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Construing creativity: The how and why of recognizing creative ideas

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Abstract

While prior theory proposes that domain knowledge is the main factor that determines creativity assessments, we provide theory and evidence to suggest that situational factors can also alter what people view as creative. Specifically, we test the notion that one's current construal-level can shift what people perceive as creative. We employ three studies manipulating construal in two ways (i.e., with spatial distance and construal level mindset priming) to show that people with low-level and high-level construal orientations differ in creativity assessments of the same idea. We further show that low- and high-level construals do not alter perceptions of ideas low in creativity, and that uncertainty sometimes mediates the relationship between construal level priming and creativity assessments of an examined idea. These findings shed light on why people desire but often reject creativity, and suggest practical solutions to help organizations (e.g., journals, government agencies, venture capitalists) spot creative ideas.

[148 words]

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Innovation, the process of implementing creative ideas (Amabile, 1988), increasingly involves recognizing creative ideas, rather than generating them. For example, Proctor & Gamble, the consumer products company, developed many successful products (e.g., Olay Regenerist, Swiffer Dusters, the Crest SpinBrush) by spotting creative ideas offered by outsiders - customers, suppliers, and technology partners. In this model of innovation, popularly termed 'crowd-sourcing' or 'open innovation,' the onus on the focal actor is to spot and recognize creative ideas developed by others rather than to generate new ideas personally (Erat & Krishnan, 2012). This approach to innovation is not limited to organizations; it exists in many different contexts. For example, it occurs in academic contexts where journals seek to spot creative scholarly content or where funding agencies, such as governments, angel investors, and private ventures, strive to recognize and capitalize on the most novel and useful research.

Due to the emergence of internet-based technologies, which have opened a floodgate of ideas, the trend of recognizing externally-generated creative ideas is intensifying (Chesbrough, Vanhaverbeke, & West, 2006). Hence, it is increasingly important to develop an eye for spotting truly useful ideas that also happen to be quite novel, or to become (as Bill Gates once described Steve Jobs) a "natural in terms of intuitive taste" for creative ideas (Isaacson, 2011).

Research can play a critical role by helping to explore how creative ideas are spotted - specifically, by unearthing the antecedents of creative idea recognition. The bulk of creativity literature has examined how creative ideas are generated (for a review see George, 2007), with relatively less emphasis on how creative ideas are selected (cf, West, 2002). Prior research concerned with creativity assessment has largely assumed that domain knowledge is the primary driver (Simonton, 1999), without considering whether situational factors may also play a role while domain knowledge remains constant. Challenging this previous assumption, we point to

one important and widely relevant psychological antecedent to creative idea recognition. Specifically, we explore whether a person's current level of construal might shift what he views as creative, and if so, what processes might explain this association.

Creative Idea Recognition and Construal

Construal level theory distinguishes between two forms of mental representation: high-level and low-level construals. High-level construals, which tend to represent distant events, are abstract, schematic representations that capture an item's gist and emphasize goals and end-states. Low-level construals, which are used to capture proximal events, are concrete representations that focus on more supporting and secondary information, including the particular means by which an activity is carried out (Trope & Liberman, 2010). Research has shown that increased psychological distance facilitates solving insight problems (Förster, Friedman, & Liberman, 2004; Jia, Hirt, & Karpen, 2009; Kwang, 2005; Schimmel & Förster, 2008). Presumably, this occurs because higher levels of psychological distance enhance abstract thinking, a factor that has been linked to increased creative cognition (Förster et al., 2004). Furthermore, exposure to novel, unfamiliar stimuli tends to activate global, abstract processing (Förster, 2009; Förster, Liberman, & Shapira, 2009); a broader, global perspective seems to prepare one best for understanding novel information (Förster, Marguc, & Gillebaart, 2010).

