

Running Head: Creativity as a Constraint

Early Creativity as a Constraint on Future Achievement

Jack A. Goncalo

Lynne C. Vincent

Cornell University

Pino G. Audia

Dartmouth University

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Address correspondence to:

Jack Goncalo
Cornell University
School of Industrial and Labor Relations
146D East Ives Hall
Ithaca, NY 14853

Tel: 607-255-2085
Fax: 607-255-2261
e-mail: jag97@cornell.edu

Abstract

There is a great deal of research to identify the factors that lead to the genesis of a creative idea, but there is relatively little research to address the question of how creativity can be maintained over time. This gap is important because a highly creative idea may bring fame and fortune as well as frustration, unmet expectations and failed attempts to replicate success by producing poor imitations of one's early work. In other words, early creativity may cast a long, dark shadow. In this chapter, we propose that early creativity may constrain future achievement through psychological mechanisms that fall into three broad categories, (1) cognitive, (2) affective and (3) social. We then extend our analysis to the group level by investigating the effects of past success on group creativity. We conclude with strategies that organizations can use to manage the consequences of success and continue to profit from their most creative employees.

Introduction

Success has made failures of many men.

~Cindy Adams

Most organizations, particularly those in volatile environments, recognize the need to stimulate creativity in their workforce because new and useful ideas can be highly profitable (Shalley & Perry-Smith, 2001). It is not surprising then that employees or teams that manage to develop a highly creative idea are rewarded with greater pay, recognition and status (Merton, 1968). However, as the opening quote alludes, a highly successful creative idea may also lead to frustration, unmet expectations and failed attempts to replicate success by producing poor imitations of one's early work. In other words, early creativity may constrain future achievement as people buckle under the weight of their past success.

There is abundant evidence that success can stifle creativity from biographies of eminent novelists. For instance, Ralph Ellison never produced another novel after the *Invisible Man* despite years of broken promises (and book contracts) that never materialized. It would appear that Harper Lee did not even make such an attempt; she retired shortly after writing her Pulitzer Prize winning novel *To Kill A Mockingbird*. This decision may have been a rational one on her part since even prolific writers seem to have trouble replicating early career success. For example, there was a 32 year gap between Norman Mailer's iconic first novel, *The Naked and the Dead* (1948) and his next critical and commercial hit, *The Executioner's Song* (1980). Furthermore, the constraining effects of creativity are not restricted to writers but may be a consequence of success in many fields. For instance, Art Fry, the scientist who invented the

Post-It Note, has also been constrained by early success as all of his subsequent inventions, such as the Post-It Flag, are incrementally related to the original Post-It idea.

Almost from the inception of research on creativity, there has been a focus on the highly creative individual and an attempt to identify the traits (Helson, 1996) and social contexts (Amabile, 1983; 1996) that give rise to creative achievement. However, there is relatively little research to address the question of how creativity can be maintained once it has been achieved. The answer to this question may seem obvious because one might reasonably assume that the best predictor of future creativity is a prior record of creative achievement (Simonton, 1999). However, if early success in creative endeavors is indeed constraining, as the anecdotal evidence suggests it is, then there may be considerable implications for managing creativity in any organization that desires a consistent stream of original ideas. For example, it is likely that people who generate a highly successful idea will more easily garner resources to continue their work (Merton, 1968). However, if early success stifles creativity over time, then organizations may unwittingly be throwing good money after bad.

In this chapter, we develop a theory in which past success may constrain future achievement through three psychological mechanisms that can be described broadly as, (1) cognitive, (2) affective and (3) social. The rest of the paper proceeds as follows. We begin by reviewing recent empirical evidence to suggest that past success stifles creativity over time. We then discuss the psychological mechanisms that may explain these effects. Next we extend our ideas to the group level to argue that groups may also be constrained by past success, but the debilitating effects of success may be moderating by the attributions that groups generate to explain it. Finally, we conclude by proposing strategies that organizations, mindful of the

constraints imposed by past success, can use to cultivate creative ideas from their most successful members.

