

Signaling Creative Genius: How Perceived Social Connectedness Influences Judgments of Creative Potential

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Abstract

In today's knowledge economy, effectively signaling one's creative potential can be advantageous. Five experiments demonstrate that cues signaling a person's separateness from others (as opposed to social connectedness) boost evaluations of their creative potential. "Lone" targets—engaging in activities alone—were judged more likely to generate creative ideas compared with targets engaging in identical activities with others. This effect was explained by perceived social independence and was unique to creativity judgments—our manipulation did not influence perceptions of other positive attributes, including ability to generate practical ideas (Studies 1a and 1b). The effect of social independence on perceived creativity was not reducible to perceived nonnormativity and was attenuated when creativity was construed as requiring convergent thinking rather than divergent thinking (Studies 2–4). Findings advance our understanding of how individuals of varying degrees of social connectedness tend to be viewed by others, providing insight into observers' lay beliefs about creative potential.

Keywords

creativity evaluation, impression formation, social connectedness, perceived independence

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Being recognized as someone who is highly creative brings valuable opportunities and rewards. Creativity is prized in today's knowledge economy (Powell & Snellman, 2004; PricewaterhouseCoopers, 2019), with U.S. employers citing creative thinking as one of the abilities they need most in their employees (Accenture, 2013). In the World Economic Forum's (2018) *The Future of Jobs* report, creativity was projected to continue to be one of the most in-demand skills in coming years. Given the premium placed on creativity, communicating one's ability to think creatively is likely to be advantageous. The current research seeks to understand the factors that influence observers' judgments of others' creative potential—that is, the specific social cues that communicate that an individual might be more or less adept at thinking creatively. Imagine wanting to be seen as someone who has what it takes to generate creative ideas—what kind of behaviors might help you convey a creative image?

We examine how *perceptions* of a widely studied individual attribute—a person's connectedness to others (e.g., Burt, 1997; Cheek & Buss, 1981; Yang et al., 2016)—may influence judgments about that person's likelihood of generating creative ideas. Building relationships and maintaining social connections are strategies commonly accepted as benefiting career advancement and well-being (Cohen, 2004; Cross & Gray, 2018). Although we do not

dispute the value of cultivating social relationships, in our research, we investigate whether those who are seen as relatively more social and connected to others may be judged *less creative* compared with those who are seen as relatively less social and more separate from others. We predict that, specifically within the domain of creativity evaluation, being perceived as less socially connected—that is, more separate from others—may be advantageous, as observers may tend to view a lack of social connectedness as facilitating creative ways of thinking. We examine this prediction across five experiments.

Social Perception of Creative Potential

Understanding how observers form impressions of others' creative potential—that is, expectations about a person's ability to think creatively (Runco & Acar, 2012)—is an important question given that the creativity of an individual is frequently assessed before it is possible to judge the

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creativity of their output (Elsbach & Kramer, 2003). For instance, evaluators must often assess the creative potential of job candidates before hiring, managers must decide which employees to assign to creative tasks and work roles, and patrons of the arts must often choose in advance whether to invest in or purchase the work of an artist (e.g., a musician or filmmaker) before gaining access to that work. In these types of uncertain and often ambiguous situations, social factors, such as attributes of the evaluator and the person being evaluated, may play a critical role in the creativity evaluation process (Kasof, 1995).

A growing body of work explores how attributes of the target (i.e., the person being evaluated) inform creativity judgments. Qualitative research by Elsbach and Kramer (2003) examined how Hollywood executives and producers assessed the creativity of movie ideas that screenwriters pitched to them. Creativity evaluation in this context was influenced by whether the targets whose ideas were being assessed fit various domain-specific creative or uncreative prototypes. Other work shows that demographic cues and other physical attributes may inform judgments of creative potential (e.g., Brooks et al., 2014; Proudfoot et al., 2015). As this previous research has focused on how unchangeable individual attributes and complex domain-specific prototypes affect creativity judgments, it is limited in providing insight into how individuals might manage impressions of their creativity.

In our research, we home in on specific behaviors affecting creativity judgments. We draw from theory suggesting that observers hold implicit theories or lay beliefs about creativity (Loewenstein & Mueller, 2016; Runco & Bahleda, 1986; Sternberg, 1985), which are thought to underlie assessments of others' creative ability. According to this perspective, observers engage in a matching process when evaluating someone's creativity, judging a person as creative to the extent that they give off signals that are consistent with observers' lay beliefs about the conditions that facilitate creative thinking.

Lack of Social Connectedness as a Cue for Creative Thinking

Here, we examine whether judgments of creative potential are influenced by perceptions of the extent to which a person appears to lack (vs. have) social ties—which we term *perceptions of social independence*. We posit that greater perceived social independence will be associated with enhanced perceptions of creative potential. Research on the creativity of groups versus individuals provides initial insight into why observers may tend to associate lack of social connections with creativity. Groups often perform worse at creative tasks than individuals working alone (Diehl & Stroebe, 1987; Mullen et al., 1991), reinforcing the “lone genius” myth of creativity: the popular narrative that creative ideas come from solo creators, rather than groups (i.e., Cooper, 2018;

Rohn, 2017). Moreover, in the context of creative work done in groups, observers have been shown to fail to account for the contributions of the group when assessing the individual creative ability of salient group members (Kay et al., 2018). Although examined as an instance of the fundamental attribution error, the authors of this study speculated post hoc that their effects might be driven, in part, by observers' tendency to hold a “lone genius” lay theory of creativity—one in which solo, “lone” individuals (rather than groups) are the source of creative ideas. Thus, although the question of whether individuals are more creative than groups is distinct from the question of whether individuals with few social connections are more creative than more socially connected individuals, there is evidence to suggest that observers may generally associate creativity with “lone” individuals.

Other aspects of the creativity literature provide further insight into precisely why being seen as alone (rather than with others) may enhance judgments of creative potential. Some research suggests that observers tend to hold an implicit theory of creativity that emphasizes novelty and divergent thinking—the ability to generate solutions that are different from what has come before (Guilford, 1959; Loewenstein & Mueller, 2016). This definition of creativity, which emphasizes “thinking outside the box,” and is best encapsulated by Apple's “Think Different” marketing campaign (Siltanen, 2011), is frequent in popular discourse (Kanter, 2010). Indeed, laypeople have been shown to associate creativity with “non-entrenchment” or a propensity to think differently and “break the rules” (Hass, 2014; McCrae, 1987; Sternberg, 1985). Research on the actual antecedents to creativity shows that divergent thinking is associated with creative performance, indicating that this lay belief may be accurate. Exposure to Apple's logo has been shown to enhance creative performance (Fitzsimons et al., 2008), and groups with norms emphasizing being unique and different from others have been shown to perform better on creative tasks compared with groups with norms emphasizing group harmony and similarity to others (Goncalo & Staw, 2006). Along similar lines, contexts that provide a sense of autonomy—that is, freedom from external constraints and controls—can facilitate individual creativity (Amabile, 1996; Deci & Ryan, 2008; Hennessey, 2000).