Given these previously established associations between distance and creative idea generation, and between novelty and global processing, it seems plausible that the tendency to think in abstract ways may also shape people's assessments of creative ideas (see also Berry, 2011). People categorize ideas as "creative" if the ideas are both novel and appropriate to the situation (Amabile, 1982). However, because creative ideas are new – and it is not possible to know with certainty whether any new idea is truly valuable and appropriate (Amabile, 1988;

Elsbach & Kramer, 2003) – people may employ cues beyond domain knowledge to determine whether ideas fit the category of being truly creative. In particular, a high-level mindset may make a person more comfortable with creative ideas, because of a fit or match between the person's cognitive orientation and the content under consideration. If distance promotes creative cognition and novelty tends to activate broad processing, then being in an abstract mindset may serve as one cue people use in determining whether highly novel ideas are appropriate. In contrast, given that proximity is associated with relatively non-creative cognition and that familiarity tends to activate narrow processing, being in a concrete mindset may make one increasingly comfortable with familiar ideas, and thereby, provide a cue that the novel idea in question is not appropriate. Intriguingly, such fit may influence creativity judgments themselves, leading people to categorize ideas as relatively more or less creative.

This relative fit between mindset and the novelty of an idea may manifest as feelings of uncertainty regarding the idea under consideration. Recent research (Mueller, Melwani, & Goncalo, 2012) highlights that people have both positive and negative associations with creativity; the negative associations can involve uncertainty about social acceptance when expressing the idea (Diehl & Stroebe, 1987), the idea's value (Amabile, 1988), whether the idea will work (Fleming, 2001), and whether it is feasible (Elsbach & Kramer, 2003). Moreover, this work found that an uncertainty prime heightened people's implicit negative associations with creativity, which in turn, diminished creativity assessments, presumably because people reject or devalue things that contribute to their aversive feelings of uncertainty. People with high-level construal orientations, whose mindsets fit the content under consideration, may be less likely to experience uncertainty about creative ideas relative to people with low-level orientations, which may activate such uncertainty concerns. Indeed, a low-level mindset includes a focus on the

'how' aspects of activities (Liberman & Trope, 1998), which have the potential to highlight more implicit associations with the social, tactical, and logistical uncertainty inherent in any creative idea.

In sum, given that a narrow or more concrete processing orientation presents a mismatch with idea novelty, which may create feelings of uncertainty about whether a creative idea is valuable, lower-level construals may lead to lower assessments of creative ideas than high level construals, which fit well with novel ideas. We explore this prediction across three studies employing different manipulations of construal and ideas of high and low creativity. Across the three studies, our primary hypothesis is that low-level construals (as compared to high-level construals) will lead to lower creativity assessments of ideas that are relatively high in creativity. We also explore the possibility that uncertainty plays a role in this process.

EXPERIMENT 1

Method

Participants and Design

One hundred and sixty-eight participants (42% males; M_{age} = 34.5 years) from Amazon Mechanical Turk were randomly assigned to one of two conditions – high and low levels of psychological distance.

Procedure and Materials

Participants were asked to assess an idea. Following prior research, we manipulated construal level via a geographical distance manipulation (see Henderson & Wakslak, 2010), telling participants that the ideas they were about to rate were generated by someone living either "faraway" or "nearby." Fifty-five participants failed a manipulation check, which asked them where the ideas were generated; hence, we dropped the 55 participants from all subsequent

analyses, yielding a final sample size of 113.[1] After reading this introduction, participants rated a highly creative idea adapted from prior work (Mueller et al., 2012): a running shoe with nanotechnology that decreases blistering by improving shoe fit. Participants rated the idea using a three item "creativity" scale, indicating the extent to which they thought the idea was "creative," "unique," and "novel and useful" (α = .81). Participants also rated uncertainty about the idea using three items: "I am uncertain about this idea," "Success of this idea is assured (reverse coded)," and "I am uncertain whether this idea has potential," α = .80, used in prior research (Mueller et al., 2012). After completing the idea assessment, participants rated several items measuring factors that potentially co-varied with geographical distance (see Henderson, Fujita, Trope, & Liberman, 2006): 1) how similar is this person to you, 2) how much do you like this person, and 3) how familiar is this person to you. All items used a 7-point scale (1 = not at all, 4 = moderately so, 7 = very much so).

