Who (and how many) made this? How crediting authorship affects creativity evaluations

ABSTRACT

The creative success of a team requires that those evaluating their work recognize their creativity. Despite increasing evidence that teams generate more real-world innovations, there is conflicting evidence about whether people's evaluations of creative products are biased by whether and how authorship is credited to the product – particularly whether authorship is attributed to an individual or a team. In five online experiments, we examined how creativity evaluations changed as a function of whether evaluators were told the same products were created by individuals, teams, or given no authorship information. We found that crediting authorship of any kind increased evaluations of the product's creativity, relative to no crediting of authorship. However, we did not find differences between overall evaluations of team and individual creativity, although people evaluated products as more novel when they were told the product was authored by an individual. We suggest implications of these findings for both research and practice.

To appear in *Creative Success in Teams. A.S. McKay,* R. Reiter-Palmon, & J. C. Kaufman (Eds.).

Keywords: creativity, evaluation, teams, authorship

It is not easy for evaluators to recognize creative ideas, products, or services. History is replete with stories of innovations that were ignored or even repressed in their own times (Mueller, Melwani, Loewenstein, & Deal, 2017; Simonton, 1999). Creative success thus relies not just on generating novel and useful products, processes, or services—it also requires that evaluators, such as Hollywood executives (Elsbach & Kramer, 2003), R&D managers (Thamhain, 2003), or angel investors (Maxwell, Jeffrey, & Lévesque, 2011), evaluate their output positively (for a review, see Zhou et al., 2019). Generating creative products is no guarantee of such recognition, however (Chai & Menon, 2018). The success of creative projects is inherently uncertain (e.g., Long Lingo & O'Mahony, 2010; Harvey, Kou, & Xie, 2019). To cope with this uncertainty, evaluators often reject novel ideas (e.g., Mueller, Melwani, & Goncalo, 2012) in favor of more familiar and feasible ones (Rietzschel, Nijstad, & Stroebe, 2010).

One means of reducing the uncertainty of creative evaluation is to use authorship information, rather than the attributes of the product itself. Research has found that evaluators often use a variety of information about authors of creative products to infer the value of their ideas (Goncalo, Flynn, & Kim, 2010; Li, Chen, Kotha, & Fisher, 2017). For instance, how people dress and talk (Elsbach & Kramer, 2003), their geographical location (Mueller, Wakslak, & Krishnan, 2014), whether they are passionate and enthusiastic (Goncalo, Flynn, & Kim, 2010; Li et al., 2017), or viewed as eccentric (van Tilburg & Igou, 2014) or deviant (Stamkou, van Kleef, & Homan, 2018) can determine how much potential value decision-makers ascribe to creative endeavors.

Furthermore, research on creative evaluation has focused mostly on attributes of individual creators, but has generally overlooked a critical attribute of authors: whether they are individuals or teams. The literature provides several indications that whether a creator works alone or in a team may bias creativity evaluations. There is debate, however, about the

direction and extent of this effect. Building on attribution theory (e.g., Ross, 1977), some researchers have suggested that individuals working alone are more likely to receive praise for creative work than those working in teams (Kay, Proudfoot, & Larrick, 2018; Smith & Newman, 2014). Based this research, teams should be disadvantaged in creative evaluations, relative to individuals. However, research on brainstorming has suggested that people hold a lay belief that groups are more effective in generating ideas than individuals working alone (Osborn, 1957), though this belief may be incorrect (e.g., Diehl & Stroebe, 1987; Mullen, Johnson, & Salsa, 1991) because people systematically underestimate coordination costs in groups and teams (Staats, Milkman, & Fox, 2012). This line of reasoning suggests that evaluators will view teams as a more prototypical vehicle for creative work, leading them to evaluate team authors more positively than sole authors.

In this chapter, we explore how authorship information influences creative evaluations of the products themselves. We conducted five online experiments in which we manipulated whether evaluators were told that (a) the product was authored by an individual, (b) the product was authored by a team, or (c) were given no information about who authored the product (i.e., control condition). We tested a variety of creative outputs, including poems, sculptures, advertisements, and innovative products. We found that any authorship information increased evaluators' perceptions of the product's creativity. We also found that people evaluated products authored by individuals as more novel than those authored by teams, although this novelty bonus did not significantly influence overall creativity evaluations.

Theoretical Background

Creativity Evaluation

Creativity is defined as the extent to which a product, process, or service is viewed to be both novel and useful (Amabile, 1996; Amabile & Fisher, 2009). As such, evaluating

creativity is inherently subjective and involves the simultaneous judgement of novelty and usefulness (e.g., Diedrich, Benedek, Jauk, & Neubauer, 2015). Novelty is the degree to which an outcome is perceived as departing from existing approaches to a problem or differs from other solutions in a population (e.g., Barron, 1955). Usefulness is the dimension describing the extent to which the outcome is perceived as appropriate for the task and social context in which it is used (Amabile, 1996). These two dimensions must both be present for an outcome to be evaluated as creative – a product that is highly novel cannot be creative unless it is also useful, while a product that is highly useful cannot be creative unless it is also novel.

Vetting creative ideas is quite ambiguous, such that it is often difficult—if not impossible—to assess how novel and useful a given idea is before seeing it implemented (Harvey, 2014; Long Lingo & O'Mahony, 2010). Furthermore, evaluators often must judge the potential of creative ideas before seeing their final outcomes. For instance, film producers must commit large sums of money to secure actors, crews and sets, but only see the full film months or years after their decision to back an idea (Elsbach & Kramer, 2003). Similarly, investors must judge entrepreneurial ventures based on "pitches," which often do not even include a fully realized product (e.g., Clingingsmith & Shane, 2018). The success of such decisions may be unknown for years.

Authorship information provides one way for evaluators to reduce the uncertainty inherent in creative endeavors (Mueller et al., 2012; Mueller et al., 2017). Research has shown that, when people feel uncertain, they tend to react more negatively toward creative ideas (Mueller et al., 2012). Creative projects, by definition, have not been fully tested for functionality or social approval (Mueller et al., 2017). Providing authorship information should reduce evaluators' feelings of uncertainty, leading them to view products that are attributed to any creator as more certain, and thus, as more creative than those that do not include information about the author.

Our hypothesis, therefore, is that authorship information (i.e., crediting who created a product) will lead evaluators to judge products as more creative, relative to when no authorship information is given because such information decreases evaluators' feelings of uncertainty.

