to be attained when people are strongly committed to their goals and are given feedback concerning their progress in relation to their goals.

In setting goals, managers are really cueing their employees as to what is needed for their job and what is valued by the organization. For example, [Amabile and Gryskiewicz \(1987\)](#) found that management having set clear organizational goals was a critical factor for high creativity. In contrast, when employees did not know what management desired, because no clear goals were given, they felt that lower levels of creativity resulted. In a study of 400 project teams, [Pinto and Prescott \(1988\)](#) found that a clearly stated mission enabled teams to focus on the development of new ideas and subsequently predicted successful innovation. Therefore, leaders interested in encouraging more creative activity should set creativity goals.

A creativity goal can be a stated standard that an individual's output should be creative (i.e., novel and appropriate) or that individuals should attempt to engage in activities that could lead to creative outcomes (e.g., flexible thought, playing with ideas, environmental scanning, and data gathering). Several studies have found that when individuals know that creativity is important they are more likely to actually be creative (e.g., [Manske & Davis, 1968](#); [Speller & Schumacher, 1975](#)).

In a series of studies, [Shalley \(1991, 1995\)](#) found that assigned creativity goals effectively enhanced creative performance. Similarly, [Carson and Carson \(1993\)](#) found that individuals who were assigned a creativity goal performed more creatively than those not assigned a creativity goal. On the other hand, if goals for creativity are not established but there are goals assigned for other aspects of performance, such as production quantity, creative performance has been found to be less likely to occur ([Shalley, 1991](#)). A related way in which leaders can foster the occurrence of creativity is by making it a requirement of the job—in other words, explicitly or implicitly making it known that creativity is required to perform the job effectively. Research has shown that employees can accurately identify when creativity is required by their job ([Shalley et al., 2000](#)). Taken together, this body of research indicates that leaders need to set appropriate goals and requirements so that individuals will aspire to be creative. At the same time, they need to be aware that if job requirements or goals are set for behaviors that may not result in creative

outcomes or may directly contradict engaging in creative activities, then employees may exhibit less creativity in their jobs.

3.2.3. *Sufficient resources*

Creativity takes time (Gruber & Davis, 1988), a great deal of hard work, and strenuous mental energy. Therefore, when managing for creativity, time is a critical resource that managers need to ensure their employees have access to. Here, it is important to emphasize that, in general, it is far easier for most employees to stick to routine tried and tested methods that are typically more efficient rather than experimenting and trying to come up with creative approaches. For instance, it takes more cognitive effort to generate multiple alternatives, suspend judgment, and look at problems in a different and often divergent manner. However, by engaging in creative activities, the quality of decisions or judgments should be better. Amabile and Gryskiewicz (1987) found that one frequently mentioned factor necessary for promoting creativity was sufficient time to think creatively, explore different perspectives, and play with ideas. Likewise, Katz and Allen (1988) found that for engineers working on new technologies, uninterrupted time was considered to be critical. A recent study by Amabile et al. (2003) found that individuals under time pressure are significantly less likely to engage in creative cognitive processing. A well-known example of the importance of time to think creatively is that of 3M where scientists and R&D professionals are encouraged to spend 15% of their work time on what is called “bootstrapping” activities (Martin, 1995). This time is generally unstructured and is typically allocated to creative thinking, trying new products, and reading up on new ideas or processes that should help contribute to employees being creative. Therefore, managers need to ensure that employees have enough time to be creative, which can be especially difficult in today’s fast-paced, rapidly changing world.

In addition to time, employees need access to material resources to be creative (Katz & Allen, 1988). However, with regards to material resources, managers are faced with an interesting dilemma. That is, while material resources have been described as important for creativity, it also has been suggested that their availability or abundance might negatively impact creativity (Csikszentmihalyi, 1997). For example, while resources are needed to perform one’s job, not having everything that is needed readily at hand, in fact, may stretch employees to think of different ways of doing their work. In other words, a lack of material resources may actually help foster creativity. Taking this a step further, Csikszentmihalyi (1997) suggests that resources can make individuals too comfortable, which can have a “deadening effect on creativity” (p. 321). Therefore, managers need to ensure that employees have access to a reasonable amount of the necessary resources for performing their job (Drazin et al., 1999).