Although “thinking differently” may be understood by laypeople (perhaps accurately) as important for creativity, a person's ability to think differently is not always easily observable. As such, observers may use more readily available cues to assess others' ability to think in divergent ways. We suggest that signals of separateness from others might enhance perceived creativity because such cues may communicate that a person is less likely to encounter the ideas and influence of others than someone who is more socially connected, and thus has an enhanced likelihood of generating ideas that diverge from existing norms or standards. It is important to note that, in actuality, a person's level of social connectedness is distinct from their aptitude for divergent

thought: A “loner”—someone with few social ties—may think in similar ways to others just as someone with a large social circle may think differently than their peers. Still, we argue that observers may tend to associate social separateness with a capacity for divergent thinking.

Our theoretical account is distinct from previous research showing that intentional signals of nonconformity (e.g., wearing red sneakers) enhance perceived competence (Bellezza et al., 2013). We argue that our predicted effect is not merely driven by a tendency to view individuals with few social connections as chronic nonconformists, but rather that lack of social connection itself may be seen as facilitating creativity because it implies that a person is shielded from the ideas and influence of others. Although someone who rejects society entirely may signal a nonconformist personality, there are many instances in daily life when being separate from others does not necessarily signal a desire not to conform (e.g., walking from one meeting to another alone, going on a jog alone). We examine whether such commonplace displays of social separateness may boost judgments of creative potential and also whether our effects are robust to whether a person is known to be relatively conforming or nonconforming.

Notably, although divergent thinking has been shown to enhance creative performance, research also suggests that social connectedness generally enhances creativity rather than hinders it. Although groups are often less effective at creative tasks compared with individuals (e.g., Diehl & Stroebe, 1987), generally studies of individual creativity demonstrate that connections to others strengthen an individual’s personal creative potential. For instance, Singh and Fleming (2010) showed that more socially isolated inventors were less likely to produce innovative breakthroughs compared with more socially connected inventors. In other work, Perry-Smith (2006) demonstrated, in a sample of scientists, that being socially connected to others—in particular, having a broad network of acquaintances—facilitated individual creativity. Consequentially, if our predictions are correct—that social connectedness is viewed as a disadvantage when it comes to creativity—it would suggest some misalignment between observers’ lay perceptions of creative potential and emerging evidence of the antecedents to actual creativity.

Overview of Current Research

Five experiments test our predictions. In judgments made about office workers, job interview candidates, and musical artists, we find that cues signaling that a person is socially separate from others (rather than connected to others) tend to boost evaluators’ perceptions of that person’s creative potential. We test our proposed effects by varying social connectedness to coworkers (Study 1a, 2, and 3), friends (Study 1b), as well as “other people” in general (Study 4). Our studies attempt to systematically address various potential confounds and alternative explanations. Given the Western

cultural context of our study (Markus & Kitayama, 1991), we address the possibility that our effects could be explained by a general positive “halo” around social independence (Nisbett & Wilson, 1977). We find that cues suggesting separateness from others uniquely communicate a propensity to generate *creative* ideas—we do not find that these cues affect judgments of potential to generate other kinds of ideas or affect judgments of other valued attributes (Studies 1a and 1b). We also demonstrate that our effects are not reducible to the belief that socially independent/lone individuals are simply more chronically nonconforming or eccentric than interdependent/socially connected individuals (Carson, 2011; Studies 2 and 4). All studies were preregistered at Aspredicted.org. Preregistrations, data, and materials for all studies are available at https://osf.io/xun26/?view_only=e2175ede7b384fe085c5652f57768c57. Participants who took part in one study were excluded from participating in subsequent studies. For all studies conducted on Amazon Mechanical Turk, only potential participants with a 95% approval rating were invited to participate.

Study 1a

Study 1a examined our predictions in the context of impression formation in a workplace environment—a context in which creativity assessments are often an important aspect of evaluation (Lombardo & Roddy, 2010). We tested whether one behavioral cue signaling more or less social independence—eating lunch alone versus with others—affected evaluations of a target’s creative potential. To confirm that our manipulation of social independence-signaling behavior did not uniformly influence judgments of all positive employee attributes, we measured perceptions of target punctuality and ethicality in addition to perceptions of target social independence and creativity. We predicted that a target eating lunch alone at work would be judged to have more creative potential compared with a target eating with others and that this effect would be explained by attributions of social independence. We expected that judgments of other positive attributes would not account for our predicted effects.

Method

Participants. One hundred ninety eight participants (37% female, $M_{\text{age}} = 29.72$ years, $SD_{\text{age}} = 11.20$ years; all U.S. residents) were recruited from Prolific Academic. No participants were excluded from analyses. A sensitivity analysis indicated that, at $\alpha = .05$, our sample size provided 80% power to detect a minimum effect of $d = 0.40$.

Materials and procedure. All measures and manipulations administered are reported below. First, participants viewed biographical information about a target named Bryan Rutledge, an employee at “ENK Ltd,” including details about his

educational background, his work experience, his job at ENK as a consultant, and a headshot. All biographical information provided was identical across conditions. Next, participants were randomly assigned to one of two experimental conditions in which we manipulated target behavior—specifically whether he was portrayed as alone or with others. In the alone condition, participants read, “At work, Bryan usually eats alone, rather than with his coworkers” and saw a photo of Bryan eating lunch by himself at the ENK cafeteria. In the with others condition, participants read that, “At work, Bryan usually eats with his coworkers, rather than alone” and saw a photo of Bryan eating lunch with two colleagues at the ENK cafeteria. Next, all participants assessed how socially independent Bryan was. For this first test of our predictions, we used an adapted version of the established four-item scale of social independence by Triandis and Gelfand (1998). Items were rated on a 7-point scale from 1 = *not at all* to 7 = *very much so* and averaged to form a perceived social independence composite with Cronbach’s alpha of .86. An example item was, “Bryan relies on himself most of the time, rather than others.” Participants then evaluated how creative Bryan likely was: “To what extent does Bryan seem like someone who is likely to come up with truly creative ideas?” Participants also completed two items assessing impressions of how punctual Bryan was (e.g., “Bryan is usually punctual for his work meetings”), combined to form a perceived punctuality composite ($r = .76, p < .001$) and two items assessing impressions of how ethical Bryan was (e.g., “Bryan generally follows his company’s ethical guidelines and practices”), combined to form a perceived ethicality composite ($r = .69, p < .001$). See Supplemental Material for exact materials used in Study 1a and all following studies.

