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The Bias Against Creativity: Why People Desire but Reject Creative Ideas

Abstract

People often reject creative ideas, even when espousing creativity as a desired goal. To explain this paradox, we propose that people can hold a bias against creativity that is not necessarily overt and that is activated when people experience a motivation to reduce uncertainty. In two experiments, we manipulated uncertainty using different methods, including an uncertainty-reduction prime. The results of both experiments demonstrated the existence of a negative bias against creativity (relative to practicality) when participants experienced uncertainty. Furthermore, this bias against creativity interfered with participants' ability to recognize a creative idea. These results reveal a concealed barrier that creative actors may face as they attempt to gain acceptance for their novel ideas.

Keywords

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The bias against creativity: Why people desire but reject creative ideas

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Keywords: Creativity, bias

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Abstract

People often reject creative ideas even when espousing creativity as a desired goal. To explain this paradox, we propose that people can hold a bias against creativity that is not necessarily overt, and which is activated when people experience a motivation to reduce uncertainty. In two studies, we measure and manipulate uncertainty using different methods including: discrete uncertainty feelings, and an uncertainty reduction prime. The results of both studies demonstrated a negative bias toward creativity (relative to practicality) when participants experienced uncertainty. Furthermore, the bias against creativity interfered with participants' ability to recognize a creative idea. These results reveal a concealed barrier that creative actors may face as they attempt to gain acceptance for their novel ideas.

Do people desire creative ideas? Most scholars would propose that the answer to this question is an obvious 'yes,' asserting that creativity is the engine of scientific discovery (Hennessey & Amabile, 2010), the fundamental driving force of positive change (George, 2007), and associated with intelligence, wisdom, and moral goodness (Niu & Sternberg, 2006; Sternberg, 1985). However, while people strongly endorse this positive view of creativity, scholars have long been puzzled by the finding that organizations, scientific institutions, and decisions-makers routinely reject creative ideas even when espousing creativity as an important goal (Ford & Gioia, 2000; Staw, 1995; West, 2002). Similarly, research documents that teachers dislike students who exhibit curiosity and creative thinking even though teachers acknowledge creativity as an important educational goal (Dawson, D'Andrea, Affinito, & Westby, 1999; Runco, 1989; Westby & Dawson, 1995). We offer a new perspective to explain this puzzle. Just as people have deeply-rooted biases against people of a certain age, race or gender that are not necessarily overt (Greenwald & Banaji, 1995), so too can people hold deeply-rooted negative views of creativity that are not openly acknowledged. Revealing the existence and nature of a bias against creativity can help explain why people might reject creative ideas and stifle scientific advancement, even in the face of strong intentions to the contrary.

Creative ideas are both novel and useful (Hennessey & Amabile, 2010), and novelty is the key distinguishing feature of creativity beyond ideas that are merely well done (Amabile, Barsade, Mueller, & Staw, 2005). Yet the requirement that creative ideas contain novelty can also promote a tension in evaluators' minds when they judge whether to pursue an idea. Indeed, evaluators have a hard time viewing novelty and practicality as attributes that go hand in hand, often viewing them as inversely related (Rietzschel, Nijstad, & Stroebe, 2009). There are several reasons why. Practical ideas are generally valued (Sanchez-Burks, 2005). However, the more

novel an idea, the more uncertainty can exist about whether an idea is practical, useful, error free, and reliably reproduced (Amabile, 1996). When endorsing a novel idea, people can experience failure (Simonton, 1984), perceptions of risk (Rubenson & Runco, 1995), social rejection when expressing the idea to others (Moscovici, 1976; Nemeth, 1986), and uncertainty about when their idea will reach completion (Metcalfe, 1986). Uncertainty is an aversive state (Fiske & Taylor, 1991; Heider, 1958) which people feel a strong motivation to diminish and avoid (Whitson & Galinsky, 2008). Hence, people can also have negative associations with novelty; an attribute at the heart of what makes ideas creative in the first place.

Although the positive associations with creativity are typically the focus of attention both among scholars and practitioners, the negative associations may also be activated when people evaluate a creative idea. For example, research on associative thinking suggests that strong uncertainty feelings may make the negative attributes of creativity, particularly those related to uncertainty, more salient (Bower, 1981).