Finally, people also are an important resource. That is, individuals may need to be able to access individuals with varying expertise to gain the information needed for pursuing creative activities. The development and implementation of creative ideas oftentimes requires input and support from multiple individuals or groups (Mumford et al., 2002). Woodman et al. (1993) argued that to be creative, individuals should be able to freely share information with others and give input into decisions. The role of others in affecting an individual’s level of creativity will be treated further in Section 4.

Taken together, managers have a complex role in striking the right balance between providing employees enough time to be creative but not too much time so that they are bored and no longer motivated to perform their jobs. Likewise, access to the necessary resources so that employees can perform their jobs is important, but an overabundance may stifle their creativity. Given these dichotomies, it may be fortunate for managers that many of the traditional roles of leadership are being redefined in today’s flatter organizational structures. With employees having more direct responsibility

over their day-to-day work, the leaders' role is being redefined so that they are more involved in external resource acquisition and boundary spanning. To this end, Kolb (1992) found that public relations and boundary management were critical leadership functions to ensure that support and resources were available for creative work.

3.2.4. Rewards

Kerr (1975) wrote a seminal piece on the dangers of rewarding A while hoping for B. This analogy can be applied to creativity, where employees are rewarded in accordance with past behaviors and yet new practices, processes, or outcomes are desired. Because an organization's culture and reward system may have a significant impact on creativity, it is important that leaders make it clear to employees how performance will be rewarded. For instance, if creativity is a role expectation, it should be rewarded appropriately. Rewards can be monetary or nonmonetary, such as recognition or praise. The work by Amabile (Amabile, 1979; Amabile, Goldfarb, & Brackfield, 1990) has suggested that it is intrinsic motivation rather than the expectation of receiving extrinsic rewards that fosters creativity. However, Eisenberger and Armeli (1997) have argued that rewards are not, in and of themselves, bad for creativity but two critical factors that need to be considered are what types of behaviors are being rewarded and how the rewards are distributed. For instance, they argue that rewards can be used to convey important information to employees and it is this informational component of rewards that is linked to both intrinsic motivation and ultimately creativity. Thus, rewards should be seen as something given in recognition of individuals' competence, attempts to engage in creative activity, and their actual creative accomplishments. If rewards are distributed in these types of informational ways, they should have a positive affect on employees' creativity.

3.2.5. Supervisory support

The link between supervisory support and creativity has been relatively well established in the literature. For example, Andrews and Farris (1967) found that scientists' creativity was higher when managers listened to their employees' concerns and asked for their input into decisions affecting them. Andrews and Gordon (1970) found that negative feedback from leaders inhibited scientists' creativity. Redmond, Mumford, and Teach (1993) found that leader behaviors that contributed to problem construction and feelings of high self-efficacy led to greater subordinate creativity. Scott and Bruce (1994) found that the quality of the exchange or relationship between a supervisor and his or her subordinate (i.e., leader-member exchange, LMX) was related to the subordinate's innovativeness. Additionally, they found that the quality of the relationship was related to employees' perception of the existence of an innovation-supportive climate. Similarly, Oldham and Cummings (1996) found that supportive, noncontrolling supervisors created a work environment that fostered creativity. Finally, Tierney, Farmer, and Graen (1999) found that open interactions with supervisors and the receipt of encouragement and support lead to enhanced employee creativity.

Studies also have indicated that the results for supportive supervision can vary for those with different personality characteristics or cognitive styles. For instance, Tierney et al. (1999) found that employees' intrinsic motivation, cognitive style, and LMX all affected creativity. Moreover, for creative performance, there were significant interactions between employee and leader intrinsic motivation and between LMX and employee cognitive style. Oldham and Cummings (1996) found that employees with high scores on the Creative Personality Scale (Gough, 1979) and who worked on complex jobs and were supervised in a supportive and noncontrolling fashion had the highest numbers of patent

disclosures and supervisor creativity ratings. Finally, [George and Zhou \(2001\)](#) found that one of the Five-Factor Personality traits ([Costa & McCrae, 1992](#)), conscientiousness, was related to creative behavior and interacted with close monitoring such that conscientious individuals, who were monitored too closely by their supervisors and had unsupportive coworkers, had low levels of creativity.