Results and Discussion

Consistent with predictions, when the target was portrayed as someone who eats lunch alone, he was judged more likely to come up with creative ideas ($M = 4.77, SD = 1.22$), compared with when he was portrayed as someone who eats lunch with others ($M = 4.40, SD = 1.07$), $t(196) = 2.24, p = .026, d = 0.32$, 95% confidence interval (CI) of difference = [0.044, 0.687]. Using Hayes’ (2013) PROCESS macro (Model 4), we found that there was an indirect effect of our experimental manipulation (alone vs. with others) on perceived creativity through perceived social independence, $b = 0.53, SE = 0.14$, 95% CI = [0.26, 0.80], indicating that the attribution of more social independence to the “lone” target, compared with the target depicted with others, explained, in part, the attribution of greater creative potential to the lone target (see Figure 1).

This indirect effect remained significant after perceived punctuality and perceived ethicality were included as controls in the model, $b = 0.45, SE = 0.13$, 95% CI = [0.18, 0.73], and there were no indirect effects through punctuality or ethicality when they were included in the model as parallel mediators (punctuality: $b = 0.01, SE = 0.02$, 95%

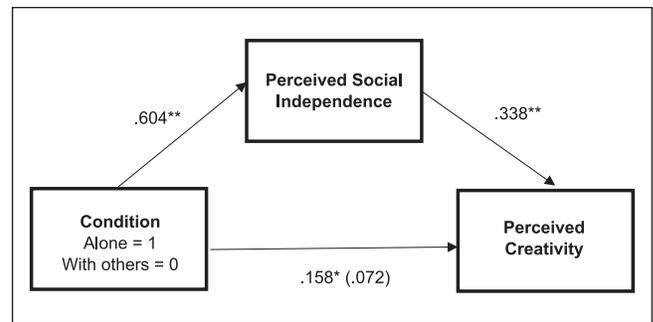


Figure 1. Mediation model showing the indirect effect of target behavior condition (alone vs. with others) on perceived creativity through perceived social independence. Note. Regression coefficients are standardized.

* $p < .05$. ** $p < .001$ (Study 1a).

CI = [−0.04, 0.06]; ethicality: $b = 0.09, SE = 0.06$, 95% CI = [−0.03, 0.20]), suggesting that the effects observed were not explained by a tendency to view employees who eat lunch alone in a more generally positive light than employees who eat lunch with others. Indeed, there were no observed effects of condition (alone vs. with others) on perceived punctuality, $M_{\text{alone}} = 5.38, SD_{\text{alone}} = 1.01$, versus $M_{\text{with others}} = 5.33, SD_{\text{with others}} = 0.94$, $t(196) = 0.379, p = .705, d = 0.05$, 95% CI of difference = [−0.22, 0.33], or perceived ethicality, $M_{\text{alone}} = 5.23, SD_{\text{alone}} = 0.98$, versus $M_{\text{with others}} = 5.43, SD_{\text{with others}} = 0.96$, $t(196) = -1.45, p = .148, d = 0.21$, 95% CI of difference = [−0.47, 0.07].

Study 1b

Study 1b aimed to conceptually replicate Study 1a’s findings in a different context—a job interview situation—examining whether cues signaling that one preferred doing things alone, rather than with others (i.e., engaging in leisure activities alone vs. with others), might boost judgments of creativity via attributions of social independence. An alternative not addressed by Study 1a is that a “lone” target might be seen as having more time to think and, therefore, generate ideas, thus explaining our effects. Thus, Study 1b included a control condition that assessed how likely the target was to come up with practical ideas, rather than creative ideas, to rule out the possibility that a “lone” target might be seen as better at any kind of idea generation or might be judged more likely to be productive in general. Our study design was adapted from previous work, which distinguishes creative ideas (conceptualized as both novel and useful) from practical (but not novel) ideas (Amabile et al., 2005; Goncalo & Staw, 2006).

Study 1b also improved upon Study 1a’s design by using a multiple-item measure of creative potential and measuring social independence after creativity rather than before. In addition, as Study 1a’s measure of social independence assessed observers’ inferences about a target’s personal self-construal as a socially independent person, rather than

simply assessing the extent to which the target seemed to have (vs. lack) social ties, Study 1b employed an improved measure of social independence intended to more directly tap into perceptions of the target's separateness from others. Thus, in Study 1b, we experimentally manipulated whether the target was portrayed as alone or with others and also experimentally manipulated whether the target was evaluated on creative idea generation or practical idea generation. We then measured perceptions of target social independence. As such, Study 1b employed a 2 (target description: alone vs. with others) \times 2 (evaluation type: creativity vs. practicality) between-participants design.

Method

Participants. Four hundred two participants (42% female, $M_{\text{age}} = 35.35$ years, $SD_{\text{age}} = 10.95$ years; all U.S. residents) were recruited from Amazon's Mechanical Turk. No participants were excluded from analyses. At $\alpha = .05$, our sample size provided 80% power to detect a minimum effect of $f = 0.14$.

Materials and procedure. All measures and manipulations administered are reported below. Participants read biographical information about a target named Bryan Evans, including his educational background and previous work experience. Participants then read an excerpt from a job interview that Bryan completed for a position at a consulting firm. Participants were randomly assigned to read one of two versions of the interview excerpt, which focused on Bryan describing what he liked to do in his free time. In the alone condition, Bryan described engaging in leisure activities by himself, "My ideal Sunday morning is to get up at the crack of dawn so I can hit the golf course early and have it all to myself before anyone else shows up." "Last year I went on a solo road trip throughout New England . . . The best part of this trip was getting a chance to take in that part of the U.S. all on my own." In the with others condition, Bryan describes engaging in the same leisure activities with friends, "My ideal Sunday morning is to get up at the crack of dawn so my buddies and I can hit the golf course early and have it to ourselves before anyone else shows up." "Last year I went on a road trip with friends throughout New England . . . The best part of this trip was getting a chance to take in that part of the U.S. with some good friends."