> *Hypothesis 1: Products with authorship information will be judged as more creative than products with no information about who created them.*

Teams and Individuals in Creative Work

Creative output of teams and individuals. Before examining peoples' beliefs and biases about team and individual authors, we briefly review research on their actual creative output. Whether teams or individuals are "best" for creative work is an old debate in social psychology and management. Early research on brainstorming took it as self-evident that teams were more effective in generating ideas than individuals working alone because groups could bring more diverse knowledge and perspectives to any problem under consideration (Osborn, 1957). However, researchers subsequently found that nominal groups (e.g., the sum of the output of several individuals working independently) consistently outperformed interdependent groups in brainstorming tasks (e.g., Diehl & Stroebe, 1987; Mullen, Johnson, & Salsa, 1991; Paulus, 2000; Paulus, Dzindolet, Poletes, & Camacho, 1993). The main mechanism for this effect is production blocking (Diehl & Stroebe, 1987) – group members must wait their turn to speak and share ideas, whereas individuals do not. The act of waiting and the cognitive effort spent listening to others' ideas reduces how many ideas members of interacting groups produce, relative to the same number of individuals working independently (Nijstad, Stroebe, & Lodewijkx, 2006). The implication of this research is that, although people may believe that brainstorming is best done in groups, idea generation is more efficient when done by independent individuals and summing their contributions.

On the other hand, scholars of innovation have found that teams are more likely to produce scientific and commercial creativity than are individuals working alone (Jones, 2009; Singh & Fleming, 2010; Taylor & Greve, 2006; Wuchty, Jones, & Uzzi, 2007). Organizations frequently use teams to generate creativity (Mannix, Neale, & Goncalo, 2009; Paulus & Yang, 2000)—and those teams are succeeding (Harvey, 2014; Harvey & Kou, 2013). Teams are responsible for a greater proportion of academic research and tend to produce more highly-cited work than single individuals (Wuchty et al., 2007). Teams are also more likely than individuals to generate highly-cited patents (Singh & Fleming, 2010), hit comic books (Taylor & Greve, 2006), and successful crowdfunding campaigns (Fisher, Cornelius, Sanchez, Kaya, & Berry, 2019). These domains all require creativity, thus suggesting that teams are more likely to succeed in creative endeavors than individuals working alone.

Overall, we find persuasive the evidence that teams generate more creative output than individuals, and team output tends to be more impactful, as research on idea generation and research on innovative output focus on different phases of the creative process (Perry-Smith & Mannucci, 2017). Therefore, while teams may excel at later stages of the creative process, in brainstorming, teams struggle to generate as many ideas as the same individuals working independently, such that a hybrid process of independent and interdependent work is most efficient for idea generation (Girotra, Terwiesch, & Ulrich, 2010). However, group brainstorming may serve critical organizational functions beyond idea generation, rendering a team's disadvantage in idea generation to be relatively unimportant (Sutton & Hargadon, 1996). Creative success often requires teamwork because the problems most in need of creativity are those that are so difficult that no individual possesses the knowledge and skills to tackle them alone (e.g., Fisher, Pillemer, & Amabile, 2018; Goncalo, Katz, & Ellis, 2018;

Harvey, 2013). However, the balance and rhythm of independent and interdependent work best for generating creativity is a critical topic for further research (e.g., Girotra et al., 2010).

Creativity evaluations of team and individual authors. The debate over whether teams or individuals are more creative may influence creativity evaluations because people's past experiences influence their beliefs (Epitropaki & Martin, 2004). To the extent that people have experienced teams as more effective vehicles for creativity, they should be biased in favor of teams. Moreover, people evaluate more positively people or teams that fit their mental prototypes for how a social system "should" look (Carnabuci, Emery, & Brinberg, 2018; Lord & Maher, 2002; Wellman, 2017; Xie & Fisher, 2018). As the advantage of teams in creative work has strengthened over time (Wuchty et al., 2007), evaluators are likely to view teams as more prototypical for creative projects such as entrepreneurship (Fisher, Cornelius et al., 2018) and new product development (Sutton & Hargadon, 1996).

Further, scholars of brainstorming have argued that the persistence of group brainstorming reflects a pervasive lay belief that groups are most effective for idea generation, constituting an "illusion of group productivity" (Nijstad et al., 2006, p. 32). If this belief in an association between teamwork and creativity extends beyond brainstorming, then evaluators should view teams as more prototypical than individuals, thus evaluating them more positively.

If teams in fact generate more creativity, why might individual creations be evaluated more favorably than team creations? There are several arguments in favor of this position. A prevalent myth in contemporary Western society is that of the lone genius: the determined inventor who solitarily toils over projects in a garage or laboratory achieving creative breakthrough (Audia & Rider, 2005; Lin-Siegler et al., 2016; Singh & Fleming, 2010). The lone genius narrative is apparent in history books, literature, films, television, and museums. These mediums pay homage to lone creators like Thomas Edison, Nikola Tesla, Steve Jobs

and Elon Musk, rarely referencing their collaborators. This preoccupation with individuals as the locus of creativity even permeates research on creativity. For instance, Guilford (1950) explicitly argued that creativity research should be focused on understanding creative individuals, a charge that has been followed by a number of scholars (e.g., Gough, 1979; Simonton, 1999). The implication of both the lone genius narrative and a research focus on individuals is that creative success emanates from individuals, rather than teams.

These arguments are consistent with attribution theory (Ross, 1977), which posits that humans over-weight individual disposition when explaining the causes of ambiguous behaviour, while under-weighting the influence of the situation. Working in teams may be one such situation. For instance, Kay and colleagues (2018) hypothesized and found in three experiments that, when membership of a group is salient for creative output, individual group members are viewed as having less creative potential than when the group is less salient or they work alone. Similarly, Smith and Newman (2014) found a bias towards individual authors in evaluations of artistic creativity. In three experiments, researchers manipulated whether participants believed that various kinds of artwork were authored by individuals or teams. They found that the same sculptures, poems, paintings, and sculptures were evaluated more favorably when participants believed they were authored by individuals than by teams. These results, they argue, are consistent with research showing that individuals generally receive more attention than groups because they are more easily identifiable (Small & Loewenstein, 2003; 2005).