Based on the research, managers should work on encouraging and supporting their employees as well as developing nurturing relationships. If leaders are supportive, creative activity should be more likely to occur. However, the research on supervisor support consistently finds that contextual factors interact with individual characteristics to affect creative performance. Therefore, leaders need to understand their employees to provide the right levels of support needed for creativity to occur.

3.2.6. *External evaluation of work*

Closely tied to rewards and support is the importance of leaders evaluating employees on whether they are attempting creative activity and ultimately rewarding both employee attempts and actual creative outcomes. Some research has suggested that evaluation can have a dysfunctional effect on intrinsic motivation and subsequent creativity (e.g., [Amabile, 1979](#); [Amabile et al., 1990](#); [Shalley & Oldham, 1985](#)). On the other hand, other studies have found that evaluation can positively affect intrinsic motivation and creativity (e.g., [Harackiewicz & Elliott, 1993](#); [Jussim et al., 1992](#)). For example, [Shalley \(1995\)](#) conducted two studies looking at the effect of expected evaluation on creativity. The first study found no significant effect for expected evaluation. The second study found that individuals who worked alone, had a creativity goal, and expected to be evaluated had high levels of creativity. These results suggest that expected evaluation is not necessarily harmful to creativity and can actually be beneficial to creativity in certain situations.

Providing employees with performance feedback is a key function that many managers struggle with. Giving feedback can be particularly important for creativity and yet particularly difficult in that creativity often involves trying new things and taking risks. Earlier in this article (e.g., with regards to supervisory styles and rewards), we discussed the importance of contextual factors being conveyed in a more informational rather than controlling manner and how this links to intrinsic motivation. The notion of informational versus controlling also has been applied to research on expected evaluation and the nature of feedback provided by supervisors. In particular, one study found that when individuals expected an external evaluation that would provide constructive information on how to improve their performance (i.e., informational in that it is supportive yet holding them accountable), this was beneficial for both their intrinsic motivation and their creativity ([Shalley & Perry-Smith, 2001](#)). Another study found that when informational feedback was delivered to an individual they had higher subsequent creativity than when the same feedback was delivered in a controlling or punitive manner ([Zhou, 1998](#)). Additionally, it has been found that even when individuals self-assess their work this results in higher creative performance when it is first stressed that the assessment should be used as a strategy to develop their creativity relevant skills ([Zhou & Oldham, 2001](#)). Relatedly, [Zhou \(2003\)](#) found that feedback that is high on developmental orientation (e.g., provides employees with helpful information to learn, develop, and improve) results in higher levels of creativity.

The research on performance evaluation suggests that leaders should provide support for role expectations of creativity by providing an environment where employees expect to receive constructive, developmental feedback on their work. The key appears to be that managers need to stress information giving and sharing of constructive feedback to foster employees' creativity. Thus, employees can be given negative feedback, but what appears to be critical is how the feedback is conveyed to the recipient.

Finally, whether creativity is a requirement or an expectation of a job, it is critical that resources, rewards, support, and evaluation all be closely linked such that creative behaviors and outcomes are perceived as important. Therefore, a critical challenge faced by leaders is in the linking of the various job-level contextual supports they have under their control. For example, if creativity is positively evaluated but never rewarded, it may be that the employee is given a mixed message and thus may or may not decide to continue trying to be creative. Likewise, if managers are supportive of employees who try new things but come appraisal time they are not positively evaluated for creativity, these behaviors will not continue. Alternatively, if employees are rewarded and evaluated based on their creativity yet never given the resources they need to perform such behaviors, they may become disenfranchised. Therefore, managers need to plan very carefully what behaviors, activities, and outcomes they want to encourage in their employees and based on this support, reward, and evaluate such activities accordingly.