Next, participants read, "Imagine that the consulting firm hires Bryan. At the firm, Bryan's job is to generate ideas for clients." Participants were then randomly assigned to one of two evaluation conditions. In one condition, participants completed three items measuring how creative they thought Bryan's ideas would be: (a) "How creative do you think Bryan's ideas would be?" (b) "How innovative do you think Bryan's suggestions would be?" (c) "How inventive do you think Bryan's solutions would be?" on a 7-point scale from 1 = *not at all* to 7 = *extremely*, and averaged to form a perceived creativity composite ($\alpha = .94$). In the other condition,

participants completed three items measuring how practical they thought Bryan's ideas would be: (a) "How practical do you think Bryan's ideas would be?" (b) "How useful do you think Bryan's suggestions would be?" and (c) "How feasible do you think Bryan's solutions would be?" on a 7-point scale from 1 = *not at all* to 7 = *extremely*, and averaged to form a perceived practicality composite ($\alpha = .84$). Finally, participants responded to three items assessing how socially independent they thought Bryan was: "Based on the job interview excerpt above, rate Bryan on the following traits": The traits were "independent," "autonomous," and "preferring to spend time alone rather than in a group," rated on a 7-point scale from *not at all* to *very much so*, and averaged to form a perceived independence composite ($\alpha = .80$).

Results and Discussion

To examine whether our experimental manipulation (alone vs. with others) had a unique effect on perceived target creativity, we tested for an interaction between target behavior (alone vs. with others) and evaluation type (creative vs. practical) on ratings of the target on the outcome measure (creativity vs. practicality). This analysis revealed a main effect of evaluation type, $F(1, 398) = 15.10, p < .001, \eta_p^2 = .037$, qualified by a target behavior \times evaluation type interaction, $F(1, 398) = 4.18, p = .042, \eta_p^2 = .01$.

Probing this interaction, we found that when the target described himself in a job interview as engaging in leisure activities alone, he was judged more likely to come up with creative ideas on the job ($M = 4.95, SD = 1.14$), compared with when the target described himself as engaging in the same leisure activities with others ($M = 4.55, SD = 1.37$), $F(1, 398) = 6.36, p = .012, d = .32, 95\% \text{ CI for difference} = [0.088, 0.714]$. There was no effect of our target behavior manipulation (alone vs. with others) on participants' evaluation of how practical his ideas would be on the job ($M_{\text{alone}} = 5.16, SD_{\text{alone}} = 1.01$ vs. $M_{\text{with others}} = 5.22, SD_{\text{with others}} = 0.94$), $F(1, 398) = 0.143, p = .705, d = 0.06, 95\% \text{ CI for difference} = [-0.376, 0.255]$, suggesting that our manipulation specifically affected judgments about *creative* idea generation, rather than idea generation in general. We also found that when the target described himself as engaging in leisure activities alone, he was perceived as similarly creative and practical, $F(1, 398) = 1.69, p = .194, d = 0.19, 95\% \text{ CI for difference} = [-0.523, 0.107]$. When the target described himself engaged in the same leisure activities with others, he was perceived as less creative than practical, $F(1, 398) = 17.64, p < .001, d = 0.57, 95\% \text{ CI for difference} = [-0.984, -0.356]$.

To examine whether perceived social independence mediated the relationship between target description and perceived creativity, we conducted a moderated mediation analysis using Model 14 of Hayes' (2013) PROCESS macro. We entered target behavior (alone vs. with others) as our independent variable, evaluation type (creativity vs.

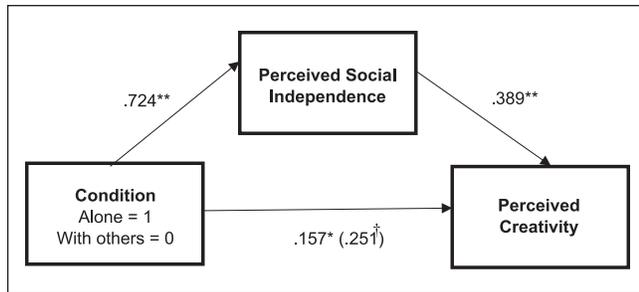


Figure 2. Mediation model showing the indirect effect of target behavior condition (alone vs. with others) on perceived creativity through perceived social independence.

Note. Regression coefficients are standardized.

† $p < .01$. * $p < .05$. ** $p < .001$ (Study 1b).

practicality) as our moderator, perceived independence as our mediator, and evaluation ratings as our dependent measure. This analysis revealed a significant index of moderated mediation: $b = 0.36$, $SE = 0.16$, 95% CI = [0.05, 0.67], indicating that evaluation type moderated the indirect effect of target behavior on evaluation ratings through perceived independence. Consistent with predictions, within the creativity evaluation condition, there was an indirect effect of target description (alone vs. with others) on evaluation of his creativity through perceptions of how socially independent the target was, $b = 0.98$, $SE = 0.14$, 95% CI = [0.71, 1.25] (see Figure 2 for mediation model within the creativity evaluation condition), indicating that the perception that the “lone” target was more socially independent than the target described as more socially connected explained, in part, why observers judged the lone target as higher on creative potential compared with the more socially connected target.¹

Study 2

Studies 1a and 1b showed that behavioral cues signaling separateness from others (i.e., eating lunch alone, engaging in leisure activities alone) may enhance a person’s perceived capacity to think creatively, relative to cues signaling connectedness to others. We demonstrated that our effects were unlikely to be due to a general positivity toward alone/socially independent others or the belief that alone/socially independent others are generally more productive than socially connected others. One drawback of our focus on behavioral cues of social independence versus connectedness in Studies 1a and 1b was their relative imprecision. For instance, it is possible that one aspect of our manipulation of social independence—signaling behavior in Study 1b—going on a solo road trip—communicated both separateness from others and adventurism, or boldness, with these latter signals contributing to our demonstrated effects. To resolve this issue, in Study 2, we directly manipulated target social independence/connectedness (rather than via behavioral cues) and examined how this manipulation influenced judgments about the

target’s creative potential, including assignment to a creative role. We also explored another potential alternative explanation: that observers may associate social independence with eccentricity, with eccentricity seen as prototypical of creative geniuses (e.g., Albert Einstein or Pablo Picasso; Carson, 2011). If this were the case, we would expect attributions of weirdness to explain the perceived association between social independence and creativity.

Thus, in Study 2, in addition to directly manipulating perceptions of a target’s social independence/connectedness and measuring perceived creativity, we described the target as socially skilled in both conditions, striving to keep perceived weirdness constant across conditions. Given that a socially skilled, socially independent person may still seem weirder than a socially skilled, socially connected person, we also measured perceptions of target weirdness. We predicted that a socially independent target should be evaluated as more creative than a socially connected target, including being judged a better fit for a creative role, and this effect should be robust after controlling for perceptions of target weirdness.