Results and Discussion

Table 1 includes all descriptive statistics and Pearson correlation coefficients for all variables used in the study. An independent t-test showed that construal level shifted creativity assessments ($t(111)$ = 2.00, p =.04, Cohen's d = .37), with participants in the faraway condition rating the idea as more creative (M = 6.14, SD = .85) than participants in the nearby condition (M = 5.82, SD = .85).[2] This pattern remained the same when controlling for similarity to, liking, and familiarity with the hypothetical person generating the idea, $F(1, 106)$ = 7.47, p = .01, η^2_p = .06, see Table 2. Thus, higher levels of psychological distance related to significantly higher ratings of a creative idea. Participants in the low-level construal condition experienced marginally more uncertainty (M = 4.35, SD = 1.35) relative to participants in the high-level construal condition (M = 3.87, SD = 1.38, $t(111)$ = -1.85, p = .07, Cohen's d = .35). Uncertainty, however, was not

significantly correlated with creativity assessments ($r = -.15$, $p = .12$), and a 95% bias-corrected

and accelerated bootstrap confidence interval using 5000 bootstrap samples identified no

significant indirect effect of construal level on creativity via uncertainty [LLCI: -.044, ULCI:

.052]. This result suggests that mindset fit may not necessarily manifest as uncertainty when

construal levels are activated via spatial distance, a point we return to in our description of Study

3 and in the discussion section. The next study extended Study 1's primary finding by employing

a different manipulation of construal and ratings of several different ideas with varying levels of

creativity.

EXPERIMENT 2

While the prior experiment provides initial evidence that high levels of psychological

distance can shift creative idea recognition, it does not rule out the possibility that it is not fit

between a person's construal level and idea novelty that shifts creativity ratings, but the fact that

psychological distance merely increases creativity ratings of any idea – even ideas that lack

creativity. That is, adopting a high-level construal orientation may make any idea seem more

creative. Furthermore, if idea fit is operating, having a low-level construal might make extremely

practical ideas that lack novelty seem more creative.

Alternatively, there may be boundary conditions when determining the extent to which fit

influences creativity assessments. Theory notes that the main way to determine the creativity of

an idea is by using our domain knowledge (Hennessey, Amabile, & Mueller, 2010). When an

idea is consistent with our domain knowledge, then the idea is not new – and so, not considered

to be creative. However, when an idea serves as a departure from our domain knowledge, we

categorize it as new, and possibly useful or creative. It is possible that construal level operates

only in this second condition when ideas are inconsistent with our domain knowledge. After all,

when something does not fit with what we know, it follows that we might be more likely to look for other cues to determine how to categorize it. One such cue may be whether our construal level fits with the content of the idea. We tested this notion by varying the creativity of the ideas in question.

In addition, Experiment 1 explored our hypotheses by manipulating geographical distance; although this reliably alters construal, it is also associated with many potential confounds, such as perceived familiarity with a given domain. Hence, we wished to replicate the association using a different manipulation of construal level while also including stimuli that varied in terms of their degrees of creativity.

Method

Participants and Design

Eighty-two participants (43% males; M_{age} = 21.8 years) were paid for participation in a laboratory at an east coast university and randomly assigned to a construal condition in a mixed 2(construal level: high low) X 4(four ideas with either high or low levels of creativity) design. Construal level was manipulated between subjects while idea creativity was manipulated within subject; hence, participants in the high-level (n=40) and low-level (n=42) conditions each rated four ideas: two high in creativity and two low in creativity.