3.3. Team or work group factors

3.3.1. The social context

Creativity can, but does not always, occur in isolation. Frequently, creativity is a result of an interactive process between coworkers and team members (Agrell & Gustafson, 1994; Mumford & Gustafson, 1988). As such, the social influences of others are important. For instance, several job attitudes are socially constructed based on the social labeling of work by others (Nemeth & Staw, 1989). In addition, the opinions of others with regards to one's own work can influence how an employee perceives her job and organization (Salancik & Pfeffer, 1978). Therefore, managers must consider that part of their role is to try to influence employees and their coworkers with regards to whether creativity is desirable.

There have been a series of studies that have specifically examined the effect of others on individual creativity. Here, research indicates that employees rely on cues from others in their work environment to form views about their own ability to be creative (Ford, 1996). For example, Tierney and Farmer (2002) found that when supervisors worked to build employees' self-confidence and modeled activities central to creative performance, employees believed that they had creative capabilities (i.e., creative self-efficacy). Further, this study found that creative self-efficacy influenced actual creative performance.

Role modeling by supervisors also can influence employee creativity. For example, researchers have found that highly creative individuals have often studied under highly creative people or have been exposed to creative role models (e.g., Simonton, 1984; Zuckerman, 1977). In the area of cognitive modeling, Gist (1989) found that a cognitive modeling training program for managers focusing on techniques to enhance innovative problem solving increased the quantity and divergence of ideas generated. Likewise, Meichenbaum (1975) found that cognitive modeling led to an increase in flexibility and originality in tests of divergent thinking. This makes sense because modeling serves to clarify performance expectations and enhance skill acquisition. If individuals are capable of performing a behavior but are not currently doing so, they are more likely to perform it after a demonstration of the behavior or examples of appropriate rules and thought processes (Bandura, 1986). Therefore, examples or images of desirable outcomes can foster the types of activities likely to lead to these outcomes. In a test of this, Shalley and Perry-Smith (2001) found that individuals exposed to a creative model had higher creative performance on a subsequent task than those not exposed to a model. Further, Madjar, Oldham, and Pratt (2002) examined the effects of work and nonwork support for creativity and found that support from both inside (i.e., coworkers and supervisors) and outside (i.e., family and friends) of work were positively correlated with employees' creativity.

While leaders can play a key role in modeling creative behaviors, it is important for them to realize that teammates and coworkers also can exert a strong influence. Here, managers can use human resource practices to foster a team environment that supports and encourages creativity. For instance, work on team member interaction has found that constructive controversy can lead to better-quality decisions (Tjosvold, 1982). In addition, supervisors who explored, understood, accepted, and combined workers' arguments with their own resulted in employees displaying more curiosity (Tjosvold, 1982) that could contribute to subsequent creative outcomes. In addition, Agrell and Gustafson (1994) proposed that participation by team members should help ensure that new ideas are not abandoned.

Theorists have proposed that the communication of ideas and information along with contact with diverse others should lead to higher levels of creativity (e.g., Amabile, 1996; Gilson, 2001; Kanter, 1988; Perry-Smith & Shalley, 2003; Woodman et al., 1993). Ancona and Caldwell (1992) found that when a new member from a different functional area joined an existing team, communication increased dramatically that, in turn, should enhance creativity through the introduction of different ideas (Agrell & Gustafson, 1994). For instance, Monge, Cozzens, and Contractor (1992) found that group communication was positively related to the generation of innovative ideas. Kasperson (1978) found that scientists with access to different scientific disciplines were rated as making a more creative contribution to their own field. Similarly, Andrews and Smith (1996) found that interactions with other functional areas enhanced the creativity of marketing campaigns. Therefore, creative performance may be enhanced as others' views are brought into the group discussion via outside communication.

In conclusion, whether individuals are asked to collaborate or merely come into contact with others, these kinds of interactions can have a significant positive affect on creativity. Furthermore, the increased communication can be both within and outside of the work group. Given this, leaders should think of different ways to encourage employees to come into contact with others. This can be done in formal ways, such as composing project teams or setting up meetings, or it can be done more informally by having areas where people can meet that may encourage more spontaneous interactions. Finally, designing the work environment so that the natural flow of traffic through the building brings different functional areas in contact with each other could help facilitate and increase informal conversations.