Success and creativity: Generating insights from organizational learning

In order for an idea to be considered creative, it must satisfy two criteria (Amabile, 1983; Stein, 1974). First, the idea must be *useful* in the sense that it provides a solution to a problem. For example, the Post-it Note was a creative idea in part because it offered a solution to a nagging problem; Notes that were taped to a desk or computer with a conventional adhesive were impossible to remove without either tearing the note to pieces or leaving a stain. However, the Post-it Note was creative not merely because it was useful; It also satisfied the second criteria of *novelty*. Art Fry recognized a new use for an adhesive that everyone regarded as useless because it did not really stick.

Most research on creativity is concerned with identifying the process leading to the genesis of a creative idea. For instance, current research would suggest that Art Fry's creativity is due in part to his personality (Helson, 1996), his cognitive processes (Ward, 2004), his social networks (Perry-Smith & Shalley, 2003) or other features of his social context such as the organizational culture of the firm in which he was employed (Flynn & Chatman, 2001). Our aim is to carry this sequence one step further and ask; Whatever happened to Art Fry *after* he invented the Post-It Note? To rephrase the issue at a more general level: Although there is a great deal of research to address the question of where highly creative ideas come from, there is less research to address the question of how past success influences subsequent creative endeavors.

We have attempted to address this gap by analyzing the effect of past success on creativity over time in a sample of inventors who generated patents in the hard disk drive

industry (Audia & Goncalo, 2007). We found that highly successful inventors generated more patents than their less successful colleagues, but they generated patents that become increasingly incremental over time as they produced new ideas that closely resembled their earlier work. In other words, much like the creative writers who were constrained by early success, inventors in this industry were “boxed” in by their earlier work and continued to generate patents that were variations on their initial patents.

These findings may seem puzzling in light of existing theories of creativity, especially the seminal research on scientific creativity which suggests that people who generate more ideas will also generate ideas that are more divergent and have more impact on their field (Simonton, 2004). An underlying assumption of that perspective is that the sheer number of ideas generated by an individual is positively correlated with the novelty or divergence of those ideas (Dennis, 1966; Simonton, 1977). For instance, some scientists have been found to produce their most highly cited work during periods of peak productivity (Simonton, 1984; 1985), leading to the argument that quality is a probabilistic consequence of quantity (Simonton, 1997; Diehl & Stroebe, 1987).

The notion that past success constrains creativity over time, however, would be predicted by a theories of organizational learning; a theoretical framework that has not been integrated with the creativity literature, but is widely used to understand innovation at the organizational level of analysis (Audia & Goncalo, 2007). Our ideas about the effects of past success on subsequent creativity were developed by integrating insights from these two streams of research that emerged from different fields but share several underlying assumptions. Like the research on creativity, theories of organizational learning distinguish between two types of solutions that reflect either *exploration* defined as “the pursuit of new knowledge, of things that might come to be known” or *exploitation* defined as “the use and development of things already known”

(Levinthal & March, 1993: pg. 105). The distinction between exploration and exploitation parallels the categories that researchers of creativity use to distinguish between ideas that are more or less creative. For instance, like divergent creativity (e.g., Kirton, 1976; Sternberg et al., 2003), exploration involves the search for knowledge that departs from an established direction, the potential generation of a completely new principle, and breaking with accepted modes of thought. And, like incremental creativity, exploitation involves continuity with existing solutions, improvement through modification, and generating ideas within an established framework. Exploration-exploitation is also similar to Guilford's (1956) influential distinction between divergent thinking which reflects thinking that moves outward from a problem in many different directions and convergent thinking which involves thinking that moves toward a single solution.

Although the theory of exploration-exploitation is intended to explain firm-level effects, it is a potentially useful analogue for understanding the creative process, especially because of the high degree of overlap on key concepts. However, unlike the research on creativity which has largely ignored the effects of success, a firm's record of past performance is a central feature in theories of organizational learning. According to March (1991) and Levinthal and March (1993), because organizations are sensitive to the risks inherent to the search for new ideas, they are most likely to take the risks inherent to exploration when they are still searching for but have not yet found an adequate solution. However, once a successful or adequate solution has been identified, they are likely to prefer exploitation over exploration because exploitation of knowledge that has proven to be effective guarantees more certain results and therefore reduces the risk that their efforts will lead to dead ends.