Procedure and Materials

Participants began by completing a mindset prime designed to activate a low-level or high-level construal orientation (Freitas, Gollwitzer, & Trope, 2004). Adapting materials developed by Alter, Oppenheimer, and Zemla (2010), participants were presented with three activities (i.e., backing up a computer, driving a car, and getting dressed in the morning); those in the high-level condition were asked to indicate reasons why people do those activities while

those in the low-level condition were asked to indicate how people do those activities. Next,

participants rated four ideas related to improving student experience at a university.

Subsequently, participants rated task difficulty on the item "How easy or difficult was it for you

to complete the second survey on creativity judgments?" (1 = very easy; 7 = very difficult.

Participants also rated mood on the item, "How do you feel right now?" (1 = very negative; 7 =

very positive).

To determine the appropriateness of the ideas we chose, we ran a separate pilot study (N

= 46) with participants from the same population used in Study 2 who rated four ideas designed

to vary on creativity. The pilot study was designed to provide some baseline assessments for the

creative ideas. The ideas were as follows: 1) Vegan food: All restaurants on the university

campus would serve only vegan food as research indicates that a vegan diet may be correlated

with increased focus, learning, and well-being, 2) Lunches for IT Help-desks: Informal help

sessions over lunch where IT help-desk staff share interesting and efficient ways to do things in

Windows and Office to aid troubleshooting student problems, 3) Autonomy day: Students work

on whatever they want, with whomever they want, however they want, and share their projects

with a professor at the end of that 24 hours, 4) Course Recommendation System: A system

predicting a student's liking of a class – similar to how Netflix predicts movies a person will like

(e.g., "our best guess is that you will give 4 stars to this class"). Participants rated each idea's

creativity by responding to a question asking, "How creative is this idea?" (1 = not at all; 7 =

very much so).[3] A one-factorial repeated-measures ANOVA showed significant variation in

participants' creativity ratings across the four ideas, $F(3, 132) = 14.51$, p < .01. Paired t-tests of

the creativity ratings revealed that the course recommendation idea ($M = 5.07$, $SD = 1.56$) was

not rated significantly differently than the autonomy day idea ($M = 4.82$, $SD = 1.57$, $t(45) = .91$, p

= .36), and the lunches for IT help-desk idea ($M = 3.78$, $SD = 1.73$) did not significantly differ from the vegan food idea ($M = 3.20$, $SD = 1.73$. $t(44) = -1.74$, $p = .09$). However, both the vegan food and lunches for IT help-desk ideas were rated as significantly lower on creativity than the autonomy day idea ($t_{autonomy\ vs.\ vegan\ food}(45) = -5.77$, $p < .01$), ($t_{autonomy\ vs.\ lunches\ for\ IT\ help-desk}(44) = -3.21$, $p < .01$), and the course recommendation idea ($t_{course\ rec\ vs.\ vegan\ food}(45) = -5.30$, $p < .01$), ($t_{course\ rec\ vs.\ lunches\ for\ IT\ help-desk}(44) = -3.56$, $p < .01$). Hence, the vegan food and help-desk lunch ideas were found to be significantly less creative than the course recommendation and autonomy day ideas.

Participants in the focal study rated each of these four ideas (two of which were more creative and two of which were less creative) using the same three item creativity scale employed in Experiment 1 (average alpha across all four ideas = .77). Descriptive statistics for all major variables are included in Table 3.

Results and Discussion

A 2 x 4 repeated measures ANOVA revealed a significant interaction between psychological distance and idea creativity ($F(3, 237) = 2.76$, $p = .04$, $\eta^2_p = .03$).[4] Simple effects tests conducted within the ANOVA showed that participants who adopted a high-level construal mindset rated the course recommendation idea as more creative ($M = 5.57$, $SD = 1.04$) than participants who adopted a low-level mindset ($M = 5.00$, $SD = 1.30$, $p = .03$, see Figure 1). In addition, participants with a high-level mindset rated the autonomy day idea as more creative ($M = 4.86$, $SD = 1.28$) than did participants in the low-level mindset ($M = 4.17$, $SD = 1.19$, $p = .02$). In contrast, ratings of the vegan food idea did not reliably differ between participants in the high ($M = 2.98$, $SD = 1.69$) and low-level construal condition ($M = 3.22$, $SD = 1.49$, $p = .50$). Similarly, ratings of the help-desk lunches idea did not reliably differ between participants in the