3.3.2. *Group composition*

Interaction with diverse others has consistently been referred to in the creativity literature as a necessary precondition for creative performance (Amabile, 1988; Kanter, 1988; Woodman et al., 1993). Frequently called the "value in diversity" hypothesis, theorists have proposed that group diversity should result in different perspectives being generated and improved creative problem solving (i.e., Ancona & Caldwell, 1992; Hoffman, 1959, Hoffman, Harburg, & Maier, 1962; Nemeth, 1986). In part, this argument is based on the premise that increasing diversity should increase the range of knowledge, skills, and perspectives available within a group that should positively impact creativity (McLeod & Lobel, 1992; Pelled, Eisenhart, & Xin, 1999). Additionally, working in diverse groups should stimulate the consideration of nonobvious alternatives (Cox, Lobel, & McLeod, 1991; McLeod & Lobel, 1992). To this end, some research has found that diversity is related to higher creative performance (Andrews, 1979; Payne, 1990; Visart, 1979). For example, in a brainstorming study, McLeod and colleagues found that ethnically diverse groups produced higher-quality ideas. In a longitudinal study of culturally diverse groups, it was found that the heterogeneous groups generated more alternatives (Watson, Kumar, & Michaelson, 1993). Likewise, a series of studies conducted by Hoffman and colleagues (Hoffman, 1959; Hoffman et al., 1962) found that diverse groups experienced more conflict and consequently were

stimulated to search for different answers and alternative solutions. In a recent study, Gilson (2001) found that individuals who worked in groups that were diverse reported higher levels of creativity than did those who worked in groups that were predominantly single sexed.

With organizations becoming increasingly diverse, a great deal of attention is being focused on the benefits and risks associated with diversity (see Williams & O'Reilly, 1998 for a review). However, one area that has received less consideration but where some of the “true” benefits of diversity may lie is with regards to creativity. What the scant literature has thus far found is that work group diversity should result in more alternatives being considered, more solutions generated, increased communication both within and outside of the team, and ultimately increased creativity. One cautionary note for managers to consider is that group homogeneity is valuable for the group having a shared mental model that helps in understanding the value of different ideas that are generated (Mumford, Feldman, Hein, & Nagao, 2001). Thus, while diversity may bring some potential benefits, leaders need to recognize that with diverse groups they may need to actively work to help develop a group lens. Further, having shared mental models may be important at different stages of the creative process (e.g., idea generation and idea evaluation). Finally, because employees will usually choose to work with others similar to themselves (Tajfel, 1982), leaders may want to establish human resource practices that encourage employees to work with different others by either establishing diverse work teams or just encouraging that the views and inputs of diverse others are sought out.

3.4. Organizational-level factors

3.4.1. Organizational climate

In trying to determine what makes a climate that is supportive of creativity, Amabile et al. (1996) and Woodman et al. (1993) have suggested a number of different characteristics. While several of these characteristics have been addressed in previous sections of this article, at the organizational level, there are several key contextual components that leaders should be aware of when managing their human resources to encourage creativity.

In general, organizations tend to have a basic climate that has often been described in accordance with Hofstede's (1991) cultural dimensions. A key for creativity can be the level of uncertainty avoidance—in other words, is the organization one where every situation encountered is highly structured and where employees feel threatened by uncertainty or is it an organization where there is latitude regarding how work is to be performed and where there are opportunities to try new things? Similarly, Isaksen, Lauer, Ekvall, and Britz (2001) proposed that the values, beliefs, history, and traditions of the organization should affect employees' propensity to be creative. If leaders value and want employees to be creative, a critical contextual factor they need to attend to is fostering an environment where risk taking is encouraged and uncertainty is not avoided. This has been referred to as providing a culture where employees feel psychologically safe such that blame or punishment will not be assigned for new ideas or breaking with the status quo (e.g., Blake & Mouton, 1985; Edmondson, 1999). In support of these arguments, Nystrom (1990) found that organizational divisions were more innovative when their cultures reflected challenge and risk taking, and Abbey and Dickson (1983) found that climate was the most important component for R&D innovativeness. Essentially, if creativity is a valued outcome and employees believe this to be true, they should be more willing to experiment with new ideas, more open to communicating and seeking input from others about new ideas, and overall behave in ways that will lead to creative outcomes.