Although these studies suggest that creative products will be evaluated more positively when authored by individuals than by teams, they may not translate fully to all kinds of creative endeavors. Smith and Newman's (2014) experiments applied only to artistic domains that are dominated by individual creators; thus, the logic of teams being more prototypical would not apply as it might in new product development or entrepreneurship.

Kay and colleagues (2018) focus on the attribution of creative ability of the individual, not evaluations of products themselves, though they studied a more typically organizational form of creativity (i.e., design of a logo). Given that there are conflicting logics and unclear evidence about how team versus individual authors influence creativity evaluations, we decided to study this question across a variety of commercial and artistic products. We also separately explored the novelty and usefulness dimensions of creativity, as teams and individuals may evoke different beliefs about them.

Research Question 1: To what extent does information about whether authors are individuals or teams bias creativity evaluations?

Overview of Studies

We examined Hypothesis 1 and Research Question 1 in five online experiments using participants from Amazon Mechanical Turk (MTurk). In all five studies, evaluators (i.e., study participants) were randomly assigned to one of three conditions: (a) a control condition, in which they were given no information about who authored the product, (b) an individual condition, in which they were told the product was authored by an individual working alone, or (c) a team condition, in which they were told that the product was authored by a team working together. Products evaluated included advertisements, poems, sculptures, and innovative commercial products; Appendix A describes the products that were evaluated.

We considered creativity as the extent to which participants agreed that products were: creative, novel, and useful (e.g., Amabile, 1982; Lu, Akinola, & Mason, 2017; Silvia et al., 2008). The final measure of creativity is the mean of these three items, except in Study 3 (as noted below). Studies 1-4 use a 7-point scale, while Study 5 used a 6-point scale. The internal reliability of the scale was good, with Cronbach's α ranging from .75 to .82. We also analyzed each item of the scale separately to assess potential differences based on authorship

for perceptions of novelty or usefulness. The methods of the five studies are summarized in Table 1.

[Insert Table 1 here]

We conducted these five studies because the results of individual studies were somewhat inconsistent (i.e., Hypothesis 1 was confirmed intermittently), leading us to explore different products to evaluate, manipulations, and measures. Given the suggestive results of the individual studies, we decided to pool the results to assess Hypothesis 1 and Research Question 1 with all of the available data. As described below, we used meta-analysis to aggregate the results of these five studies.

Meta-Analytic Procedure

We conducted all meta-analyses using Field and Gillett's (2010) syntax for SPSS, which is based on the simple form of Hunter and Schmidt's (2004) recommendations. This approach weights effect sizes based on the size of the sample from which they are derived; credibility intervals are estimated from variances in the effect sizes. Because all studies used categorical independent variables, we chose Cohen's *d* as our measure of effect size. We used fixed-effects methods because our participants were all drawn from the same population (i.e., MTurk).

Meta-Analytic Results

As shown in Table 2, our results supported Hypothesis 1: Product descriptions that included authorship information (i.e., team and individual conditions) were rated as more creative than descriptions without authorship information (i.e., control condition), Cohen's *d* = .282 (*SE* = .065), *95% CI*: .154, .459; $Z = 4.32$, $p < .001$; Rosenthal's Fail-Safe $N = 21$. All three items (i.e., creativity, novelty, usefulness) showed similar patterns when analyzed

individually, such that Cohen's *d* was positive and significantly different from 0 in all three cases.

-Insert Table 2 here-

The tests for Research Question 1 revealed no significant differences in overall evaluations of creativity. There was no significant difference between creativity ratings of products authored by individuals and teams, *Cohen's d* = .030 (*SE* = .070); *95% CI*: -.107, .168; $Z = .43$, $p = .67$.

We also conducted exploratory analyses of differences between evaluations of team and individual creations on each of the three items comprising the creativity scale. The creativity item showed no significant difference between team and individual authors ($Z = .79$, $p = .43$), consistent with the overall scale. However, analyses of the novelty item showed that products authored by individuals were seen as more novel than those authored by teams, Cohen's $d = .158$ (*SE* = .074), *95% CI*: .014, .303; $Z = 2.14$, $p = .03$. This result is relatively fragile, with Rosenthal's Fail-Safe $N = 3$.

Also of note, the usefulness item indicated a non-significant trend, such that teams were rated somewhat higher on usefulness than individuals, yielding a negative Cohen's *d*. While it is inadvisable to interpret this in its own right, it may help explain why ratings of creativity overall did not favor individuals, as did the novelty item.

General Discussion

These findings illustrate two important conclusions about creative success. First, any authorship information about creative products, whether it refers to an individual or a team, increases how creative people evaluate it to be, supporting Hypothesis 1. Consistent with prior research (Elsbach & Kramer, 2003; Goncalo et al., 2010; Mueller et al., 2014; Mueller et al., 2017), this further illustrates that creative products are not judged purely on their own merits – evaluators use information about the author(s) in their judgement of the product.

Second, regarding Research Question 1, we found no bias toward individual authors over team authors in overall creativity evaluations. Although it may still be costly for individuals' creative reputations to work on creative projects in teams (Kay et al., 2018), it does not appear that evaluators are biased towards individual creations, as lone genius narratives might suggest (Berry et al., 2017). However, evaluators view individual creations as more novel than team creations. Below, we discuss the implications of these conclusions for theory on creative evaluation and team vs. individual creativity, as well as the practical implications and limitations of this research.

Authorship and Creative Evaluations

The primary contribution of this research for theory on creative evaluation is that crediting the author of a creative product leads evaluators to view the product as more creative. In addition to the characteristics of individual creators (e.g., Elsbach & Kramer, 2003; Goncalo, Flynn, & Kim, 2010; Stamkou, van Kleef, & Homan, 2018), crediting any author can serve to reduce evaluators' uncertainty about the value of a project, and is a significant influence on their perceptions. Moreover, the notion that individuals are more easily identifiable than groups (Small & Loewenstein, 2003; 2005) does not appear to influence overall creativity evaluation, in contrast to prior research (Smith & Newman, 2014).

Our results do not contradict Kay and colleagues' (2018) conclusion that making group work salient diminishes evaluators' view of group members' creative potential. People likely risk being seen as less creative when emphasizing participation in a team. Our findings, however, suggest that evaluations of creative products and creative people may function differently – the factors that influence the evaluation of a person's creative potential (e.g., Elsbach & Kramer, 2003; Kay et al., 2018) differ from those that influence the evaluation of

a product (Loewenstein & Mueller, 2016; Mueller et al., 2012). The discrepancy between antecedents of creative evaluations of people and products suggests a fruitful avenue for future research. Are there factors that simultaneously make a product seem more creative, but the creator less creative (or vice versa)? Are there situations when evaluators weight more on a person's creative potential than the product creativity (or vice versa)?