Applying this framework to creativity leads to the prediction that success in creative endeavors should favor creativity that results from exploitation, that is, from using new combinations of familiar knowledge or from refining previously used combinations. By exploiting things they already know, these individuals should be more prolific in terms of their ability to generate a large number of new ideas because, to the extent that people draw from familiar knowledge, they should be not only faster in the execution of the creative idea but also less likely to encounter unforeseen obstacles that can stifle the creative process. Ideas that diverge from the status quo may not only turn out to be wrong, as March (1991) emphasizes, but may also encounter resistance because they are initially perceived as deviant (Moscovici, 1976).

Proposition 1: Past success will cause people to be more prolific in terms of the number of ideas they are able to generate over time.

A second prediction suggested by the exploration-exploitation framework is that although people who experience success are more likely to generate more ideas (Simonton, 1999), these ideas should be increasingly incremental over time and therefore less divergent. Every person working in a given field is faced with an enormous array of information that may be combined and recombined until a particular idea is deemed to be worthy of “selection” (Campbell, 1960; Csikszentmihalyi, 1999). Novel combinations are more likely to result from what Simonton (1999; 2004) termed a “flat associative hierarchy” in which a given stimulus (e.g., new information) may trigger a wide range of potential associations between existing ideas.

While associations between ideas may occur at random, this combinatorial process is subject to at least three different constraints: (1) the ideas that are considered, (2) the extent to

which ideas are combined in a random way, and (3) the specific criteria used to differentiate a creative combination from an uncreative combination (Simonton, 1999, 2004). Drawing on this terminology, research on the exploration-exploitation trade-off suggests that past success may operate as a constraint on the process of generating new combinations by focusing an inventor's attention excessively on the building blocks of creativity (e.g., ideas, knowledge) that have already been used in the past. For instance, once an inventor experiences success with one idea, all subsequent ideas may be framed narrowly from that perspective.

Proposition 2: Past success will cause people to generate ideas that are increasingly incremental over time.

Creativity as a constraint: Identifying the psychological mechanisms

Although organizational learning provides a useful framework for generating predictions about how past success may influence subsequent creativity over time, it does not specify the psychological mechanisms that may explain these effects. Theories of organizational learning were developed to explain exploration at the firm level of analysis and although that research stream provides a logical foundation for understanding the effects of past success on creativity, it is at best a metaphor and not a fine-grained depiction of the psychological process itself. In this section, we extend existing research by proposing potential cognitive, affective and social mechanisms that mediate the effects of past success on creativity over time.

Past success and cognitive frames

The constraining effects of past success may be explained, at least in part, by the phenomenon of cognitive framing which suggests that when people have experienced success

with a particular strategy, they often become narrowly focused on implementing that particular strategy to solve new problems (Duncker, 1945; Luchins, 1942). This type of mental block is called “negative transfer” (Bartlett, 1958) and it has been found to deter the generation of novel solutions in a variety of situations such as negotiations over time (Bareby-Meyer, Moran & Unger-Aviram, 2004), factory operation after a change in accident monitoring devices (Besnard & Cacitti, 2005), firms acquiring targets from different industries (Finkelstein & Haleblian, 2002), and firms changing their strategies following a radical environmental change (Audia, Locke, and Smith, 2000).

Perhaps the best illustration of this mental block comes from Duncker’s (1945) series of classic experiments on functional fixedness. Duncker gave his subjects three cardboard boxes, matches, thumbtacks and candles and asked his subjects to mount the candle vertically on a screen to serve as a lamp. However, half the subjects received the objects inside the cardboard boxes while the other half received the objects and the boxes separately. The correct solution to the problem was to tack the box to the screen, use the matches to melt the wax and attach the candle to the box and then light the candle. The problem was much more difficult to solve for those who received the objects in the boxes because they fixated on the boxes as merely containers and were unable to rethink the purpose of the box as a support instead of just a container. In other words, the past experience of seeing a situation in a certain way constrained the heuristics used in the creative process by limiting subjects from generating novel solutions.

