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What we want impacts how we create

Creativity, motivation and goals

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Introduction

Why are we creative? What motivates us to do creative things? What types of goals that we set for ourselves are most likely to help us be creative? There has been a great deal of research on how creativity intersects with motivation and goals, and we will briefly review this literature and discuss its implications for developing creativity.

Within motivation, one of the core distinctions is between intrinsic and extrinsic motivation. Intrinsic motivation is when you do an activity because of the enjoyment or personal meaning you get from the actual process of doing it. Extrinsic motivation is when you do a task for any type of external reason, from money to grades to recognition (Deci & Ryan, 1980, 1985).

Neither motivation is inherently better or worse. If there is too much of an emphasis on intrinsic motivation then things may never get finished – there are always parts of a long-range task that are unpleasant or difficult to complete based solely on personal enjoyment or interest. Yet if there is too much focus on extrinsic motivation, then some of the original spark and desire for doing the activity may disappear.

A person’s motivation is strongly tied to his or her goals (e.g., Barron & Harackiewicz, 2001; To, Fisher et al., 2012). One distinction that can be made is between performance goals and learning (or mastery) goals. People with performance goals aim to succeed. They do a task and they want to demonstrate their ability with a strong performance. In contrast, people with
Learning goals want to improve. They care less about their actual performance and more about whether they are learning from the process.

Learning goals are connected with intrinsic motivation. If you do something with the goal of learning how best to do it, then you are more likely to enjoy the task itself. Performance goals are associated with extrinsic motivation. If your primary reason for doing something is to have the final product be as perfect as possible, it makes sense that your main motivation is more reward-driven.

The match of ability to task plays a role in determining which goals and motivations work best. If you have learning goals for an activity, then your ability matters less. You can start from a point of low or high ability, but as long as you improve then you have met your goal to improve (Elliot & Dweck, 1988). Another fine combination is if you have performance goals and a high aptitude for the task; you are likely to produce a final outcome that is good. However, if you have performance goals and you encounter problems during the task, there may be particular difficulties. If you begin to doubt your abilities, a learned-helpless response may kick in and you are more likely to simply give up (Elliot & Church, 1997; Middleton & Midgely, 1997).

Another potential problem is called the “hidden cost of rewards” (Lepper & Greene, 1975, 1978; Lepper, Greene & Nisbett, 1973). Here we find that offering a reward can actually decrease intrinsic motivation, but only if you already enjoy or find the task intrinsically interesting (e.g., Kohn, 1993). Under these conditions, offering a reward for something you would have done anyway actually reduces the intrinsic motivation to engage in the task.

**Motivation and creativity**

Much of the work on the relationship between intrinsic motivation and creativity has been conducted by Teresa Amabile and her colleagues (Amabile, 1979, 1982, 1983a, 1983b, 1996; Amabile & Gitomer, 1984; Amabile, Hennessey, & Grossman, 1986; Amabile et al., 1994). Not surprisingly, they have consistently found that creativity is associated with the intrinsic-learning side. For example, Amabile (1985) studied the effects of an intrinsic versus extrinsic motivational orientation on creative-writing graduate and undergraduate students. After writing a poem that was used as a baseline measure, the students were given a list of possible reasons for writing. One group received lists that stressed extrinsic motivation (i.e., “You want your writing teachers to be favorably impressed with your writing talent,” “You know that many of the best jobs available require good writing skills”), while another group received lists that emphasized intrinsic motivation (i.e., “You enjoy the opportunity for self-expression,” “You like to play with words”). Finally, a control group received no list of reasons. Amabile had the participants rank-order these reasons, and then write a second poem, which was rated for creativity. The students who were given the list of intrinsic reasons to rank, as well as a control group that received no lists, showed no significant difference in the ratings of creativity. The students given the extrinsic list, however, were rated significantly lower on their second poem.