Creators, Evaluation, and Creative Success

Our findings suggest that the lone genius myth (e.g., Guilford, 1950; Kasof, 1995; Schumpeter, 2017) and attributional biases do not systematically advantage teams or individuals in creative evaluation. Thus, creative evaluation may not play as large a role in shaping creative success as prior research has suggested (e.g., Smith & Newman, 2014). That said, evaluators may still be biased towards teams or individuals for reasons other than creativity. Prior research suggests that people often overlook the support from the team and often attribute talent and output to the individual (Groysberg, Lee, & Nanda, 2008). This suggests that people may underestimate the importance of teamwork in many domains, including creativity (Hargadon & Bechky, 2006). Our research examined the evaluation of creative products after they were complete and all products were relatively high-quality. Would the same dynamics hold for lower quality products, or those that are not yet complete? Given that many of the most important evaluative decisions are made before creative production even begins (e.g., Elsbach & Kramer, 2003; Li et al., 2017), future research should investigate the effect of teams and individual authorship on early-stage decisions to proceed with creative work.

That said, our findings that individual creations were evaluated as more novel than team creations may have implications in domains emphasizing extreme novelty, such as the arts. In such domains, teams may be slightly disadvantaged in the evaluation process, relative

to individuals working alone (Smith & Newman, 2014). On the other hand, there is a great deal of evidence that evaluators in organizational contexts are often biased against novel ideas in their decision making (e.g., Mueller et al., 2012). Coupled with evaluators leaning slightly in favor of teams when assessing usefulness (or, at least, not favoring individuals), teams may actually find themselves at an advantage over individuals in many contexts, even if their output is not seen as equally creative. More research on how working in teams or as individuals affects managerial decision-making and resource allocation, however, is necessary to test these ideas.

Practical Implications

These results have implications for people doing creative work, and those evaluating it. First, creators should clearly indicate who created a product if they want others to view it as creative: Displaying authorship clearly and prominently should enhance evaluations of creative products. Although practices like signing works of art and placing labelling placards in museums are common, they may also be applied to domains like new product development and advertising. In domains where novelty is the main basis of evaluation, creators may be better off emphasizing an individual to maximize evaluations.

Evaluators, on the other hand, must take care not to be overly biased in their evaluations when authorship is not indicated. Unattributed products may be unduly penalized and overlooked. Perhaps imagining authorship for all products, or hiding all authorship in the evaluation process would lessen these biases. Organizations seeking more objective evaluation of creative products would be well-served to implement blind review, rather than allowing authorship to bias evaluations.

Limitations and Future Directions

Like all research, the studies presented here have limitations that suggest directions for future research. First, these studies were conducted as online experiments in which participants were not required to be expert evaluators in a relevant domain. Prior research suggests that lay and expert evaluators often have divergent views of creativity (Kaufman, Baer, Cole, & Sexton, 2008). Therefore, it remains to be seen whether expert evaluators would show similar biases. Moreover, the online presentation of products may differ from experiencing the products directly. Although many creative endeavors are now evaluated online (e.g., Cornelius & Gokpinar, 2019; Mollick, 2014), future research should investigate the effects of evaluator expertise and means of product presentation (e.g., direct observation vs. online) as potential moderators of the authorship biases we found.

Second, our research did not explore in detail the specific characteristics of individual or team authors, including their reputations and expertise for creative work. The reputations of individuals and compositions of the team (e.g., whether it includes star performers) (Groysberg et al., 2008) may also influence creativity evaluations. For instance, research on scientific publications suggests a "chaperone effect," whereby teams with a well-established lead author have greater chances of success (Sekara et al., 2018). Although prior research has explored individual creator characteristics (e.g., Gough, 1979), future research should explore different team compositions, including those with star creators. For instance, would evaluators prefer a star working alone, a star working in a team or a team of stars?

Another potential limitation is that our studies used a rather limited measure of creative evaluation, limiting the dimensions to creativity, novelty and usefulness. Although this measure is consistent with prior research, some scholars have suggested that usefulness should be reconceptualized in terms of two different dimensions: feasibility and value (Litchfield, Gilson, & Gilson, 2015). It may be that team authorship does not impact evaluations of value, but do change evaluators' forecasts of feasibility (as teams seem more

likely to complete projects than do individuals). Further interrogating the content of evaluations with different, more nuanced, approaches would help address these issues.

This research demonstrated that authorship information increased individual evaluators' perceptions of the product's creativity. There are many situations, however, in which evaluations are made by groups rather than individuals. Prior research has suggested that group decisions tend to polarize toward members' initial preferences, such that discussions lead groups to make more extreme decisions than the aggregate of individual preferences (e.g., Myers & Lamm, 1976). This suggests that group evaluations might favor individuals in contexts with low consequences for failure and prizing extreme novelty, but may prefer teams when the consequences of failure are more extreme (i.e., make safer decisions) and demands for novelty are lower. Future work could elucidate any differences in group assessments of creativity.

Future research could also investigate how revealing creative processes can influence creative evaluations. Showing production processes to customers improves customers' perceptions of the service quality and allows employees to observe customers to better understand their needs (Buell, Kim, & Tsay, 2016). Similarly, perceptions of creativity might be influenced by the process by which something was created. For instance, would whether a product was created through sudden insight (Elmore & Luna-Lucero, 2016) or improvisation (Fisher & Amabile, 2009; Fisher & Barrett, 2019) be evaluated differently than one that was composed slowly over time? Would the timing of evaluation matter, as it does for other leadership and team-focused processes (Fisher, 2017; Wageman, Fisher, & Hackman, 2009)?

Conclusion

Our research shows that crediting authorship of creative products shapes the evaluation of creative products. Thus, the critical step of evaluating creative success is

influenced not only by the novelty and usefulness of the product itself, but by whether evaluators know who created it. However, while individual creations are seen as more novel than team creations, it appears that team creations are not penalized relative to individual ones. Any bias toward lone genius creators may be abetting or illusory in an increasingly collaborative world, such that team creators can compete for creative success on equal footing.