Method

Participants. Two hundred working adults² (all U.S. residents, 51% female, $M_{age} = 38.97$ years, $SD_{age} = 11.79$ years) were recruited from Mechanical Turk. No participants were excluded from analyses. Participants had an average of 17.93 years of work experience ($SD = 10.90$ years). At $\alpha = .05$, our sample size provided 80% power to detect a minimum effect of $d = 0.40$.

Materials and procedure. All measures and manipulations administered are reported below. First, all participants read biographical information about the target, Kendall, a consultant, which indicated that the target was smart, friendly, and socially skilled. Participants were then randomly assigned to one of two experimental conditions (socially independent target vs. socially connected target). In the socially independent target condition, participants read, “Kendall is someone who is generally pretty independent. For instance, he often comes and goes from meetings by himself and he usually goes to the break room or out to lunch independently, rather than with other colleagues.” In the socially connected target condition, participants read,

Kendall is someone who is generally pretty connected to others. For instance, he often comes and goes from meetings with a few coworkers and he usually goes to the break room or out to lunch with colleagues, rather than by himself.

Next, all participants read,

Now that you have read about Kendall, we would like you to imagine you also work at RTC Ltd and that you are on a work

team with Kendall. Imagine further that one of the team's clients, a huge financial firm, wants the team to come up with a really creative idea for a new client service.

Participants were then asked to rate how creative they thought Kendall would be on the following items using a 7-point scale ranging from 1 = not at all likely to 7 = extremely likely: (a) "How likely is Kendall to come up with creative ideas that no one has thought of before?" (b) "How likely is Kendall to come up with truly innovative ideas?" and

(c) The team has several projects on the go and has decided that only one team member will take on each project. How likely are you to assign Kendall to take on the project of coming up with really creative ideas for the financial firm?

These items were averaged to form a perceived creativity composite ($\alpha = .90$).

Participants then rated how weird they thought Kendall was, using three items rated on a 7-point scale from 1 = *not at all* to 7 = *very much so*: "To what extent would you describe Kendall as (a) odd (b) weird (c) strange?" These items were averaged to form a perceived weirdness composite ($\alpha = .96$). Finally, participants completed a manipulation check that consisted of three items assessing how independent they thought Kendall was, rated on a 7-point scale from 1 = *not at all* to 7 = *very much so*. The items were, "To what extent would you describe Kendall as: (a) independent (b) autonomous and (c) preferring to spend time alone rather than with others?" These items were averaged to form a perceived independence composite ($\alpha = .82$).

Results and Discussion

Our manipulation check confirmed that participants in the socially independent target condition perceived the target as more socially independent ($M = 5.82$, $SD = 0.81$) compared with participants in the socially connected target condition, ($M = 3.23$, $SD = 1.17$), $t(198) = 18.26$, $p < .001$, $d = 2.57$, 95% CI of difference = [2.31, 2.88]. Consistent with predictions, we found that the socially independent target was perceived as more likely to come up with creative ideas ($M = 5.12$, $SD = 1.05$) compared with the socially connected target ($M = 4.71$, $SD = 1.02$), $t(198) = 2.82$, $p = .005$, $d = 0.40$, 95% CI of difference = [0.124, 0.702]. This difference was robust after controlling for weirdness ratings, $b = 0.562$, $SE = 0.15$, $B = 0.267$, $t(197) = 3.75$, $p < .001$, 95% CI for $b = [0.267, 0.857]$, indicating that perceptions of weirdness did not account for the effect of our manipulation of target social orientation on perceived creativity. Although the socially independent target was perceived as weirder ($M = 2.64$, $SD = 1.42$) compared with the socially connected target ($M = 1.83$, $SD = 1.17$), $t(198) = 4.40$, $p < .001$, $d = 0.62$, 95% CI for difference = [0.447, 1.17], weirdness ratings were found

to be negatively associated with perceived creativity ($r = -.157$, $p = .026$). Overall, these results suggest that a target directly described as more separate from others may be perceived as possessing more creative potential compared with a target described as more connected to others, and this is unlikely due to a difference in perceived eccentricity.

Study 3

Study 3 aimed to provide evidence of our proposed theoretical mechanism. We posited that social independence should signal the capacity to think creatively because creativity is often popularly construed as generating solutions that are different from what has come before (i.e., divergent thinking), and observers may tend to associate social independence with a capacity to think differently than others. If our reasoning is correct, the psychological link between social independence and creative thinking should be diminished when creativity is construed as involving something other than divergent thinking. Therefore, in Study 3, we first explicitly construed creativity for participants as either "thinking outside the box" (i.e., thinking in a divergent way) or "connecting the dots" (i.e., thinking in a convergent way) and then asked them to evaluate either a socially independent or connected target, using a design similar to that of Study 2. Study 3, therefore, employed a 2 (creativity definition: divergent thinking vs. convergent thinking) \times 2 (target orientation: socially independent vs. connected) between-participants design. We predicted that although a socially independent target would be judged more likely to think creatively compared with a socially connected target when creativity is construed as thinking in a divergent way, this effect would be attenuated when creativity is construed as thinking in a convergent way.

Method

Participants. Four hundred two working adults (all U.S. residents, 44% female, $M_{\text{age}} = 35.84$ years, $SD_{\text{age}} = 10.52$ years) were recruited from Mechanical Turk. No participants were excluded from analyses. Participants had an average of 14.77 years of work experience ($SD = 10.12$ years). At $\alpha = .05$, our sample size provided 80% power to detect a minimum effect of $f = 0.14$.

Materials and procedure. All measures and manipulations administered are reported below. Participants were first randomly assigned to one of two creativity definition conditions, adapted from Proudfoot et al. (2015). In the divergent thinking condition, participants read,

Experts have long debated what it means to be creative. A substantial amount of research and theory has concluded that creativity is really a matter of thinking "outside the box"—that is, coming up with ideas that diverge from existing ways of