In addition, an organization's structure can play a critical role in enhancing or hindering creativity. When considering the link between structure and creativity, there are many things that leaders can do to ensure that the climate of their organization, division, or general work area is one that supports creativity. For instance, research has found that structures that promote open, ongoing contact with external others or information seeking from different or multiple sources were related to creativity (e.g., [Ancona & Caldwell, 1992](#); [Dougherty & Hardy, 1996](#)).

Another important component of organizational structure is how levels of responsibility and formal reporting relationships are organized. For instance, a highly bureaucratic organization may not encourage employees to try new ways of doing their work, whereas a flatter structure with wider spans of control may be more conducive to employee creativity. For instance, [Hage and Aiken \(1969\)](#) found that more authoritarian organizations tended to be less innovative. Similarly, [Amabile \(1988\)](#) asserted that individual creativity efforts are strengthened by the presence of organizational systems, procedures, and processes that enable creativity. For example, [Cummings and Oldham \(1997\)](#) found that individuals with creative personalities produced more creative outputs than those with less creative personalities only when they were surrounded by an organizational context that facilitated creativity.

With regards to climate, leaders also may want to attend to the issue of conflict—how is conflict perceived in their division or organization? Work on the importance of constructive conflict for performance has found that task conflict can be beneficial for creativity ([Jehn, 1995](#); [Pelled, 1996](#)). This is because when individuals experience conflict over how work is to be done, the process or act of disagreeing can result in the generation of new ideas and novel solutions. Research on group composition and conflict has found that diverse groups report having higher levels of task conflict, and such conflict was positively related to creative performance ([Jehn, 1995](#); [Pelled, 1996](#)).

A final component of organizational climate that needs to be considered by leaders is the justice or fairness climate. When justice is conceptualized as a contextual phenomenon ([James, 1993](#)), it has been argued that a fair context is one where individuals can focus on their work because they do not need to worry about how decisions will be made or individuals treated. With regards to creativity, it should be important that employees perceive their work context as one where decisions are made and applied in a just manner. Interestingly, fairness has not been considered in many studies of creativity (see [Clark & James, 1999](#) for an exception). However, many of the components of procedural justice have been incorporated into creativity research. For instance, being able to participate in decision making was found to be a key process in enhancing innovation ([West & Anderson, 1996](#)) and is an integral component of procedural justice ([Lind & Tyler, 1988](#)). Likewise, participative safety, being able to give input without being judged or ridiculed, has been positively linked to creativity ([De Dreu & West, 2001](#)) and is similar to [Leventhal's \(1976\)](#) concept of bias suppression. Finally, [Amabile and Gyskiewicz \(1987\)](#) describe being free from extraneous concerns as important for creativity and the justice literature stresses accuracy of information, error correctability, and ethics as crucial components of how decisions are made, how resources are allocated, and how individuals are treated ([Leventhal, 1976](#)).

While overall climate is often regarded as a hard thing to change, there are several components of climate that are reasonably manageable and should have an effect on creativity. For example, fostering a climate where risk taking and constructive task conflict are encouraged can be role modeled and actively encouraged and supported by management. Likewise, a review of a division's or organization's management hierarchy and reporting structure may highlight that employees are not

encouraged to make decisions on their own and thus may be less likely to try new ways of doing their work. Finally, if the bureaucracy associated with changing anything is such that it takes a great deal of time and effort to get new ideas considered, employees also may be less likely to try new approaches to work.