high (M = 4.26, SD = 1.27) and low construal level condition (M = 4.28, SD = 1.12, p = .96). A 2 x 4 repeated measures ANCOVA controlling for mood and task difficulty likewise revealed a significant interaction between psychological distance and idea creativity (F(3, 231) = 2.96, p = .03, η^2_p = .04; see Table 4). All relevant simple effects remained significant when controlling for mood and task difficulty.

In sum, this study replicated the effect of construal on creativity assessment using a different manipulation of construal. We identified that construal level altered assessments of ideas high in creativity, but did not change assessments of ideas low in creativity. Hence, construal level specifically operated to alter assessments of creative ideas rather than merely to adjust creativity assessments upwards for any idea. This means that mindset fit with the content of the idea did not seem to alter creativity assessments for ideas low in creativity. Rather, fit may be used as a cue only to determine creativity when ideas have the possibility of being creative.

EXPERIMENT 3

Experiments 1 and 2 both document that construal level alters creative idea recognition when ideas are creative. Experiment 1 showed that this fit between psychological distance (manipulated via spatial construal) and idea novelty drove creativity assessments without reliably activating feelings of uncertainty. However, we also noted that uncertainty associations with creative ideas largely draw from simply not knowing if new ideas are feasible, practical, or reliably reproducible, associations that are especially salient when focusing on "how" aspects associated with any idea. Thus, it is possible that an uncertainty mechanism will play a stronger role when employing an explicit "how" manipulation, as in Study 2, than when using a spatial distance manipulation, as in Study 1. We tested this possibility in Study 3.

Method

Participants and Design

Seventy-three participants (63% female; M_{age} = 20 years) in a west coast university behavior laboratory were given course credit for participation and randomly assigned to one of three between-level conditions: high-level construal, low-level construal, and control.

Procedure and Materials

Participants in the study began with the same why/how prime used in Study 2. Next, participants rated the course-recommendation idea, one of the high-creativity ideas used in Study 2, using the same creativity scale employed in the previous studies (α = .80). In addition, participants rated their uncertainty using the same scale employed in Study 1 (α = .77). Participants in the control condition did not complete either prime; they were simply prompted to rate the idea. As in Study 2, participants also rated task difficulty and mood. Table 5 includes descriptive statistics for all major variables in the analyses.

Results and Discussion

A one-way ANOVA showed a significant main effect of condition on creativity (F (2, 70) = 5.72, p < .01, η^2_p = .14). Simple effects tests conducted within the ANOVA showed that participants who adopted a high-level construal mindset rated the idea as more creative (M = 5.37, SD = .89) than participants who adopted a low-level mindset (M = 4.80, SD = .92, p = .03), but not any more or less creative than participants in the control condition (M = 5.72, p = .22). Unlike the high-level construal condition creativity rating, which was not significantly different from that of the control condition, the low-level construal condition creativity rating was significantly lower than that of the control condition (p < .01). A second one-way ANOVA showed a significant main effect of condition on uncertainty (F (2, 70) = 8.16, p < .01, η^2_p = .19). Simple effects tests conducted within the ANOVA revealed that participants who adopted a

high-level construal mindset rated the idea as less uncertain ($M = 3.42$, $SD = .99$) than did

participants who adopted a low-level mindset ($M = 4.62$, $SD = .92$, $p < .01$), but no more or less

uncertain than participants in the control condition ($M = 3.54$, $SD = 1.40$, $p = .55$). Unlike the

high-level construal condition uncertainty ratings, which were not significantly different from

those of the control condition, the low-level construal condition uncertainty ratings were

significantly higher than those of the control condition ($p < .01$). These patterns of findings did

not change when controlling for task difficulty or mood: ANCOVAs controlling for task

difficulty and mood revealed significant main effects of condition on creativity ($F (2, 67) = 6.08$,

$p < .01$, $\eta^2_p = .15$), and uncertainty ($F (2, 67) = 8.23$, $p < .01$, $\eta^2_p = .20$) (see Table 6). All

relevant simple effects remained significant when controlling for mood and task difficulty.