If extrinsic motivation can possibly hurt creativity, intrinsic motivation can specifically enhance creativity: Greer and Levine (1991) found that students given intrinsic motivation instructions wrote poems that were judged to be more creative than those generated by a control group. It has been suggested that intrinsic motivation may be beneficial for creativity because it frees people from concerns about the context of a situation (Amabile, GoldfARB, & Brackfield, 1990). This freedom then allows people to focus on the primary task at hand – whether writing a poem or developing a new product. A recent meta-analysis that evaluated the relationship between creativity and intrinsic motivation analyzed 20 years of studies on the topic (de Juses et al., 2013). Using studies published between 1990 and 2010, the authors found that the corrected correlation between product creativity and intrinsic motivation was $r = .30$. 
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These results are consistent with the idea that intrinsically motivated individuals are driven by curiosity, desire to learn, and interest (Deci & Ryan, 2000).

The next important question is how creativity is influenced by intrinsic or extrinsic motivation. Intrinsic motivation is thought to influence creativity by enhancing positive affect, interest, and persistence (Shalley, Zhou, & Oldham, 2004). For example, Stanko-Kaczmarek (2012) in a study of artists, found that participants who received instructions that emphasized intrinsic motivation reported higher positive affect and evaluated their performance more positively and as more creative than participants that received extrinsic motivation instructions. Prabhu, Sutton, and Sauser (2008) replicated past findings regarding intrinsic and extrinsic motivation and creativity. In addition, they found that intrinsic motivation mediated the well-documented relationship between openness to experience and creativity. That is, high openness (having many interests, willingness to try new things), was related to intrinsic motivation, which in turn was related to creativity.

In addition, it is important to understand what influences intrinsic motivation. One important factor is the degree of interest in the task. That is, when people find the task interesting, they are more likely to experience intrinsic motivation, that is, they want to do the task because of the enjoyment and interest. For example, Ruscio, Whitney, and Amabile (1998) examined the relationship between intrinsic motivation and creativity in three domains (problem solving, art, and writing). Using behavioral coding and think-aloud protocols, they evaluated process measures that may be important in explaining this relationship such as persistence and task interest. They found that task interest mediated the relationship between intrinsic motivation and creativity; the more someone was involved with the task the more likely they were to be creative.

The question of rewards

Intrinsic motivation is driven by task interest, whereas extrinsic motivation is based on evaluation and rewards. Amabile et al. (1986) tested creativity in children by utilizing a “reward” and a “no reward” condition, along with a second condition as to how the task was presented: “work,” “play,” or no label. In the “reward” condition, the children were allowed to use a Polaroid camera (at that time, a highly desirable activity) in exchange for a promise that they would tell a story at a later point. In the “no reward” condition, children were allowed to use the camera with no such promises; it was simply another thing to do, as was the storytelling activity. All children played with a camera and then wrote a story based on a picture book, but the manner of presentation was adjusted. In the “work” condition, the storytelling was called “work,” in the “play” condition it was labeled “play,” and the “no label” condition did not use a label. These stories were then rated by qualified experts on the Consensual Assessment Technique. Amabile et al. (1986) found that children in the “no reward” condition told stories that were rated as more creative; however, the labeling as work or play did not impact scores.

Rewards may have a more nuanced relationship with creativity, however. For example, in a different study, Hennessey, Amabile, and Martinage (1989) found that receiving training about intrinsic motivation (e.g., discussion sections that explored intrinsic reasons for doing a particular task) prevented rewards from having a negative impact on creativity. Others, however, have used activities performed in a context that highlighted intrinsic motivation and still found a decrease in creative performance from rewards (Cooper et al., 1999).