References

Amabile, T. M. (1982). Social psychology of creativity: A consensual assessment technique. *Journal of Personality and Social Psychology, 43*(5), 997–1013.

Amabile, T. M. (1996). *Creativity in context*. Boulder, CO: Westview Press.

Amabile, T. M., & Fisher, C. M. (2009). Stimulate creativity by fueling passion. In E. A. Locke (Ed.), *Handbook of principles of organizational behavior* (2nd ed., pp. 481–497).

Audia, P. G., & Rider, C. I. (2005). A garage and an idea: What more does an entrepreneur need? *California Management Review*, *48*(1), 6-28.

Barron, F. (1955). The disposition toward originality. *The Journal of Abnormal and Social Psychology, 51,* 478–485. http://dx.doi.org/ 10.1037/h0048073

Berry, J., Fisher, C. M., & Sanchez, J. (2017, August). On the shoulders or in the shadows of giants: The effects of creator narratives on individual creativity. In L. Gilson & T. J. Grosser (Chairs), *Individual and Team Creativity: A Multifaceted Interactionist Examination of Creativity in Different Contexts.* Symposium presented at the Academy of Management, Atlanta, GA.

Buell, R. W., Kim, T., & Tsay, C. (2017). Creating reciprocal value through operational transparency. *Management Science*, *63*(6), 1657-2048.

Carnabuci, G., Emery, C., & Brinberg, D. (2018). Emergent leadership structures in informal groups: A dynamic, cognitively informed network model. *Organization Science*, *29*(1), 118–133. https://doi.org/10.1287/orsc.2017.1171

Chai, S., & Menon, A. (2018). Breakthrough recognition: Bias against novelty and competition for attention. *Research Policy*. Advance online publication, https://doi.org/10.1016/j.respol.2018.11.006

Clingingsmith, D., & Shane, S. (2018). Training aspiring entrepreneurs to pitch experienced investors: Evidence from a field experiment in the united states. *Management Science, 64*(11), 5164–5179. https://doi.org/10.1287/mnsc.2017.2882

Cornelius, P. B., & Gokpinar, B. (2019). The role of customer investor involvement in crowdfunding success. *Management Science.* Advance online publication. https://doi.org/10.1287/mnsc.2018.3211

Diedrich, J., Benedek, M., Jauk, E., & Neubauer, A. C. (2015). Are creative ideas novel and useful?. *Psychology of Aesthetics, Creativity, and the Arts*, *9*(1), 35.

Diehl, M., & Stroebe, W. (1987). Productivity loss in brainstorming groups: Toward the solution of a riddle. *Journal of Personality and Social Psychology, 53*, 497–509.

Elmore, K. C., & Luna-Lucero, M. (2017). Light bulbs or seeds? How metaphors for ideas influence judgments about genius. *Social Psychological and Personality Science*, *8*(2), 200–208. https://doi.org/10.1177/1948550616667611

Elsbach, K. D., & Kramer, R. M. (2003). Assessing creativity in Hollywood pitch meetings: Evidence for a dual-process model of creativity judgments. *Academy of Management Journal*, *46*(3), 283–301. https://doi.org/10.2307/30040623

Epitropaki, O., & Martin, R. (2004). Implicit leadership theories in applied settings: Factor structure, generalizability, and stability over time. *Journal of Applied Psychology*, *89*(2), 293–310.

Field, A. P., & Gillett, R. (2010). How to do a meta-analysis. *British Journal of Mathematical and Statistical Psychology*, *63*(3), 665–694. https://doi.org/10.1348/000711010X502733

Fisher, C. M. (2017). An ounce of prevention or a pound of cure? Two experiments on in-process interventions in decision-making groups. *Organizational Behavior and Human Decision Processes*, *138*, 59–73. https://doi.org/10.1016/j.obhdp.2016.11.004

Fisher, C. M., & Amabile, T. M. (2009). Creativity, improvisation and organizations. In T. Rickards, M. A. Runco, & S. Moger (Eds.), *The Routledge Companion to Creativity* (pp. 13–24). New York: Routledge.

Fisher, C. M., & Barrett, F. J. (2019). The experience of improvising in organizations: A creative process perspective. *Academy of Management Perspectives*, *33*(2), 148–162. https://doi.org/10.5465/amp.2017.0100

Fisher, C. M., Cornelius, P., Sanchez, J., Kaya, S., & Berry, J. (2019). Funding the team: The bias toward team creators in investor crowdfunding decisions. Working Paper.

Fisher, C. M., Pillemer, J., & Amabile, T. M. (2018). Deep help in complex project work: Guiding and path-clearing across difficult terrain. *Academy of Management Journal*, *61*(4), 1524–1553. https://doi.org/10.5465/amj.2016.0207

Girotra, K., Terwiesch, C., & Ulrich, K. T. (2010). Idea generation and the quality of the best idea. *Management Science*, *56*(4), 591–605. https://doi.org/10.1287/mnsc.1090.1144

Goncalo, J. A., Flynn, F. J., & Kim, S. H. (2010). Are two narcissists better than one? The link between narcissism, perceived creativity, and creative performance. *Personality and Social Psychology Bulletin*, *36*(11), 1484–1495. https://doi.org/10.1177/0146167210385109

Goncalo, J. A., Katz, J. H., & Ellis, L. M. (2018). P.I.E.C.E. together: How social norms support the process of team creativity. In P. B. Paulus & B. A. Nijstad (Eds.), *The Oxford Handbook of Group Creativity*. Oxford, U.K.: Oxford University Press.

Gough, H. G. (1979). A creative personality scale for the Adjective Check List. *Journal of Personality and Social Psychology*, *37*(8), 1398.

Groysberg, B., Lee, L.-E., & Nanda, A. (2008). Can they take it with them? The portability of star knowledge workers' performance. *Management Science*, *54*(7), 1213–1230. https://doi.org/10.1287/mnsc.1070.0809

Guilford, J. P. (1950). Creativity. *American Psychologist, 5,* 444–454.

Hargadon, A. B., & Bechky, B. A. (2006). When collections of creatives become creative collectives: A field study of problem solving at work. *Organization Science*, *17*(4), 484–500.

Harvey, S. (2013). A different perspective: The multiple effects of deep level diversity on group creativity. *Journal of Experimental Social Psychology, 49*, 822-832.