Our main focus regarded the relationship between construal level (high versus low) and

creativity assessments, and construal level research notes that the default construal level in any

control condition is unclear (e.g., Fujita, Trope, Liberman, & Levin-Sagi, 2006; Ledgerwood &

Callahan, 2012; Schmeichel, Vohs, & Duke, 2011). Hence, to test for mediation, we used a

process often employed in contexts with categorical independent variables (Pedersen et al., 2011;

Werle, Wansink, & Payne, 2011), which involves creating a dichotomous variable for construal

level condition (see Table 5 for coding of construal level condition) by dropping the control

condition in all mediation analyses.

A hierarchical regression showed that the relationship between construal level condition

and creativity ratings, $\beta = .31$, $t(47) = 2.17$, $p = .04$, became non-significant when uncertainty

was included in the model, $\beta = .11$, $t(47) = .69$, $p = .49$, but uncertainty was significantly and

negatively related to creativity, $\beta = -.36$, $t(47) = -2.28$, $p = .03$. A 95% bias-corrected and

accelerated bootstrap confidence interval using 5000 bootstrap samples for the indirect effect of

construal level condition on creativity ratings through uncertainty did not include zero [LLCI = .082, ULCI = .706] demonstrating mediation (Preacher & Hayes, 2004). Hence, uncertainty mediated the relationship between construal level and creativity assessment.

GENERAL DISCUSSION

Across three studies, we demonstrated that when people adopt a low-level construal mindset, they rate a creative idea lower on creativity than when they have a high-level construal mindset. We expected this effect to occur if people use the fit between their levels of construal and the novelty of any idea as one cue, beyond their domain knowledge, to indicate whether an idea is creative.

Our results build theory by challenging a long-held assumption within the creativity literature. Prior work has demonstrated that independent expert judges often agree about which products are creative (Amabile, 1982). This suggests that domain knowledge or expertise is a key factor in determining whether a given idea is creative or not. For example, Simonton (1999), building upon Campbell (1960), proposed that the initial selection of an idea occurs when creators use their domain knowledge to test each idea against relevant criterion for usefulness, appropriateness, and novelty. Our work suggests that creativity ratings may be influenced by a wider set of factors that are independent of knowledge in a given domain and that are highly variable from situation to situation. Indeed, our results show that rating a creative idea is a different (and potentially more difficult) task than rating mundane ideas, or perhaps even extremely novel but useless ideas. This is consistent with the recent empirical work of Kornish & Ulrich (2012) who found that highly experienced experts were not very good at predicting the success potential of an idea. Psychological states triggered by subtle cues can alter what we

recognize as a creative idea, suggesting that many creative ideas may not always be selected or endorsed.

Our results provide an additional theoretical contribution by identifying that different ways of manipulating construal may lead to similar effects via somewhat different mechanisms. We showed that people with a "how" mindset experienced greater uncertainty and rated the creativity of an idea lower than did people with a "why" mindset. However, we also found that when spatial construal is manipulated, the experience of fit might not alter creativity assessments through uncertainty. In other words, spatial construal may alter creativity assessments through a slightly different manifestation of fit. Future research should examine whether uncertainty plays a role in altering creativity assessments for other types of construal (e.g., distance in time), and what precise mechanism might explain the effects of distance on creativity judgments found for spatial distance in Study 1.