This evaluative process is not necessarily overt, making the bias against creativity potentially insidious. In fact, there is often strong normative pressure to endorse creative ideas (Flynn & Chatman, 2001) and a strong social desirability bias against expressing any view of creativity as negative (Runco, 2010). This resulting state is similar to that identified in research on racial bias; a conflict between an explicit preference towards creativity and unacknowledged negative associations with creativity (Gaertner & Dovidio, 1986). In other words, uncovering a bias against creative ideas requires a method more subtle than simply asking directly. Therefore, we decided to employ a measure that assesses explicit attitudes in addition to implicit attitudes which are less susceptible to self-presentation biases and normative pressures (Greenwald, Poehlman, Uhlmann, & Banaji, 2009). In two studies, we test whether uncertainty measured and

manipulated in two different ways, promotes a greater bias against creativity relative to practicality. In the second study we investigate whether this bias deters peoples' ability to recognize creative ideas.

EXPERIMENT 1

Method

Participants and Design

Participants (N = 73) were randomly assigned to one of two conditions: uncertainty (n = 28) or baseline (n = 45). 51% were men (mean age= 22.74 years). Each participant took an *implicit* attitude test (IAT) as well as an *explicit* attitude test to assess their bias against creativity relative to practicality.

Procedure and Materials

Participants in the uncertainty condition were told that they might receive additional payment based on a random lottery (not performance). Participants in the baseline condition were not given the opportunity to receive extra money. A pilot study (N = 82) verified that the uncertainty manipulation evoked significantly higher uncertainty feelings than a baseline condition. All participants took an openness to experience inventory (Costa & McCrae, 1992), a trait which is highly related to creativity (Feist, 1998).

Participants' automatic mental associations with creativity versus practicality were assessed using the Implicit Association Test (IAT) (Greenwald, McGhee, & Schwartz, 1998). This measure relies on test-takers' speed of response to represent the strength of their mental associations. The IAT measures participants' reaction times when rating pairings between an attitude object (e.g., creativity or practicality) and an evaluative dimension (e.g., good or bad). In the computerized version of the IAT, this pairing is achieved by using the keyboard (say, a left

key) to be pressed in response to items from the two paired categories, creativity+bad, while another key (say, the right key) is pressed for the other pair, practicality+good. The speed at which this pairing is completed compared to opposite pairing is interpreted as a measure of the strength of the implicit evaluation. Our IAT used words that reflected creativity (e.g. *novel, creative, inventive, original*) versus practicality (e.g. *practical, functional, constructive,* and *useful*). In addition our IAT used words that reflected good (*rainbow, cake, sunshine, laughter, peace, heaven*) versus bad (*vomit, hell, agony, rotten, poison, ugly).* The block order was counterbalanced such that half of the participants performed the creative + good component first, whereas the other half performed the creative + bad component first. The IAT effect was formed by subtracting response latencies for the creative + good task from the creative + bad tasks. We scored the IAT using the *D* statistic (Greenwald, Nosek, & Banaji, 2003), a method less influenced by procedural variables, such as order or counterbalancing, as well as cognitive ability (Cai, Sriram, Greenwald, & McFarland, 2004). The implicit bias score was calculated by subtracting creativity from practicality attitudes; higher values indicate more bias against creativity relative to practicality.

Participants also rated their *explicit* positive and negative associations with creativity and practicality. Specifically, participants rated their attitudes towards creativity and practicality on a 7-point scale ranging from 1=strongly negative, 4 = neutral, and 7= strongly positive. Participants assessed attitudes towards creativity (e.g., creative, inventive, original, and novel; alpha = .77), and practicality (e.g., practical, functional, constructive, useful; alpha = .88). Participants indicated positive associations (i.e., above the scale mid-point) with both creativity (M=5.37, SD=.75) and practicality (M=5.43, SD=.91). Explicit bias was calculated by subtracting creativity from practicality associations (M=.06, SD=.91).

Results and Discussion

Table 1 shows descriptives for all major variables. An ANCOVA controlling for openness to experience revealed no significant differences in *explicit* bias when comparing the high (*M*=.02, SD=.83) and low uncertainty conditions (*M*=-.11, SD=.96), *F*(1, 70)= .07, P=.78. However a second ANCOVA also controlling for openness to experience revealed that participants in the uncertainty condition showed an *implicit* bias against creativity relative to practicality (*M*=.15, SD=.54) which significantly differed from participants in the baseline condition who showed an implicit bias in favor of creativity relative to practicality (*M*=-.23, SD= .47), *F*(1, 70)= 13.13, P=.001; condition accounted for 11% of the variance in implicit bias.