Harvey, S. (2014). Creative synthesis: Exploring the process of extraordinary group creativity. *Academy of Management Review, 39,* 324-343.

Harvey, S. & Kou, C.Y. (2013). Collective engagement in creative tasks: The role of evaluation in the creative process in groups. *Administrative Science Quarterly, 58*, 346-386.

Harvey, S., Kou, C. Y., & Xie, W. X. 2019. Leading for creative synthesis: A process-based model for creative leadership. In Mainemelis, C., Epitropaki, O., & Kark, R. (Eds.), *Creative Leadership: Contexts and Prospects*. New York: Routledge.

Hunter, J. E., & Schmidt, F. L. (2004). *Methods of meta-analysis: Correcting error and bias in research findings*. Thousand Oaks, CA: Sage Publications.

Jones, B. F. (2009). The burden of knowledge and the "death of the Renaissance Man": Is innovation getting harder? *The Review of Economic Studies*, *76*(1), 283–317. https://doi.org/10.1111/j.1467-937X.2008.00531.x

Kasof, J. (1995). Explaining creativity: The attributional perspective. *Creativity Research Journal*, *8*(4), 311–366. https://doi.org/10.1207/s15326934crj0804_1

Kaufman, J. C., Baer, J., Cole, J. C., & Sexton, J. D. (2008). A comparison of expert and nonexpert raters using the consensual assessment technique. *Creativity Research Journal*, *20*(2), 171–178. https://doi.org/10.1080/10400410802059929

Kay, M. B., Proudfoot, D., & Larrick, R. P. (2018). There's no team in I: How observers perceive individual creativity in a team setting. *Journal of Applied Psychology*, *103*(4), 432–442. https://doi.org/10.1037/apl0000270

Li, J. J., Chen, X. P., Kotha, S., & Fisher, G. (2017). Catching fire and spreading it: A glimpse into displayed entrepreneurial passion in crowdfunding campaigns. *Journal of Applied Psychology*, *102*(7), 1075–1090. https://doi.org/10.1037/apl0000217

Lin-Siegler, X., Ahn, J. N., Chen, J., Fang, F. F. A., & Luna-Lucero, M. (2016). Even Einstein struggled: Effects of learning about great scientists' struggles on high school students' motivation to learn science. *Journal of Educational Psychology*, *108*(3), 314.

Litchfield, R. C., Gilson, L. L., & Gilson, P. W. (2015). Defining creative ideas: Toward a more nuanced approach. *Group & Organization Management*, *40*(2), 238–265. https://doi.org/10.1177/1059601115574945

Loewenstein, J., & Mueller, J. (2016). Implicit theories of creative ideas: How culture guides creativity assessments. *Academy of Management Discoveries*, *2*(4), 320–348. https://doi.org/10.5465/amd.2014.0147

Long Lingo, E., & O'Mahony, S. (2010). Nexus work: Brokerage on creative projects. *Administrative Science Quarterly*, *55*(1), 47–81.

Lord, R. G., & Maher, K. J. (2002). *Leadership and information processing: Linking perceptions and performance*. London: Routledge.

Lu, J. G., Akinola, M., & Mason, M. F. (2017). "Switching on" creativity: Task switching can increase creativity by reducing cognitive fixation. *Organizational Behavior and Human Decision Processes*, *139*, 63–75. https://doi.org/10.1016/j.obhdp.2017.01.005Mannix, E. A., Neale, M. A., & Goncalo, J. A. (Eds.). (2009). *Research on managing groups and teams (Vol. 12)*: *Creativity in groups*. Bingley, U. K.: Emerald Group Publishing.

Maxwell, A. L., Jeffrey, S. A., & Lévesque, M. (2011). Business angel early stage decision making. *Journal of Business Venturing*, *26*(2), 212-225.

Mollick, E. (2014). The dynamics of crowdfunding: An exploratory study. *Journal of Business Venturing*, *29*(1), 1–16. https://doi.org/10.1016/j.jbusvent.2013.06.005

Mueller, J. S., Melwani, S., & Goncalo, J. A. (2012). The bias against creativity: Why people desire but reject creative ideas. *Psychological Science*, *23*, 13–17. https://doi.org/10.1177/0956797611421018

Mueller, J., Melwani, S., Loewenstein, J., & Deal, J. J. (2017). Reframing the decision-makers' dilemma: Towards a social context model of creative idea recognition. *Academy of Management Journal*, *61*(1), 94–110. https://doi.org/10.5465/amj.2013.0887

Mueller, J. S., Wakslak, C. J., & Krishnan, V. (2014). Construing creativity: The how and why of recognizing creative ideas. *Journal of Experimental Social Psychology*, *51*, 81–87. https://doi.org/10.1016/j.jesp.2013.11.007

Mullen, B., Johnson, C., & Salas, E. (1991). Productivity loss in brainstorming groups: A meta-analytic integration. *Basic and Applied Social Psychology*, *12*, 3–24.

Myers, D. G., & Lamm, H. (1976). The group polarization phenomenon. *Psychological Bulletin*, *83*(4), 602–627.

Nijstad, B. A., Stroebe, W., & Lodewijkx, H. F. (2006). The illusion of group productivity: A reduction of failures explanation. *European Journal of Social Psychology*, *36*(1), 31-48.

Osborn, A. F. (1957). *Applied imagination* (2nd ed.). New York: Scribner.

Paulus, P. B., Dzindolet, M. T., Poletes, G., & Camacho, L. M. (1993). Perceptions of performance in group brainstorming: The illusion of group productivity. *Personality and Social Psychology Bulletin*, *19*, 78–89.

Paulus, P. B., & Yang, H. C. (2000). Idea generation in groups: A basis for creativity in organizations. *Organizational Behavior and Human Decision Processes*, *82*, 76–87.

Richard, C. A. (2008). Assessing creativity with divergent thinking tasks: Exploring the reliability and validity of new subjective scoring methods. Psychology of Aesthetics, Creativity, and the Arts, 2(2), 68–85.