Others have argued that rewards signal a desired behavior or something of value, and therefore rewards can enhance creativity (Eisenberg, Armeli, & Pretz, 1998; Eisenberg & Cameron, 1996). Eisenberg and Rhoades (2001) found that when offered monetary rewards for creative performance, participants were more creative. Eisenberg and Aselage (2009), in two studies, a field study in an organization and an experimental laboratory study with students, found that
rewards for creativity created performance pressure, however, they also increased intrinsic interest in the task, and increased creative performance. Eisenberger et al. (1998) found that a promised reward increased creativity if individuals received training in divergent thinking, or if instructions emphasized the need for creativity, while Eisenberger, Haskins, and Gambleton (1999) found that rewards increased creativity if the students had prior experience with creative acts. Overall, these studies suggest that rewards, at least under some conditions, are not detrimental to creativity.

Eisenberger and Shanock (2003), in reviewing the many studies on the harm or benefits of reward, conclude that much of the debate is surrounding methodological issues. Rewarding creative performance, they argue, increases both intrinsic motivation and creativity; rewarding conventional performance decreases both intrinsic motivation and creativity. In a quantitative summary, Cameron and Pierce (1994) conducted a meta-analysis of 96 experimental studies evaluating the effect of rewards on creativity. They found that the only negative effect came from a reward being tangible, expected, and given for the performance of a simple task. A more recent meta-analysis conducted by Byron and Khazanchi (2012) found that rewards increased creativity when rewards were contingent on creative performance. The authors suggest that when individuals are offered a reward, this signals that creative performance is a desired outcome, which in turn motivates them to perform accordingly.

Rewards, however, are not usually given to everyone. Rather, rewards are given typically after some judgment or evaluation has been made. Some research suggests if people are expecting that their creativity output is going to be judged or evaluated, they are less creative (Amabile, 1979; Amabile et al., 1990) and they feel less competent (King & Gurland, 2007). Other work suggests the relationship may be more complex. For example, Shalley (1995) found that if people worked alone with the goal of being creative, then the expectation of evaluation led to more creative work. Similar to the effect of rewards, she hypothesizes that if people know that they are expected to be creative (and that their work will be judged), then they may be able to focus better on a creative task. Following up on this study, Shalley and Perry-Smith (2001) suggested that expected evaluation can take one of two forms. Controlling evaluation focuses on performance on the task and expected evaluation and grading of the performance, resulting in pressure to perform, which in turn, results in extrinsic motivation. Informational evaluation, on the other hand, emphasizes feedback and learning opportunity, resulting in intrinsic motivation. Contrasting these two forms of potential evaluation, Shalley and Perry-Smith found that participants who received the informational evaluation generated more creative ideas and had higher intrinsic motivation compared to those that were given controlling evaluation expectations.

Combining the two issues of reward and evaluation, Friedman (2009) suggested that reward framing is critical in understanding how rewards increase (or decrease) creative performance. Participants in Friedman’s experiment received instructions that emphasized the reward as gain (“if your responses are judged to be among the top half of participants in terms of creativity you will receive a bonus”) or non-gain (“if your responses are judged to be among the bottom half of participants in terms of creativity you will NOT receive a bonus”). A control group was also used, where no information was given about judging the responses. Therefore, both evaluation and reward were included in this study. Friedman found that only non-gain rewards were related to creativity.

Further support for evaluating rewards in context (and in relation to evaluation) is provided by a recent meta-analysis conducted by Byron and Khazanchi (2012). They found that rewards increased creativity when rewards were contingent on creative performance. The authors suggest that when individuals are offered a reward, it signals that creative performance is a desired outcome, which in turn motivates them to perform accordingly. Additionally, rewards are likely to positively influence creativity when individuals are given more choice. When participants are given a choice about the reward or the task, individuals feel that they have more control, and the reward is not viewed as
What we want impacts how we create controlling behavior. In addition, the authors speculate that choice may increase task interest and intrinsic motivation. The authors conclude that an important issue to understand is that rewards do not happen in isolation, that the context surrounding the rewards will influence how rewards will be interpreted, and therefore the relationship between rewards and creativity.