Most studies which manipulate construal level generally do not employ control conditions or conditions where construal levels are not altered experimentally (e.g., Fujita et al., 2006; Ledgerwood & Callahan, 2012; Schmeichel et al., 2011). One reason for this is that the default construal level in any control condition is unclear. Indeed, in any control condition, construal level is likely to be high or low depending upon a host of factors that are uncontrolled and may vary across contexts. Speculatively, however, in the context of creativity, research shows that mere exposure to a novel idea may influence a person's construal level (Förster, 2009). This suggests that merely rating a creative idea in the control condition may activate a high-level construal (in the absence of any alternative activation of a low-level mindset), which might explain the similarity of the control group and high-level groups in the current study. Given that we did not have independent measures of construal to assess construal levels across

the three conditions, this remains speculation; future research should examine the default level of construal activated upon a request to rate creative ideas.

Our findings also have important practical implications. Subtle cues about when and where an idea was developed can shift people's views on the creativity of an idea. For example, knowing an idea was generated by someone inside a company might prime a concrete construal, leading to lower evaluations of that person's creative ideas. Creativity assessments of ideas for relatively near launches may likewise be muted. This is troubling given the many ways that concrete construal mindsets can be triggered. However, our findings are also hopeful, given that the field is familiar with how to shift people's construal levels (Burgoon, Henderson, & Markman, 2013) which suggests that relatively simple interventions can be designed to increase creativity assessments. For example, simply noting that an idea was generated in a distant place can boost the likelihood of people finding it creative; similarly, creating a culture in which participants focus on "why" rather than on "how" issues during creative pitch meetings may likewise cause a shift in the kinds of ideas people recognize as creative.

The current paper has several limitations. First, while construal level may affect the kinds of ideas people view as creative, our paper does not examine the potential downstream consequences of such assessments. For example, construal levels may affect people's views of creative ideas, but we do not know whether this translates into support for *implementing* the ideas. Future research should examine this important outcome variable. Another limitation of our studies is that we did not employ expert ratings for each of our ideas and this allowed us to say little about whether high- and low-level construal alters the accuracy of creativity assessments. Future work might examine whether high-level construals promote more or less accurate creativity assessments, as benchmarked by experts' ratings. Prior work has shown that high-level

construals aid creative idea generation. We extended this finding to show that construals also contribute to creative idea recognition. Future work might examine whether other antecedents to creative idea generation might also promote creative idea recognition, or whether certain features that aid creative idea generation actually harm creative idea recognition.

Conclusion

With the supply of creative ideas surging due to emerging approaches such as innovation tournaments and social networking, the bottleneck in innovation is increasingly in the recognition of creative ideas as much as the generation of ideas. While ample research has addressed the question of how people generate creative solutions, we focus on the emerging and urgent problem of creativity recognition, urgent because many organizations claim they have difficulty endorsing creative ideas even when creativity is abundant and desired (Staw, 1995). Examining the factors that promote creative idea recognition is critical; it allows us to learn why organizations often unwittingly bring mundane products to market or simply fail to develop those new cures or services that could save lives or generate revenue. To build a fully balanced understanding of innovation and creativity, and to develop our ability to access potential resources for creative solutions to today's problems, research should continue to examine factors that explain why and how people recognize creative ideas.

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Footnotes

[1] Because 2 participants in the sample of 113 did not answer items we used as covariates in the study, their responses were not included in analyses including covariates.

[2] We also examined whether our findings held when employing the full dataset (as opposed to reporting results from the sub-sample that did not fail the manipulation check). For the full data sample, an independent t-test showed that construal level shifted creativity assessments ($t(166) =$ 2.30, $p =$.02, Cohen's d $= .35$), with participants in the faraway condition rating the idea as more creative (M=6.03, SD=.82) than participants in the nearby condition (M=5.71, SD= .95). This pattern remained the same when controlling for similarity to, liking, and familiarity with the hypothetical person generating the idea, $F(1, 146) = 2.48$, $p = .04$, $\eta^2_p = .028$. Seventeen participants in the total sample of 168 did not answer items we included as covariates and so are not included in these analyses.