Rietzschel, E. F., Nijstad, B. A., & Stroebe, W. (2010). The selection of creative ideas after individual idea generation: Choosing between creativity and impact. *British Journal of Psychology*, *101*(1), 47–68. https://doi.org/10.1348/000712609X414204

Ross, L. (1977). The intuitive psychologist and his shortcomings: Distortions in the attribution process. *Advances in Experimental Social Psychology*, *10*, 173–220. https://doi.org/10.1016/S0065-2601(08)60357-3

Schumpeter, J. A. (2017). *Essays: On entrepreneurs, innovations, business cycles and the evolution of capitalism*. New York: Routledge. https://doi.org/10.4324/9781351311489

Sekara, V., Deville, P., Ahnert, S. E., Barabási, A.-L., Sinatra, R., & Lehmann, S. (2018). The chaperone effect in scientific publishing. *Proceedings of the National Academy of Sciences*, *115*(50), 12603–12607. https://doi.org/10.1073/pnas.1800471115

Silvia, P. J., Winterstein, B. P., Willse, J. T., Barona, C. M., Cram, J. T., Hess, K. I., Martinez, J. L., & Richard, C. A. (2008). Assessing creativity with divergent thinking tasks: Exploring the reliability and validity of new subjective scoring methods. *Psychology of Aesthetics, Creativity, and the Arts*, *2*(2), 68–85. https://doi.org/10.1037/1931-3896.2.2.68

Simonton, D. K. (1999). *Origins of Genius: Darwinian Perspectives on Creativity*. New York: Oxford University Press.

Singh, J., & Fleming, L. (2010). Lone inventors as sources of breakthroughs: Myth or reality? *Management Science*, *56*(1), 41–56. https://doi.org/10.1287/mnsc.1090.1072

Small, D. A., & Loewenstein, G. (2003). Helping *the* victim or helping *a* victim: Altruism and identifiability. *Journal of Risk and Uncertainty, 26,* 5–16. doi:10.1023/A:1022299422219

Small, D. A., & Loewenstein, G. (2005). The devil you know: The effect of identifiability on punishment. *Journal of Behavioral Decision Making, 18,* 311–318. doi:10.1002/bdm.507

Smith, R. K., & Newman, G. E. (2014). When multiple creators are worse than one: The bias toward single authors in the evaluation of art. *Psychology of Aesthetics, Creativity, and the Arts*, *8*(3), 303–310. https://doi.org/10.1037/a0036928

Staats, B. R., Milkman, K. L., & Fox, C. R. (2012). The team scaling fallacy: Underestimating the declining efficiency of larger teams. *Organizational Behavior and Human Decision Processes, 118*(2), 132–142. https://doi.org/10.1016/j.obhdp.2012.03.002

Stamkou, E., van Kleef, G. A., & Homan, A. C. (2018). The art of influence: When and why deviant artists gain impact. *Journal of Personality and Social Psychology, 115*(2), 276–303. https://doi.org/10.1037/pspi0000131

Sutton, R. I., & Hargadon, A. (1996). Brainstorming groups in context: Effectiveness in a product design firm. *Administrative Science Quarterly, 41*(4), 685–718.

Taylor, A., & Greve, H. R. (2006). Superman or the Fantastic Four? Knowledge combination and experience in innovative teams. *Academy of Management Journal*, *49*(4), 723–740.

Thamhain, H. J. (2003). Managing innovative R&D teams. *R&D Management*, *33*(3), 297-311.

Tilburg, W. A. P. V., & Igou, E. R. (2014). From Van Gogh to Lady Gaga: Artist eccentricity increases perceived artistic skill and art appreciation. *European Journal of Social Psychology*, *44*(2), 93–103. https://doi.org/10.1002/ejsp.1999

Wageman, R., Fisher, C. M., & Hackman, J. R. (2009). Leading teams when the time is right: Finding the best moments to act. *Organizational Dynamics*, *38*, 192–203.

Wellman, N. (2017) Authority or community? A relational models theory of group-level leadership emergence. *Academy Management Review, 42*(4), 596–617.

Wuchty, S., Jones, B. F., & Uzzi, B. (2007). The increasing dominance of teams in production of knowledge. *Science*, *316*(5827), 1036–1039. https://doi.org/10.1126/science.1136099

Xie, W. X. & Fisher, C. M. (2018, August). *How should leadership be structured? Lay theories of single and shared leadership structures.* Paper presented at the meeting of the Academy of Management, Chicago, IL.

Zhou, J., Wang, X. M., Bavato, D., Tasselli, S., & Wu, J. (2019). Understanding the receiving side of creativity: A multidisciplinary review and implications for management research. *Journal of Management, 45*(6), 2570–2595. https://doi.org/10.1177/0149206319827088

Table 1: Summary of Studies

Study	Participants	Product(s)	Manipulations			Scale
			Individual	*Team*	*Control*	
1	n = 84; M_{age} = 35.5, 57.1% Male	LightED Chandelier	LightED Chandelier designed by E. Smith.	LightED Chandelier designed by E. Smith, B. Johnson, T. Williams, P. Brown, and F. Jones.	LightED Chandelier	3 items: Creative, Useful (Useful, Practical, Helpful), Novel (Novel, Original, New); 7-point scale (1= Not at all, 4= Somewhat, 7= Extremely)
2	n = 113; M_{age} = 34.1, 53.1% Male	New ad design (Nikol Paper Towel)	This ad was designed by: E. Smith	This ad was designed by: the team of: E. Smith, B. Johnson, T. Williams, P. Brown, and F. Jones	No information provided	Same as Study 1
3	n = 116; M_{age} = 38.2, 50.9% Male	Same as Study 2	This ad was designed by E. Smith. This person worked alone to make this ad. He came up with the concept, photographed the image, and edited it with Photoshop. It took 30 hours to complete.	This ad was designed by the team of E. Smith, B. Johnson, T. Williams, P. Brown, and F. Jones. The team worked together to make this ad. They came up with the concept, photographed the image, and edited it with Photoshop. It took 30 hours to complete.	This ad was designed and made. The ad was conceptualized, the image was photographed, and it was edited with Photoshop. It took 30 hours to complete.	2 items: Creative, Novel and Useful; 7-point scale (1= Not at all, 4= Somewhat, 7= Extremely)
4	n = 114; M_{age} = 35.0, 43.9% Male	Same as Study 2	Same as Study 3	Same as Study 3	Same as Study 3	3 items: creative, novel, useful; 7-point scale (1= Not at all, 7= Extremely)
5	n = 91 individuals, with 8 observations each (n = 728 observations) M_{age} = 31.1, 54% Male	Four new commercial inventions; 4 artistic (2 poems; 2 sculptures)	An individual work alone to create the [product. poem, sculpture] above.	A team worked together to create the [product, poem, sculpture] above.	No information provided	3 items: creative novelty, usefulness; 6-point agree-disagree scale (6 = strongly agree)