3.4.2. Organizational-level human resource practices

In terms of individual differences in ability to be creative, there are a variety of things that leaders can do through their human resource practices to ensure a creative environment is achieved and sustained (see Mumford, 2000 for a more extensive discussion). For example, selection devices can be used to try and select employees who are more likely to be creative or who have higher innate creative ability. Organizations can focus on screening prior to selection to try to hire employees based on their task expertise, intrinsic motivation, and cognitive skills needed for creativity. Placement also is important so that individuals fit both the task demands and their immediate work context. In addition, given that creativity can be a requirement of the job, it may be helpful to match more creative types to jobs that require higher levels of creativity.

Training can be used to increase the incidence of creative thought processes and provide educational opportunities that can enhance task domain expertise. For instance, Basudur, Graen, and Green (1982) empirically demonstrated that training in creative thought processes resulted in positive improvements to attitudes associated with divergent thinking. In addition, research on training for creative problem solving has indicated that training can help enhance employees' level of creativity (e.g., Basudur, Wakabayashi, & Graen, 1990; Parnes, 1964). By offering training opportunities that can increase individuals' knowledge base or their creativity relevant skills, this should help employees to try to be more creative in their work. Leaders also can encourage employees to seek training outside of work and even to pursue higher educational degrees with the expectation that their work will benefit from this increased knowledge base.

While selection, placement, and training are all important, leaders also may want to put systems in place to track creativity so as to be able to appraise and ultimately reward it appropriately. If organizations actually evaluate and reward creative ideas, then more should follow. In addition, some reward programs may facilitate creativity over others. For example, programs that may help to increase employees' long-term commitment to the organization, such as profit sharing, may make them more willing to try to be creative. In addition, although no job can be guaranteed, if employees feel that their jobs are relatively secure, they may be more willing to exert the cognitive effort required for creativity and more willing to take risks that could lead to creative outcomes. Therefore, leaders may want to consider the nature of employment practices and whether they are having the desired effects on employees' creativity.

While many areas that are related to human resource practices have been touched on in prior sections of this article, a key point for leaders to focus on when thinking about human resources is consistency. A great deal of research has discussed the importance of thinking strategically about human resources (Huselid, Jackson, & Schuler, 1997), and this may be particularly important when trying to develop a climate that is supportive of creativity. The human resource practices used to select, train, appraise, and reward employees all need to be systematically linked together so employees know what is expected of them and when and how. This also ties back to the importance of procedural justice in that if employees understand how, when, and for what they will be rewarded, promoted, or even fired, then they should have a stronger sense of fairness and subsequent organizational commitment, loyalty, and increased

levels of organizational citizenship behavior. In addition, it is specifically these types of attitudes that need to be fostered for creativity to occur. For instance, employees who are not loyal or committed to their organizations will not be willing to give more than is required by their job and therefore will be more likely to stick to the tried and true ways of performing their tasks rather than searching for alternative solutions.

4. Practical implications for leaders

In this review, we have tried to organize the research that exists concerning individual, job, team, and organizational level factors that should be of interest to leaders within a framework of how leaders can manage their human resources to encourage creativity. Because leadership plays a key role in providing a context where creative performance can be nourished, it behooves leaders to understand the context within which their employees currently work and to ascertain whether there is a match for the level of creativity desired.

The practical implications of our review for the day-to-day management of creative people should be highlighted. First, across the empirical studies reviewed, one common theme is that individuals need to feel they are working in a supportive work context. This applies to how leaders interact with employees, how coworkers, team members, and even others outside of work interact with employees, whether sufficient resources are available, how employees expect to be evaluated and rewarded, and whether the climate is perceived to be supportive (e.g., a perceived fair environment). Thus, managers should attempt to increase the supportiveness of the work context. Because research has indicated that those factors that are more proximal to an individual's day-to-day work (e.g., the complexity of their job) may have a stronger effect than factors more distal or at the organizational level (e.g., the organizational reward system; [Shalley et al., 2000](#)), it may be best to focus on job-level factors first because they may have the most immediate and critical effect on employee creativity.

Second, if leaders truly desire creativity, they need to, in some way, communicate this to employees. This can be accomplished by setting goals or role requirements for producing creative outcomes. It also can be achieved through modeling the types of behaviors that would be more likely to lead to creativity. Further, when leaders reward employees that are creative, this can send a powerful message that creativity is desirable.