[3] One participant did not rate the IT lunches idea and so was excluded from analyses.

[4] One participant did not rate all of the ideas and was therefore not included in the analysis.

Table 1. Descriptive statistics and correlations, Study 1

Variables	M	SD	1	2	3	4	5
1. Similarity	3.52	1.44					
2. Familiarity	3.10	1.51	.63**				
3. Liking	4.92	1.13	.44**	.31**			
4. Uncertainty	4.09	1.39	-.25**	-.19*	-.24*		
5. Creativity	5.99	.86	.14	.06	.38**	-.15	
6. Construal (1 = high, 0 = low)	.53	.50	-.09	.04	-.02	-.17+	.19*

+ *p* < .1 * *p* < .05, ***p* < .01

Table 2. Analysis of covariance predicting creativity assessments, Study 1

Source		Df	F	Partial Eta Square
Covariates				
	Similarity with Hypothetical Person	1	.11	.00
	Familiarity with Hypothetical Person	1	.76	.01
	Liking of Hypothetical Person	1	16.85**	.14
Main Effect				
	Condition	1	7.47**	.06
Error		106		
Model R²				.17
Model N				111

***p* < .01

Table 3. Descriptive statistics and correlations, Study 2

Variables	M	SD	1	2	3	4	5	6
1. Task Difficulty	3.00	1.49						
2. Mood	4.83	.98	-.08					
3. Creativity Course Recommendation	5.26	1.21	-.05	.10				
4. Creativity Autonomy Day	4.50	1.27	.11	.12	.25*			
5. Creativity Vegan Food	3.11	1.59	-.06	-.12	.04	.08		
6. Creativity IT Help-desk	4.26	1.18	-.01	.19	.16	.19	.21	
7. Construal (1 = high, 0 = low)	.49	.50	-.02	-.05	.23*	.26*	-.08	-.01

* *p* < .05

Table 4. Mixed design ANCOVA showing the interaction between construal condition and idea creativity predicting creativity assessments, Study 2

Source		*Df*	*F*	*Partial Eta Square*
Covariates Within Subjects				
	Idea*Task Difficulty	3	.67	.01
	Idea*Mood	3	2.08	.03
Covariates Between Subjects				
	Task Difficulty	1	.01	.00
	Mood	1	.99	.01
Within Subjects Effect				
	Idea	3	1.07	.01
Between Subjects Effect				
	Construal Condition	1	2.21	.03
Interaction				
	Idea*Construal Condition	3	2.96*	.04
Error (within)		231		
Error (between)		77		

* *p* < .05
Note. One participant did not rate the ideas and so this data was not included in the ANCOVA above; hence, the model N is 81.

Table 5. Descriptive statistics and correlations, Study 3

Variables	M	SD	1	2	3	4
1. Task Difficulty	2.83	1.35				
2. Mood	4.48	1.03	-.22+			
3. Creativity	5.31	.95	-.20+	.06		
4. Uncertainty	3.81	1.23	.20+	-.06	-.42**	
5. Construal (1 = high, 0 = low)	.54	.50	.02	.27+	.31*	-.54**

+p < .10, * *p* < .05, ***p* < .01

Table 6. Analysis of covariance for creativity assessments, Study 3

Source	**Creativity Ratings**			**Uncertainty Ratings**		
	Df	F	Partial Eta Square	Df	F	Partial Eta Square
Covariates						
Task Difficulty	1	2.92	.04	1	3.74*	.05
Mood	1	.154	.00	1	.45	.00
Main Effect						
Condition	2	6.08**	.15	2	8.23**	.20
Error	67			67		
Model R²			.19			.23
Model N			72			72

*p < .05, **p < .01

Note. One participant did not complete the covariates used in the model and so this data was not included in the ANCOVA; hence, the model N is 72.

Figure Caption

Figure 1: Mean creativity rating of each idea by construal level condition, Study 2. Error bars

reflect standard errors.