Table 2. Summary of Results

			Scale	**Items**		
			Creativity Scale	**Creativity Item**	**Novelty Item**	**Usefulness Item**
		n	*M (SD)*	*M (SD)*	*M (SD)*	*M (SD)*
Study 1	Control	30	4.78 (1.09)	4.77 (1.14)	4.98 (1.25)	4.60 (1.43)
	Individual	25	4.81 (1.04)	4.64 (1.11)	4.97 (1.32)	4.81 (1.40)
	Team	29	4.60 (1.03)	4.86 (1.22)	4.54 (1.44)	4.40 (1.25)
Study 2	Control	39	**4.58 (1.08)**	4.85 (1.20)	5.13 (1.30)	**3.76 (1.66)**
	Individual	37	5.15 (1.24)	5.51 (1.43)	5.72 (1.23)	4.23 (1.57)
	Team	37	5.26 (1.13)	5.43 (1.17)	5.62 (1.36)	4.73 (1.34)
Study 3[a]	Control	37	**4.68 (1.55)**	5.19 (1.53)	n/a	n/a
	Individual	40	5.09 (1.12)	5.43 (1.11)	n/a	n/a
	Team	39	5.42 (1.01)	5.54 (1.19)	n/a	n/a
Study 4	Control	39	4.99 (1.35)	5.41 (1.58)	4.90 (1.85)	4.67 (1.58)
	Individual	36	5.21 (1.35)	5.56 (1.40)	5.24 (1.63)	4.83 (1.65)
	Team	39	4.85 (1.58)	5.15 (1.69)	4.74 (1.83)	4.67 (1.74)
Study 5[b]	Control	192	**3.77 (1.09)**	4.10 (1.14)	**3.74 (1.20)**	**3.47 (1.47)**
	Individual	248	4.15 (1.14)	4.46 (1.10)	4.20 (1.33)	3.81 (1.56)
	Team	288	4.09 (1.27)	4.37 (1.29)	4.01 (1.47)	3.90 (1.64)
Meta-analytic Effects			*d (SE)*	*d (SE)*	*d (SE)*	*d (SE)*
H1: Authored vs. Control			**0.282*** (.065)**	**.224** (.065)**	**.232** (.069)**	**.229** (.069)**
RQ1: Individual vs. Team			.030 (.070)	.055 (.070)	*.158* (.074)*	-.043 (.074)

Notes. ***$p < .001$, **$p < .01$, *$p < .05$

Control is bolded where H1 is supported, noting it is different than the other two conditions, $p < .05$

Team means or effect sizes are italicized when they differ from the individual condition ($p < .05$), referencing RQ1.

[a] Study 3 item was phrased as "Novel and Useful"; this item is not included in the meta-analyses of individual items, but is included in the creativity scale for this study.

[b] Study 5 used a repeated-measures design in which 91 individuals evaluated products each. Statistics are estimated based on Generalized Estimating Equations.

Appendix A: Stimuli Description

Study 1

LightED Chandelier

Idea Summary: Bring elegance back to lighting fixtures without sacrificing convenience. LightED Chandeliers will be developed for high end customers to allow a dual function lighting fixture. The fixture will incorporate a LED light module into the candle holder's base. By utilizing a glass diffuser as both the casing for the LED bulbs and the traditional candle holder, the LightED Chandelier can offer old world elegance with modern convenience.

Problem: Combination candle and electric lighting has been done in the past by creating two separate lighting systems within one fixture; often alternating tines of a chandelier between fake electric candles and non-powered tines for real candles. In creating an integrated system where each tine contains both electric lighting as well as traditional candles, LightED Chandelier offers a new option for retrofitting existing chandeliers and creating new works of art.

How It Works: LED lights put off very little heat, this is a key fact as the operation of electric lighting will not damage wax candles. LED light fixtures utilize less electricity than traditional incandescent bulbs but require a transformer to be connected to household electric systems. Incorporation of the transformer into the ceiling base, LightED Chandeliers allow for these new fixtures to be easily compatible with existing homes.

Studies 2-4

Below is a new paper towel ad. Please review it and answer questions about the overall concept of the ad. (Study 2)

Below is a new paper towel ad. Please review it and answer questions about the ad, overall. (Studies 3 and 4).

[Stimulus included a picture of grapes falling onto a paper towel and becoming raisins. The original is available from the authors upon request].

Study 5

Product 1
[Stimulus includes a photo of a woman moving a hoop around the body of a black dog. The hoop is shooting water around the body of the dog. The dog appears calm and still.]
"The Woof-Washer 360 is a ring-shaped dog shower that lets you bathe your dog by moving the hoop down the length of its body."

Product 2.
[Stimulus includes a photo of two plastic bottles containing light brown liquid. The one on the left is being squeezed straight down, but remains full. The one on the right is also being squeezed and the liquid has flowed almost entirely out, with almost none sticking to the side of the bottle.]
"LiquiGlide Coating Makes The Insides Of Bottles So Slippery, Even The Stickiest Ketchup Slides Right Off"

Product 3.
[Stimulus includes a photo of brown leather sandals with snaps.]
"Shoes That Grow" allow children to comfortably wear the same pair for the next five years. These shoes were developed for children in impoverished countries with limited access to footwear. A series of snapped enclosures allows the Shoe That Grows to adjust in size."

Product 4.
[Stimulus includes a photo of soft serve ice cream in a cone.]
"Because it contains more of a naturally occurring protein that binds together fat and water, SlowMelt Ice Cream melts more slowly than ordinary ice cream, all while giving it a smoother consistency."

Product 5.
Please read the following poem carefully.
The old pond:
a frog jumps in, -
the sound of the water.

Product 6.
Please read the following poem carefully.
Piping autumn wind
blows with wild piercing voice
through the sliding door...

Product 7.
[Stimulus includes a photo of an abstract copper sculpture composed of broken spheres and obelisk-like protrusions]
This sculpture is located in Reading Abbey, England.

Product 8.
[Stimulus includes a photo of a sculpture featuring a tall tower of many small, flower-like metal pinwheels]
This sculpture is located in The Garden of the Five Senses, Delhi.