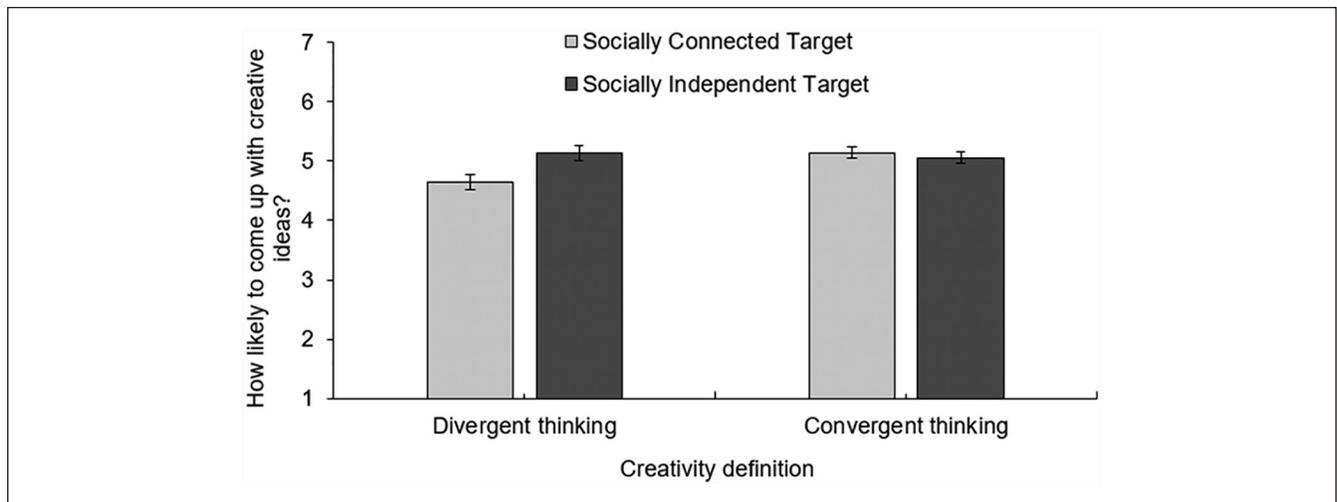


Figure 3. Effect of creativity definition (thinking outside the box vs. connecting the dots) and target orientation (socially independent vs. socially connected) on ratings of how likely target is to come up with creative ideas.

Note. Error bars indicate standard error of the mean (Study 3).

thinking and are substantially different from what has come before. Thus, people who are really good at “thinking outside the box” in this way tend to be really creative.

In the convergent thinking condition, participants read,

Experts have long debated what it means to be creative. A substantial amount of research and theory has concluded that creativity is really a matter of “connecting the dots”—that is, coming up with ideas that bring together knowledge from different domains and synthesize what has come before. Thus, people who are really good at “connecting the dots” in this way tend to be really creative.

Next, participants were randomly assigned to one of two target social orientation conditions (socially independent vs. connected). Participants in the socially independent target condition read the same information used in Study 2 to describe the socially independent target. Participants in the socially connected target condition read the same information used in Study 2 to describe the socially connected target. After reading this information, participants were asked to rate how likely the target was to come up with creative ideas on a 7-point scale from 1 = *not at all likely* to 7 = *very likely*. Participants then completed the same manipulation check measure assessing perceived social independence used in Study 2 ($\alpha = .85$).

Results and Discussion

Our manipulation check confirmed that participants in the socially independent target condition perceived the target as more socially independent ($M = 5.81, SD = 1.00$) compared with participants in the socially connected target condition ($M = 3.53, SD = 1.22$), $t(399) = 20.50, p < .001, d = 2.04$,

95% CI of difference = [2.06, 2.50]. Creativity definition did not moderate the effect of target social orientation on independence ratings, $F(1, 397) = 1.69, p = .195, \eta_p^2 = .004$.

There was a two-way interaction between creativity definition (“thinking outside the box” vs. “connecting the dots”) and target social orientation (socially independent vs. connected) on ratings of the target’s perceived creativity, $F(1, 398) = 6.05, p = .014, \eta_p^2 = .015$ (see Figure 3). Follow-up contrast tests revealed that, as predicted, when creativity was defined as “thinking outside the box,” the socially independent target was evaluated as more likely to come up with creative ideas ($M = 5.13, SD = 1.18$) compared with the socially connected target ($M = 4.65, SD = 1.28$), $F(1, 398) = 8.74, p = .003, d = 0.39, 95\% \text{ CI of difference} = [0.161, 0.802]$, consistent with the results of Studies 1a to 2. When creativity was defined as “connecting the dots,” the socially independent target and the socially connected target were evaluated as similarly creative ($M_{\text{independent}} = 5.05, SD = 1.15$, vs. $M_{\text{connected}} = 5.14, SD = 1.00$), $F(1, 398) = 0.272, p = .602, d = 0.08, 95\% \text{ CI of difference} = [-0.236, 0.406]$. We also found that although the socially independent target was evaluated as similarly creative across the two definitions of creativity, $F(1, 398) = 0.222, p = .638, d = 0.07, 95\% \text{ CI of difference} = [-0.244, 0.398]$, the socially connected target was evaluated as less creative when creativity was defined as “thinking outside the box” compared with when creativity was defined as “connecting the dots” $F(1, 398) = 9.07, p = .003, d = 0.43, 95\% \text{ CI of difference} = [0.170, 0.810]$. In demonstrating moderation by construal of creativity, these results provide evidence of the theoretical mechanism underlying our findings—that the social independence–creativity link is due to observers’ implicit theories of creativity as involving independence of thought.

Study 4

Study 4 addressed a final potential alternative explanation: that our effects might be reducible to perceived differences in chronic nonconformity tendencies. We argue that a person who signals social separateness may be deemed creative because lack of social connection itself is understood as facilitating divergent thinking. Although the targets in Studies 1a to 3 were portrayed as relatively normative (i.e., working in an office job as a consultant, engaging in popular activities such as golf), and social connectedness was manipulated using mundane behaviors (i.e., playing golf with others vs. alone, attending meetings with others vs. alone), it is possible that our effect could be driven by separateness from others signaling that a person has a contrarian personality—that is, a high motivation to act in nonnormative ways (e.g., wearing red sneakers; Bellezza et al., 2013)—thus explaining why observers view them as more creative. To address this possibility, in Study 4, we manipulated target social connectedness and target nonconformity orthogonally. If our predictions are correct, we would expect social independence (relative to social connectedness) to enhance perceived creative potential regardless of whether the target was known to have a nonconforming persona or a conforming persona.

We asked participants to predict how creative they thought a celebrity musical artist's ostensibly finished album would be, manipulating whether the artist was known to be highly nonconforming (vs. conforming) and also whether the artist described themselves as going through a phase of social independence or social connectedness when completing the aforementioned album. We also assessed whether creativity judgments influenced how much participants were willing to pay to listen to the album. We used both male and female musical artists as targets to test whether our predicted effect was robust in judgments of both men and women. Study 4 employed a 2 (target orientation: socially independent vs. socially connected) \times 2 (target normativity: conforming vs. nonconforming) \times 2 (target gender: male vs. female) between-participants design.