The classic work on cognitive framing is foundational to modern theories of creative cognition. According to Ward (2004), creativity results from the application of mental operations such as analogies to existing knowledge structures. People store a wealth of information in the form of ideas or concepts and creative solutions emerge when pieces of prior

knowledge stored in memory are combined in a novel way (Smith, et al, 1995). Ward (1994) demonstrated the constraining effects of experience on creativity in a study in which he asked participants to draw an alien from another planet that was “beyond their wildest imagination.” Instead of drawing radically different creatures, participants drew figures that conformed to the basic features of earth animals such as bilateral symmetry (Ward, 1994). The constraining effect of past experience was also demonstrated in a brainstorming study in which subjects were asked to generate new ideas; half the subjects were given example to get them started and the other half were given no examples (Smith, Ward & Schumacher, 1993). They found that the groups who were given examples generated less creative ideas than the groups who were given no examples because their “new” ideas followed the examples too closely (Smith et al, 1993). These blocking effects may have considerable negative consequences for creative idea generation because people will suggest ideas that follow existing solutions too closely (Smith, 2003). Therefore we predict:

Proposition 3: A highly creative idea will constrain future creativity because all subsequent ideas will be framed narrowly from the perspective of the initial idea.

Affective consequences of past success

The negative consequences of past success may have an important cognitive component; however, this is not to say that emotions may not also play a central role. The experience of success has been shown in numerous studies to be associated with feelings of happiness that can carryover to different situations and last a very long time (Lyubomirsky, King & Diener, 2005).

In other words, success is an affectively significant event, and the emotions that emerge following the experience of success may in turn have an effect on creativity over time. Therefore, in this section, we consider how positive and negative affect may explain the constraining effects of success.

Research in both the laboratory and in field settings, has demonstrated that affect can have important effects on individual creative performance (Barsade & Gibson, 2007). However, there are two very different perspectives on the link between affect and creativity that lead to competing predictions. Some research suggests that creativity is enhanced by positive affect while other research suggests that creativity is enhanced by negative affect. Because there are two clearly opposite predictions about the role of affect in creativity and little research to reconcile the two perspectives, it is possible to advance competing arguments that might be generated from each perspective.

On the one hand, research has suggested that positive affect can facilitate creativity by enhancing cognitive and motivational processes (Hirt, Levine, McDonald, & Melton, 1997). Numerous studies conducted primarily by Alice Isen and her colleagues (1999a) have shown that positive affect induces individuals to generate more novel associations, use broader categories, and solve problems more creatively. Increasing the number of available cognitive elements and increasing the extent that those elements are considered as relevant information to the problem should increase cognitive variation, which should result in increased creativity (Clore, Schwarz, and Conway, 1994; Frederickson, 2001). Therefore, Isen (2001) argued that positive affect promotes efficient but not careless decision-making by allowing connections between ideas to be more accessible and visible, encouraging broad focuses on problem solving, and encouraging flexible thinking.

There is evidence that individuals are motivated to preserve positive affect and therefore avoid tasks that could potentially cause negative affect (Isen, 1987; Isen 2001). After the initial warm glow of success wears off, people might be motivated to recapture their initial levels of positive affect but they may encounter frustration as they attempt to generate another equally creative idea. This process could lead to a downward spiral of decreasing affect which could simultaneously reduce creativity in two inter-related ways. First, as people are frustrated in their attempts to recapture their initial levels success, the advantages of positive affect for facilitating problem solving and flexible thinking are less and less likely to be realized. Second, the simplest way to recreate the affect associated with success might be to imitate the initial and highly successful idea while avoiding the exploration of newer and unrelated ideas that have an uncertain probability of success. Therefore, we predict:

Proposition 4: Frustrated attempts to recreate the positive affect associated with early success can lead to a downward spiral of positive affect and creativity over time.

On the other hand, there is also research to suggest that negative affect can facilitate creative performance. The notion that negative affect can stimulate creativity stems in part from a positive correlation found between depression and creative achievements in a study which examined individuals across a variety of professions (Ludwig, 1992). While other research supports this finding (Post, 1996), Feist (1999) noted that the association seems to be strongest in fields involving artistic rather than scientific creativity. Negative affect might be valuable because it could act as a signal that one's situation is unsatisfying (Martin et al., 1993). For

instance, Zhou and George (2001) found that negative affect stemming from dissatisfaction could, in certain situations, signal to an individual that change is required. This signal can increase employee voice behavior and increase the desire to create new solutions and methods, which will resolve the problem that is causing the dissatisfaction. Moreover, negative affect might encourage set-breaking, the ability to abandon typical cognitive processes and patterns (Luchins & Luchins, 1959; Zhou & George, 2001).