Discussion

Experiment 1 shows that people hold ambivalent attitudes towards creativity. While participants in the baseline condition evidenced positive implicit associations with creativity relative to practicality, participants in the uncertainty condition exhibited an implicit bias against creativity relative to practicality. In Experiment 2 we wished to extend these findings to show that the motivation to reduce uncertainty when problem solving can activate the creativity bias. Specifically, scholars propose that effective creative problem solving includes both generating many novel options and subsequently reducing uncertainty by identifying the single best option from the set (Cropley, 2006). We propose that this latter orientation towards identifying the optimal solution may prime an uncertainty reduction motive or intolerance for uncertainty and thereby evoke the creativity bias. Additionally, we explore whether the creativity bias might also deter the recognition of a creative idea.

EXPERIMENT 2

Method

Participants and Design

140 undergraduate students (55% female; mean age= 20.66) were randomly assigned to one of two conditions: high tolerance for uncertainty (n = 70) and low tolerance for uncertainty (n = 70).

Procedure and Materials

Participants in the high tolerance for uncertainty condition were told to write an essay supporting the statement, "For every problem, there is more than one correct solution" while those in the low tolerance for uncertainty condition were asked to write an essay supporting the statement, "For every problem, there is only one correct solution." A three item manipulation check assessed uncertainty when evaluating an idea (e.g., "I feel uncertain about this idea)," anchors from 1 = not at all, 7 = very much so (alpha = .78). Participants in the low tolerance condition were significantly more uncertain (*M*=4.36, SD=1.23) than those in the high tolerance condition (*M*= 3.87, SD=1.33; *F*(1, 133)=5.14, P=.025). After being exposed to the experimental manipulation, each participant took the same implicit and explicit creativity-practicality bias tests used in Experiment 1. Subsequently, participants were asked to rate a creative idea which we pre-tested using a different sample of undergraduates (N = 36) who rated this idea (a running shoe with nanotechnology that adjusted fabric thickness to cool the foot and reduce blisters) as being highly creative (M=5.82, SD=.80), novel (M=5.62, SD=1.02), and practical (M=5.85, SD=.92) on a 7-point scale ranging from 1=not at all to 7=extremely so. Before exposure to the manipulation, participants also took the openness to experience inventory.

Participants rated the idea using the creativity scale, employing the same six synonyms for creativity used in both the implicit and explicit bias tests (M=5.41, SD=1.05, alpha=.78).

Results and Discussion

Table 2 shows descriptives for all major variables. An ANCOVA controlling for openness to experience revealed that participants in the low tolerance for uncertainty condition were not significantly different in their level of explicit bias against creativity (*M*= .20, SD=.81) as compared to participants in the high tolerance condition (*M*= .22, SD=.94), *F*(1, 133)= .14, P=.71. However, a second ANCOVA controlling for openness to experience revealed that participants in the low uncertainty tolerance condition were more *implicitly* biased against creativity relative to practicality (*M*= .07, SD=.43) than participants in the high uncertainty tolerance condition (M= -.16, SD=.46), *F*(1, 133)= 7.87, P=.007, who exhibited positive associations with creativity relative to practicality. A third ANCOVA controlling for openness to experience identified that participants in the low tolerance condition rated the idea as less creative (*M*= 5.06, SD=1.06) than participants in the high tolerance condition (M= 5.76, SD=.93), *F*(1, 137)= 15.48, P=.000.

A hierarchical regression showed that the relationship between experimental condition and creativity ratings (*B* = -.64, *t* (134) = -3.81, *p* < .001) became less significant when including implicit bias in the model (*B* = -.56, *t* (134) = -3.30, *p* < .01). A 95% bootstrapped confidence interval of the indirect effect of condition on creativity ratings through implicit bias did not include zero [-.24, -.02], demonstrating partial mediation (Preacher & Hayes, 2004). Mediation analyses controlled for both explicit bias and openness to experience at each step indicating that relatively low levels of uncertainty tolerance led to higher levels of the implicit bias that in turn contributed to lower ratings of creativity controlling for participants' explicit bias and general openness to experience.