Another consideration is that rewards can be experienced in many different ways. For example, the concept of prosocial motivation, as recently discussed by Forgeard and Mecklenburg (2013), integrates intrinsic and extrinsic motivation with the idea of the audience. Just as people are motivated intrinsically or extrinsically, so too can they focus on how something impacts themselves or others. Intrinsic, self-oriented motivation, which Forgeard and Mecklenburg call “Growth,” emphasizes the personal enjoyment of the creative process. Intrinsic, other-oriented motivation, or “Guidance,” is similar to mentorship; it offers the pleasure of sharing one’s own abilities to help others develop. Extrinsic, self-oriented motivation (“Gain”) is being driven by traditional rewards. In contrast, however, extrinsic, other-oriented motivation, “Giving,” involves using your creativity to help others. Giving is still extrinsic motivation because there is a tangible, specific outcome that underlies the process, but these types of rewards are different from promotions or extra credit.

Requirements to be creative

Another important contextual factor that may influence motivation that has not received much attention is that of the requirement to be creative (Unsworth, Wall, & Carter, 2005). Unsworth et al. defined job creative requirement as the perceptions of employees that creativity is expected in their workplace roles. While the focus of Unsworth et al. was on job creative requirement, perception that creativity is required can occur in other roles as well, such as for a student in a classroom. Unsworth et al. argued that creative requirements serve as goal setting or provide information about expectations. Without knowledge that creativity is expected, it is not likely that employees will develop creative ideas.

Empirical research on creativity requirements is sparse. Scott and Bruce (1994) found that supervisor perception of job requirement for creativity was related to employee creativity. Yuan and Woodman (2010) found that expectations for creativity predicted employee innovation even after controlling for intrinsic motivation. Finally, Robinson-Morral, Reiter-Palmon, and Kaufman (2013) found an interaction between creative self-efficacy and job requirements such that participants exhibited the strongest level of creativity when both internal factors (creative self-efficacy) and external factors (creative requirements) were high. Interestingly, individuals with lower levels of creative self-efficacy were still able to perform creatively if they had perceived the need to be creative (creative requirement). This study further suggests that external pressure to perform creatively may not always reduce creativity as originally suspected, and in fact there may be an important interplay between external and internal motivation.

Mindsets

The concept of goal orientation has also been used to explain the relationship between motivation and creativity. Early work by Dweck (Dweck, 1986; Dweck & Leggett, 1988; Elliot & Dweck, 1988) indicated that individuals tend to have one of two basic goal patterns. Some individuals may focus on performance and are concerned with performing well to gain positive evaluations or to avoid negative evaluations. In contrast, those with a mastery orientation focus on learning, increasing competence, and improvement. Dweck (1986) suggested that these differences in goal orientation are a result of differences in how intelligence is viewed. Those that view intelligence as a fixed quantity develop performance orientation, whereas those that view intelligence as malleable develop
mastery orientation. Miele, Finn, and Molden (2011) found that those who felt intelligence was fixed tended to view experiencing task difficulty as reaching their intellectual limits, while those with malleable mindsets saw this as pushing themselves to grow their abilities. These differences between fixed and malleable mindsets can have serious ramifications in fields such as education, as students with fixed mindsets of intelligence tend to attribute failure to their intellectual ability more so than those who believe intelligence is malleable (Dweck, Chiu, & Hong, 1995). Research suggests that a learning goal orientation or mastery orientation is related to learning, persistence, and effort in a variety of contexts, whereas findings regarding performance orientation are mixed resulting in no effects, negative effects or positive effects (Grant & Dweck, 2003; Payne, Youngcourt, & Beaubien, 2007).

Recent conceptualizations of goal orientation suggested a more refined model to explain the mixed findings regarding performance goal orientation. Specifically, performance goal orientation is seen to have two distinct aspects: performance-prove reflecting the desire to prove competence, and performance-avoid reflecting the desire to avoid showing incompetence (Elliott & Church, 1997; Elliot & Harackiewicz, 1996). A meta-analysis by Payne et al. (2007) suggested that overall, learning orientation is positively associated with performance, whereas performance-avoid is consistently negatively associated with performance in a wide variety of settings and tasks. The relationship between performance-prove orientation and performance was more varied and no consistent patterns were identified. A more recent meta-analysis by Cellar et al. (2011) found a corrected correlation of .12 between learning goal orientation and performance; however, the relationship between performance-prove orientation and performance was not significant. Finally, the relationship between performance-avoid orientation and performance was weak and negative.