From this perspective, positive affect is assumed to signal to the individual that a situation is satisfying or that a goal has been achieved (George & Zhou, 2002). Therefore, initial success with a highly creative idea might lead to complacency and inaction (George & Zhou, 2002) and negative affect might be necessary to signal the need to explore new solutions and abandon old methods for solving problems. Therefore we predict:

Proposition 5: The stifling effects of past success on creativity will be mitigated by the experience of negative affect, because negative affect signals the need to change direction and explore new solutions.

Past success and role constraints

In the previous sections we argued that success constrains the way people think at a cognitive level insofar as success with a creative idea may lead to cognitive frames or affective states that hinder creative problem solving. A limitation of this perspective is that it largely ignores the role of the social context and research has clearly shown that certain features of a person's task environment may have important effects on creativity (Amabile, 1983; 1996; 1997). In this section we move beyond purely intra-psychic explanations to consider how past success

may also lead to the development of social roles and social networks that constrain peoples' ability to see old problems from a new perspective. In other words, it is possible that success may cause constraints from the "within" or one's cognitive processes but also from "without", in the form of situational constraints. For instance, returning to the case of Art Fry, after the success of the Post-It note idea, he achieved a kind of notoriety that would be akin to being forever type-cast as the "Inventor of the Post-It Note." The question is whether a highly creative idea can create an identity that can be difficult to break out of to create something new.

According to role theory, role identities determine a person's interpretations of the people, situations, and event that the individual encounters in various social situations. A role identity is how a specific role provides meaning or definition to one's self (Burke & Tully, 1977). Others' perceptions, self-judgment of others' perceptions, and affect connected to that perception contribute to the formation of a role identity (McCall & Simmons, 1978). For example, in organizations, role identities may emerge from feedback from coworkers (Woodman et al., 1993) and supervisors (Scott & Bruce, 1994) and can significantly influence employees' behaviors. One's role identity encourages role performances (Markus & Wurf, 1987) and role performances, in turn, allow individuals and their traits to be identified and categorized by others (Burke, 1991). Role identities can be constructed retroactively (Weick, 1995) and can be developed over time as the individual interprets and internalizes various inputs and role activity (Grube & Piliavin, 2000).

The formation of a role identity is relevant to creativity because individuals may adopt the behaviors and actions associated with the role identity thus constraining and restricting the depth and breadth of an individual's behaviors and actions. Through feedback about the self from social interactions and individuals' self-perceptions, a role identity provides an internalized

set of role expectations (Riley & Burke, 1995). For instance, if the individual is a teacher, the individual will act in accordance to the expectations of others and oneself of how a teacher should behave. That individual will become less willing to act in a manner that is beyond the established parameters of how a teacher is expected to act. In a similar manner, if a person develops an identity that is strongly connected to a single creative idea, he or she might maintain that identity by generating subsequent ideas that are highly related. Therefore,

Proposition 6: A highly creative idea will create a related “role identity” which will in turn constrain peoples’ ability to generate ideas that are inconsistent with that identity.

Role identities may also impose constraints through the kinds of networks that people form to share knowledge and information. Not only do people try to behave in a way that is consistent with a role identity, but because role identities allow an individual to be easily categorized by others, people may seek out the focal individual to discuss related ideas, thus narrowing and strengthening the role identity over time. For example, after becoming known as the “Inventor of the Post-It Note” people might seek out the inventor to discuss ideas related to adhesives or to office supplies, thus constraining his access to new sources of knowledge and information.