Discussion

Experiment 2 both replicated the finding that uncertainty promotes negative associations with creativity relative to practicality, and extended this finding by showing that the bias against creativity interfered with participants' ability to recognize a creative idea.

GENERAL DISCUSSION

Robert Goddard, the father of modern rocket propulsion, endured ridicule and derision from his contemporary scientific peers who stated his ideas were ludicrous and impossible. This example is not unique, and would puzzle creativity theorists as research shows that expert raters who are themselves creative are even more likely to accurately recognize and assess creativity (Hennessey, Amabile, & Mueller, 2010; Runco & Smith, 1992). Our results show that regardless of how open minded people are, when they feel motivated to reduce uncertainty either because they have an immediate goal of reducing uncertainty, or feel uncertain generally, this may bring negative associations with creativity to mind which result in lower evaluations of a creative idea. Our findings imply a deep irony. Prior research shows that uncertainty spurs the search for and generation of creative ideas (Audia & Goncalo, 2007; Tiedens & Linton, 2001), yet our findings reveal that uncertainty also makes us less able to recognize creativity, perhaps when we need it most.

Beyond merely having a preference for the status quo or familiar ideas (Eidelman, Crandall, & Pattershall, 2009; Zajonc, 2001), our results suggest that people have ambivalent feelings towards creativity. On one hand, participants in the baseline and uncertainty tolerance conditions demonstrated *positive* implicit associations with creativity relative to practicality. Additionally, 95% of participants in the high uncertainty and uncertainty intolerance conditions rated their *explicit* attitudes towards creativity as positive- higher than '4' the mid-point of a 7-point scale- and statistically equivalent to practicality. On the other hand, the implicit measure

identified that participants in each high uncertainty condition associated words like “vomit,” “poison,” and “agony,” more so with creativity than practicality. Because there is such a strong social norm to endorse creativity and people also feel authentic positive attitudes towards creativity, people may be reluctant to admit that they do not want creativity; hence, the bias against creativity may be particularly slippery to diagnose. The implicit measures may have picked up negative associations with creativity under conditions of uncertainty because the methodology is more resistant to social desirability bias (Greenwald et al., 2009).

If people hold an implicit bias against creativity, then we cannot assume that organizations, institutions or even scientific endeavors will desire and recognize creative ideas even when they explicitly state they want them. This is because when journals extol creative research, universities train scientists to promote creative solutions, R&D companies commend the development of new products, pharmaceutical companies praise creative medical breakthroughs, they may do so in ways that promote uncertainty by requiring gate-keepers to identify the single “best” and most “accurate” idea thereby creating an unacknowledged aversion to creativity. In addition, our results suggest that if people have difficulty gaining acceptance for creative ideas especially when more practical and unoriginal options are readily available, the field of creativity may need to shift its current focus from identifying how to generate more creative ideas to identifying how to help innovative institutions recognize and accept creativity. Future research should identify factors which mitigate or reverse the bias against creativity.

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Table 1. Descriptives for all major variables used in Experiment 1, N = 73[1]

	Mean	SD	1	2	3
1. Openness to Experience	4.01	.65			
2. Condition (1 = uncertainty, 0 = baseline)	.38	.43	.11		
3. Explicit Bias	.06	.91	-.32**	-.07	
4. Implicit Bias	-.09	.53	-.25**	.35**	.29*

*p < .05; **p < .01

[1]uncertainty condition contained 28 participants and the baseline condition contained 45 participants

Table 2. Descriptives of all major variables used in Experiment 2, N = 140[1]

	Mean	SD	1	2	3	4	5
1. Openness to Experience	5.59	.99					
2. Condition (1 = low tolerance for uncertainty, 0 = high tolerance for uncertainty)	.50	.50	-.08				
3. Uncertainty Feelings When Evaluating an Idea	4.12	1.30	-.04	.20*			
4. Explicit Bias	.21	.87	-.23**	-.01	.01		
5. Implicit Bias	-.05	.46	-.34**	.25**	-.13	.20*	
6. Creativity Rating	5.41	1.05	.20*	-.33**	-.01	-.24**	-.33**

*p < .05; **p < .01

[1]70 participants were in the low tolerance for uncertainty condition, and 70 participants were in the high tolerance for uncertainty condition