Third, the social context at work and different patterns of interactions require some consideration. Are employees coming into contact with people that have a diverse range of skills and interests? Are employees encouraged to interact across functional areas and, if they are in teams, among their team members and employees outside their teams? Does the team, department, or organizational environment provide a good climate for support for creativity or does this need to be changed?

Finally, there are some important things that leaders can do to help facilitate individual employee's ability to be more creative. These can include using selection criteria favoring those that have a higher predisposition to be creative. When placing employees in different jobs, leaders can consciously factor in whether they fit well with the job and the level of creativity that may be required in that job. In addition, managers can make sure that if employees are not necessarily predisposed to be more creative at work, they are given training in creative problem solving skills, and any other content-based skills they need, to be more creative in their jobs.

5. Where do we go from here?

Currently, although we know about several social and contextual factors that influence the occurrence of creative behaviors, there is still a great deal that we do not know. As discussed in this article, research has begun to indicate what types of contextual features of the work environment are more or less conducive to creative behaviors. Future research should continue to examine other contextual features of the work environment and their associated human resource practices. For instance, what are the effects of various reward systems, the different levels of material and informational resource availability, and the physical layout of the workspace on creative performance? In addition, more work is needed in such areas as how to effectively give employees negative feedback without harming their subsequent levels of creativity. Through the management of contextual features that have a positive relationship with creativity and trying to minimize those with a negative relationship, employees should be more likely to be creative.

Additionally, future work should take a closer look at understanding the underlying processes that operate in conjunction with contextual conditions to influence individuals' ability or motivation to be creative. For example, what is the relationship between domain or creativity relevant skills and specific contextual factors? To date, the primary intervening process examined has been motivation, and this particular focus has some potential problems. For example, although the theoretical models and empirical pieces discuss the importance of intrinsic motivation, very little research has empirically tested this reasoning. In fact, recently, the importance of intrinsic motivation rather than motivation in general or some other underlying mechanisms, such as focus of attention, has been questioned (cf. Shalley & Perry-Smith, 2001).

With the shift from hierarchical organizations to flatter more team-based structures, the role of leaders has changed so as to become less concerned with the day-to-day work activities and more focused on the procurement of needed resources and developing and supporting a work environment that facilitates team success (Manz & Sims, 1987). In many ways, this should provide fertile grounds for creativity because it tends to flourish in less regimented work environments (e.g., Amabile et al., 1996; Martin, 1995; Shalley et al., 2000). While it was initially thought, and often feared, that flatter organizational structures would do away with the management role, the reality of self-directed work is that there is a very real need for managerial support (Manz & Sims, 1987). However, managers need to pay close attention to what is happening in their teams to ensure that human resource practices are encouraging minority influence, participative safety, and measurement, recognition, and rewarding of creativity.

Finally, given the changing nature of work, today's employees are more likely than ever before to change jobs and professions, share jobs, move from one organization to another, or work virtually. Given this, one issue that leaders might need to consider is how the production of creative outcomes might affect an individuals' career progress, tenure in an organization, and their continuance in a particular field. In addition, because having sufficient knowledge and experience in an area benefits creativity, how can we retain knowledge when individuals change jobs? One way this could potentially be overcome is by having a context and human resource practices that stress training and having employees work together in teams such that knowledge resides in the team. If this type of approach is taken, the movement of individuals in and out of the team at different times will allow for an influx of some new ideas and new external communication channels but should not detract from the teams having the skill set necessary for creativity to occur. This suggests that leaders may want to consider a context within which teams are empowered (Kirkman & Rosen, 1999) and team members are not only cross trained but

also trained as a team (Salas, Dickinson, Converse, & Tannenbaum, 1994). Additionally, because employees are increasingly working in locations separated by time and geographical location, this presents leaders with a new level of complexity when trying to foster creativity. In virtual work, the social and climate components of the organizational context are stripped away. Therefore, the effects of leadership in providing a context that supports creativity for this type of work remains to be explored. Taken together, there remain many exciting possibilities for future work in the area of creativity, leadership, and context.

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