This dynamic could be understood from the perspective of social networks. Network ties can facilitate creativity if they provide people with access to novel sources of information that can be used to generate new ideas. For instance, weak ties, defined as ties with comparatively lower levels of closeness and interaction frequency, facilitate creativity by providing diverse and

non-redundant information (Perry-Smith & Shalley, 2003). Weaker ties allow for exposure to various sources of information, to domain-relevant information, and to different perspectives. Therefore, weak ties may facilitate the generation of alternatives and encourage autonomous thinking (Perry-Smith, 2006). In contrast, a network consisting of strong ties provides a dense network that may allow information to flow quickly and may encourage the development of shared attitudes, opinions, and beliefs. Consequently, conformity may also occur, which would limit creativity by reducing autonomy. A strong role identity connected with a highly creative idea may constrain future creativity because network ties will form to people who are interested in knowing about, discussing or extending one's earlier ideas. Therefore,

Proposition 7: A strong role identity connected to a highly creative idea will lead to the formation of redundant ties that will constrain subsequent creativity.

Past success and group creativity: When the effects of success depend on how you explain it

Up to this point, we have focused our analysis on the individual level to explain how past success might constrain a person's creativity over time. It is possible, however, that group creativity may also be constrained by past success. In this section, we extend our theorizing to the group level to investigate the question of how past success might impact group creativity. Although most research on creativity has been conducted at the individual level, over the last decade, there has been increasing interest in creativity resulting from the collaboration of several people working interdependently (Sutton & Hargadon, 1996; Paulus & Yang, 2000), especially as organizations have moved to team-base work structures (Ilgen, 1999). The current interest in group creativity can be traced to Osborn's (1953) classic book *Applied Imagination* in which he

laid out a set of specific brainstorming rules such as “do not criticize” that were intended to reduce evaluation apprehension (Camacho & Paulus, 1995) and make people feel more comfortable to share their ideas with the group. Following Osborn’s emphasis on the quantity of ideas surfaced during brainstorming sessions (1953), modern brainstorming studies measure creativity by assessing the extent to which groups are able to generate a large number of ideas that are different from each other (Brophy, 1998). Groups that generate a large number of ideas also generate more high quality ideas by building, combining, and improving upon the solutions suggested by other group members (Diehl & Stroebe, 1987).

Extrapolating directly from the individual level, we would predict that a group’s history of past success would also constrain their ability to generate creative solutions. However, the effects of past success may be less straightforward at the group level and may depend on the causal attributions that groups generate to explain their past success. Goncalo (2004) proposed a theoretical framework in which attributions at the group level may reflect either (a) the collective attributes of the group as whole or (b) the unique contributions made by individual group members. This distinction draws on research that has examined attributions that are generated in the context of close relationships (Newman, 1981). For instance, married couples may attribute causality either to each person in the relationship (e.g. you are emotional and I am stubborn) or to the relationship as a unit (e.g. we lost that spark we used to have). Translated from the dyadic to the group level, a team may attribute causality either to the group as a whole (e.g. we are cohesive) or to specific individuals (e.g. Joe is punctual, Jane is knowledgeable, Jim is a good researcher).

These attributions are important because they moderate the effects of past success on subsequent group performance, especially creativity and the quality of group decision making

(Goncalo, 2004; Goncalo & Duguid, 2008). Existing research suggests that attributions may influence performance through two potential mechanisms. First, attributing success to the group as a whole may send a subtle but important message: Each member's contributions are neither identifiable nor separable from their teammates. Research on social loafing suggests that people are less willing to exert effort on behalf of their team when they do not feel that their contributions to the group are identifiable (Williams, Harkins & Latane, 1981). The temptation to free-ride on the efforts of others is often invoked as an explanation for the consistent finding that face-to-face groups generate fewer creative ideas than individuals who work alone (Diehl & Strobe, 1987). In order to explore a wide range of alternatives, a group must focus their attention on a broad range of information (Kasof, 1997), and ultimately search for new solutions that extend beyond an existing train of thought (Mednick, 1962). Groups who lack the motivation to search beyond the most obvious solution to a problem are unlikely to generate divergent solutions (Amabile, 1983).