Method

Participants. We recruited 824 U.S. residents (53% female, $M_{\text{age}} = 35.28$ years, $SD_{\text{age}} = 12.10$ years) from Prolific Academic. No participants were excluded from analyses. At $\alpha = .05$, our sample size provided 80% power to detect a minimum effect of $f = 0.09$.

Materials and procedure. All measures and manipulations are reported below. Participants were randomly assigned to read an article about one of four well-known musical artists. We selected two musical artists who were judged in a pretest to be high on nonconformity (Kanye West and Lady Gaga) and two musical artists who judged in the same pretest to be low on nonconformity (John Legend and Taylor Swift; see Study

4 pretest details for full methodology and results). In addition to manipulating target gender and target level of conformity between participants by using these four musical artists as targets, we also experimentally manipulated whether the musical artist was described as spending time alone or spending time with others during the time when they were writing an upcoming album.

Specifically, all participants in the study were shown an article about their assigned musical artist (Kanye West, Lady Gaga, John Legend, or Taylor Swift), which began with the following,

According to a recent interview with NME, [target's name] is already close to completing a follow-up to his [her] recent album, [name of target's recent album]. [Target's name] has already recorded the new tracks and is aiming to release the new album in early 2020. He [She] has yet to announce a title for the new work.

Participants in the socially independent target condition then read,

[Target's name] says, "I came up with these songs during a phase in my life when I happened to be spending a lot of time by myself. I was really focused on being alone, being away from other people. I was really avoiding social contact and being connected to other people during the time when I was writing this music."

Participants in the socially connected target condition read,

[Target's name] says, "I came up with these songs during a phase in my life when I happened to be spending a lot of time being pretty social. I was really focused on connecting with other people, rather than being alone. I was really avoiding being by myself during the time when I was writing this music."

Next, participants were asked to make predictions about the musical artist's new album. Participants completed three items that assessed how creative they expected the target's album to be:

(a) How likely do you think it is that this upcoming album will be *truly innovative*, as compared to the average album by [target name]? (b) How likely do you think it is that this upcoming album will be *exceptionally creative*, as compared to the average album by [target name]? (c) How likely do you think it is that this upcoming album will be *highly original*, as compared to the average album by [target name]?

rated on a 7-point scale from 1 = *not at all likely* to 7 = *extremely likely* and averaged to form an expected product creativity composite ($\alpha = .92$).

Next, participants indicated how much they would be willing to pay to preview the album, "What is the maximum amount (in dollars) that you would be willing to pay to listen to a preview of one of [target's name] songs from this new

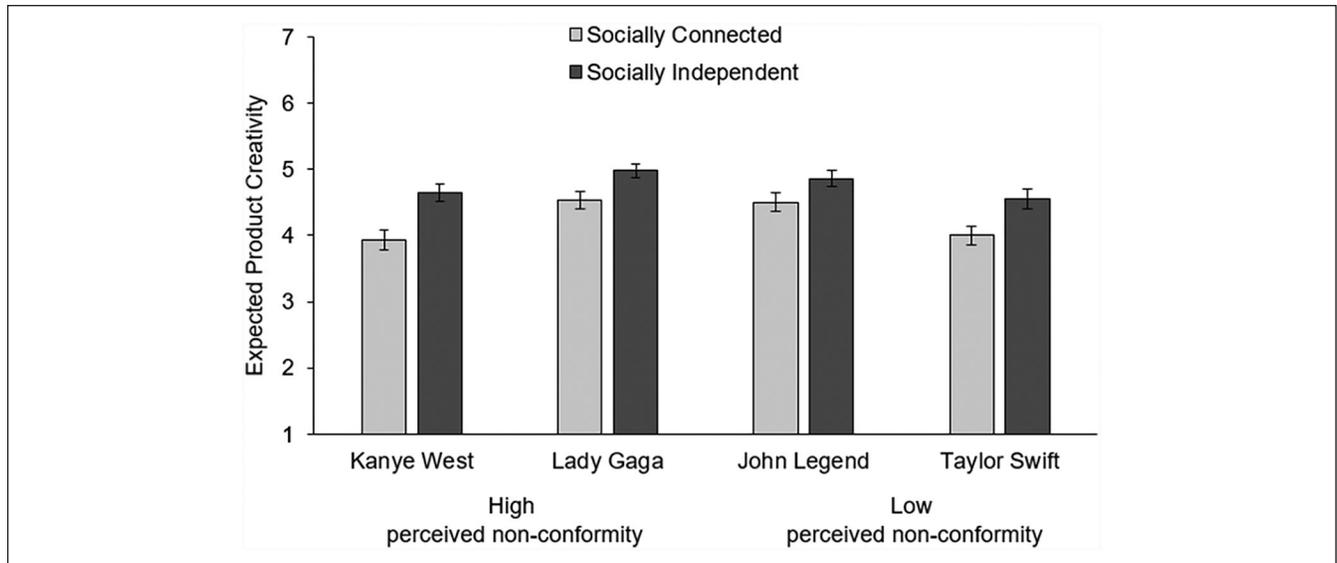


Figure 4. Effect of target social orientation (socially independent vs. socially connected) on expected product creativity, for targets high and low on nonconformity.

Note. Error bars indicate standard error of the mean (Study 4).

album today?” Participants also completed a manipulation check item: “To what extent was [target’s name] connected to other people while writing the album?” rated on a 7-point scale from 1 = *not at all* to 7 = *very much so*, and indicated how big of a fan of the musical artist they were before participating in the study, rated on a 7-point scale from 1 = *not at all a fan* to 7 = *a huge fan*.

Results and Discussion

Our manipulation check item confirmed that targets in the socially independent target condition were viewed as less connected to other people ($M = 1.70$, $SD = 1.33$) compared with targets in the socially connected target condition ($M = 6.17$, $SD = 1.35$), $t(821) = 47.86$, $p < .001$, $d = 3.34$, 95% CI of difference = [4.28, 4.65]. As predicted, when the musical artists described themselves as separate from others, their products were expected to be more creative ($M = 4.76$, $SD = 1.30$) compared with when the musical artists described themselves as socially connected ($M = 4.24$, $SD = 1.42$), $t(822) = -5.43$, $p < .001$, $d = 0.38$, 95% CI of difference = [-0.703, -0.330] (see Figure 4).

This effect was not moderated by target level of conformity, target social orientation \times target normativity interaction: $F(1, 820) = 0.362$, $p = .548$, $\eta_p^2 = .000$. That is, artists who described themselves as separate from others (vs. connected to others) were seen as having greater creative potential regardless of whether they are known to be high or low on nonconformity (see Figure 4). We also did not find evidence of moderation of our predicted effect by target gender, $F(1, 820) = 0.084$, $p = .772$, $\eta_p^2 = .000$, indicating that portraying oneself as separate from others (vs. socially

connected) may be an effective means of enhancing perceived creative potential for both men and women.