Theoretically, it has been suggested that creativity would be related to learning goal orientation, as learning goal orientation promotes the persistence and effort needed when trying to solve a problem in a creative manner. Further, learning oriented individuals have a higher level of intrinsic motivation toward tasks than individuals who are low in learning orientation (Button, Mathieu, & Zajac, 1996). It is also expected that individuals who have a performance-avoid learning goal orientation will perform less well in tasks calling for creativity because of their aversion to risks and the complexities associated with tasks that call for creativity, which lend themselves to a more difficult problem solving effort (Button et al., 1996). The relationship between performance-prove and creativity is not well articulated at this point. Furthermore, empirical research on goal orientation and creativity is sparse and inconsistent. Some studies found positive relationships between learning orientation and performance-prove and creativity, whereas other studies failed to find such relationships (Gong, Huang, & Farh, 2009; Hirst, Van Knippenberg, & Zhou, 2009; To et al., 2012).

Some of the research on goal orientation and creativity suggests that this relationship is moderated by a number of variables. For example, Simmons and Ren (2009) found that the relationship was moderated by perception of risk, such that individuals low in performance-avoid orientation are more creative under high rather than low risk conditions. Other research suggested that the relationship between performance-prove orientation was moderated by team learning behavior such that when team learning behavior was high it was positively related to creativity but not when it was low (Hirst et al., 2009). Another potential moderator is that of transformational or transactional leadership style. The relationship between transformational leadership and creativity has been suggested to be positive; however, a recent meta-analysis indicated only a weak relationship between transformational leadership and creativity (Hammond et al., 2011).

Until recently, fixed vs. malleable mindsets had not been studied in regard to creativity. Karwowski (2013) suggested that whether individuals perceive creativity as fixed or malleable is an important factor to be considered. There are only a few empirical studies that evaluated this. Makel (2009) did not find differences in creative problem solving based on fixed or malleable mind set. O’Connor,
Nemeth and Akutsu (2013) measured the fixed vs. malleable mindset using a five-item Likert scale, with one end of the continuum constituting the fixed and the other the growth mindset. The malleable creative mindset correlated substantially with a malleable theory of intelligence, whereas having a fixed mindset was related to lower self-reported creativity, less interest in creativity and lower scores on divergent thinking (both fluency and originality). O’Connor et al. also conducted an experimental study where they manipulated a fixed or malleable mindset regarding creativity. When the malleable perception was primed, participants generated more ideas and more original ideas to a divergent thinking task than those primed with the fixed mindset prime.

Karwowski (2013) suggested that it is important to measure the aspects independently (similar to how they are measured for intelligence), as individuals may be able to hold both views at the same time. For example, people may hold a more fixed mindset regarding famous creators and major creative accomplishments (Big C), but feel that everyday creative achievements may be more malleable (little c). In a series of three studies, Karwowski (2013) showed that a new measure to evaluate these mindsets had the appropriate factor structure, that those with a malleable mindset viewed creativity as more important to their self-concept than those with a fixed mindset. In addition, those with a malleable mindset were more successful at solving insight problems compared to those with a fixed mindset.

Conclusion

What can be clear from the discussion above is that the effect of motivation on performance is not simple. Both intrinsic motivation and extrinsic motivation can play a role in facilitating creativity. Further, we have a more nuanced understanding of the mechanisms by which each can influence creativity and the conditions under which intrinsic and extrinsic motivation may be facilitators of creativity. In addition, understanding how conceptions of fixed and malleable mindsets, relating to intelligence, and more recently to creativity, influence creativity adds to our knowledge about motivation and creativity.

References


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