Second, group focused attributions may increase conformity pressure by emphasizing that success was caused by the collective effort of a group of individuals whose contributions were indistinguishable from one another. When people are faced with a unanimous majority, they will often ignore the evidence of their own senses and adopt the majority position even when it is obviously incorrect (Asch, 1956). This pressure to conform originates from the desire to be liked by others (Deutsch & Gerard, 1955) and the tendency of groups to reject those who do not fit (Schachter, 1951). A long tradition of research on social influence has shown that one of the most powerful ways to create conformity pressure is by calling attention to what the majority of people are doing in a given situation (Asch, 1956; Cialdini, Reno & Kallgren, 1990). This principle was illustrated more recently in a series of studies showing that conformity to a

group norm increases substantially by simply making the norm salient to people (Cialdini, et al., 1990). Applied to attributions, this research suggests that explanations focused on the group as a whole (e.g. we are cooperative) make salient how most people behaved prior to a successful outcome, thus creating pressure to conform to their behavior in a subsequent setting.

While a certain level of conformity pressure is necessary for a group to accomplish its goals (O'Reilly & Chatman, 1996), it may cause the group to perform poorly on tasks that require a group to generate new and different ideas (Peterson & Nemeth, 1996). Conformity pressure, by suppressing dissenting opinions, prevents people from reflecting on and possibly reconsidering their own views (Nemeth, 1986). Excessive pressure toward agreement may prevent people from diverging from a common line of thought to consider multiple different perspectives on an issue (De Dreu & De Vries, 1996; Nemeth & Rogers, 1996). Consequently, the group tends to view a problem from only one narrow perspective and to ultimately come up with less divergent solutions (Schulz-Hardt, Frey, Luthgens & Moscovici, 2000).

There is evidence from a series of experiments to support the predictions suggested by this attributional framework (Goncalo, 2004; Goncalo & Duguid, 2008). In these studies, a group is given false feedback about their performance and they are then asked to explain, "What is it about (your group/the individuals in your group) that allowed you to do so well on the previous task." The groups who attributed their success to individuals generated more ideas that were more divergent and rated as more novel than groups who attributed their success to the group as a whole (Goncalo, 2004). Individually focused attributions also caused groups to consider a wider range of alternatives prior to making a decision and to share more unique information that was then utilized to make more accurate decisions than groups that attributed their success to the group as a whole (Goncalo & Duguid, 2008). Video coding of the group's

process of working together provided support for the role of conformity pressure to explain the effects. Individually focused attributions caused groups to express more disagreements and to take more time to explore divergent perspectives than group focused attributions.

This emerging stream of research suggests that past success may also constrain creativity at the group level. However, this effect may depend on how groups explain the causes of their success. The negative consequences of success can be reversed by redirecting attributions from a focus on group-level explanations to a focus on the unique contributions made by individual group members. Attributions that link group success to individual achievement permit the possibility that people can stand out by making their own unique contributions (Beersma & DeDreu, 2005; Goncalo & Staw, 2006) thus reducing the stifling effects of conformity pressure. Therefore,

Proposition 8: The constraining effects of past success on group creativity are moderated by causal attributions.

8a: Success attributed to the group as whole constrains creativity, while success attributing to the individual stimulates the expression of creative ideas.

Concluding Thoughts

In this chapter, we have proposed a view of creativity as a double-edged sword. On the one hand, a highly creative idea may bring fame and fortune to the creator, but over time a highly creative idea may also cast a very long shadow. While some people manage to maintain their creativity over time, history is littered with examples of creative people who began their careers in the stratosphere and ended them in the bottle. Although there is empirical and anecdotal

evidence to support the view that creativity may constrain future achievement, there has been little research to identify the psychological mechanisms that explain these negative effects. We extended current research by proposing (1) cognitive, (2) affective and (3) social processes that may mediate the link between past success and creativity over time.

Given the potentially negative consequences of past success, it is important that managers understand how to manage their most creative employees so that they do not become boxed in by their own ideas. The results of Audia and Goncalo (2007) suggest that the negative effects of past success, at least at the individual level, may be mitigated by encouraging collaboration. Collaboration may allow people to “break set” and view problems from a new perspective, expose people to new information that can be used to generate creative ideas. This solution may also have limitations, however, if role identities based on highly creative ideas create social constraints that lead to collaborations between people with similar perspectives. However, by understanding the mechanisms that explain the negative effects of past success, organizations will be in a better position to develop effective interventions and to continue to profit from their most creative employees.

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