There was no total effect of our manipulation (separate from others vs. connected to others) on participants’ willingness to pay for a preview of the musical artists’ album, $M_{\text{independent}} = 4.54$, $SD = 24.26$, versus $M_{\text{connected}} = 4.28$, $SD = 25.74$, $t(822) = -0.154$, $p = .878$, 95% CI of difference = [-3.69, 3.15]. However, there was an indirect effect of our manipulation on willingness to pay through judgments of the product’s expected creativity, $b = 1.35$, $SE = .55$, 95% CI = [0.54, 1.64], indicating that our manipulation indirectly explained variance in how much participants were willing to pay for the product by influencing how creative participants believed the product would be. This indirect effect was robust after log transforming our willingness-to-pay measure to account for the skewed distribution of participants’ responses, $b = 0.05$, $SE = 0.02$, 95% CI = [0.02, 0.08]. All effects reported above were robust (i.e., statistically significant) after controlling for how big of a fan participants were of the musical artists they evaluated.

General Discussion

Across five experiments, we provide evidence that impressions of how socially connected a person is influence judgments of their creative potential. Being seen as a person who does things alone signaled more creative potential compared with being seen as a person who does things with others (Studies 1a, 1b, 2, and Study 4). This effect was particularly pronounced when creativity was understood as requiring divergent thinking—or generating ideas that depart from existing norms or standards (Study 3). Our effects were

unlikely due to assumptions that socially independent individuals are more intelligent or productive than socially connected individuals (Study 1b, Study 2) or that socially independent others are more eccentric or motivated to stand out than socially connected others (Study 2, Study 4). Rather, the evidence we present is consistent with the notion that lay observers view lack of social connectedness itself as facilitating the ability to think in creative ways.

Contributions

Our work deepens our understanding of lay perceivers' beliefs about the conditions that promote creative thinking (Kasof, 1995). Our studies point to the existence of a lay theory of creative potential in which being alone (away from other people) is seen as promoting creative thought. This "asocial" view of creative potential that we identify is consistent with the popular "lone genius" myth of creativity, and builds on previous work suggesting that observers hold a lay theory of creativity that emphasizes divergent thinking (McCrae, 1987; Sternberg, 1985) and prioritizes novelty over usefulness (Loewenstein & Mueller, 2016). Specifically, our studies suggest that because observers tend to view novelty and divergence as important for creativity, they may understand connectedness to others to be at odds with the potential for creative idea generation.

In addition, our research contributes new knowledge regarding the social cues that may play an important role in creativity evaluation—a topic of growing interest within psychology and organizational behavior (e.g., Amabile, 1982; Goncalo et al., 2010; Mueller et al., 2018). Previous research has examined the role of domain-specific creativity prototypes (e.g., Elsbach & Kramer, 2003) and demographic cues (e.g., Proudfoot et al., 2015) in signaling a person's creative ability. Our research is novel in using experimental methodology to explore how certain behaviors, in signaling one's degree of separateness from others, are more or less effective in communicating one's ability to think creatively.

Our research also provides insight into the extent to which observers' understandings of what it takes to be creative map onto what the academic literature indicates are the actual precursors of individual creativity. Although strength and type of social tie moderate the extent to which social connections facilitate individual creativity, often in complex ways (i.e., Baer, 2010; Fleming et al., 2007; Perry-Smith, 2006), the literature to date broadly suggests that connections to others aid creativity because social connections provide individuals with access to different sources of information. Thus, our studies offer insight into the degree of alignment between common beliefs about what it takes to be creative and the actual antecedents of creativity, illuminating potential challenges in how individuals and groups go about deciding who should be given creative tasks and how creative work should be completed.

Limitations and Future Directions

We examined our predictions with vignettes and using online convenience samples. Online convenience samples allowed for high-powered first tests of our proposed effects, and vignettes allowed for careful manipulation of social independence/aloneness while controlling for other important variables, to provide evidence of our theoretical account. Still, future research is needed to explore our predictions in laboratory and field settings. Furthermore, although we were specifically interested in understanding attributions of creative potential as our outcome measure, and examined willingness to pay for a creative product as a downstream consequence of such attributions, future research is needed to examine implications of our predicted effects for other consequential judgments, such as hiring decisions and investment choices.

We also investigated our predictions in a North American context—a context in which social independence is highly valued (Markus & Kitayama, 1991). It is important to note that the effects we observe are unlikely to be due to a general positive "halo" around social independence in Western contexts—for instance, we show that socially independent others are not seen as better at practical idea generation compared with socially connected others, and are not perceived as more creative than socially connected others when creativity is defined as "connecting the dots." However, given recent work by Loewenstein and Mueller (2016) showing that American and Chinese people have different theories of what it means to be creative (also see Paletz et al., 2011), although social independence may map onto lay beliefs about creativity in the United States, future research is needed to understand whether lack of social connectedness signals creativity in other cultures.

Conclusion

Our research advances our understanding of social perceivers' lay theories about what it takes to be creative, with implications for social judgment and impression management. Beyond the obvious influence of a person's perceived social connectedness on perceptions of how popular and well liked they are, we show that impressions of a person's connectedness to others influence the inferences people make about that person's capacity to come up with innovative ideas. Our findings provide insight into how individuals of varying degrees of social connectedness may be evaluated in situations where creativity is valued—particularly those in which creativity is understood to require novelty and divergent thinking. Our research thus has implications for social evaluation in organizational settings, artistic domains, and creative fields, as well as other contexts in which judgments of creative potential may be consequential (e.g., Miller, 2011). Generally, our findings suggest that signaling one's separateness from others—even via subtle behavioral cues—may help individuals convey a creative image.

Authors' Note

Sean Fath is now affiliated with Cornell University, Ithaca, NY, USA.

Declaration of Conflicting Interests

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Notes

1. There was also a significant indirect effect within the practicality evaluation condition, $b = 0.62$, $SE = 0.13$, 95% confidence interval (CI) = [0.37, 0.86], though the index of moderated mediation indicated that the indirect effect in the creativity evaluation condition was significantly larger than the indirect effect in the practicality evaluation condition.
2. Inclusion in Study 2 and Study 3 required a response of “yes” to the prescreen question, “Are you currently employed in either a full-time or a part-time job (other than as a Mturker)?”

Supplemental Material

Supplemental material is available online with this article.

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