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#### **Title**

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#### **Journal**

Proceedings of the Annual Meeting of the Cognitive Science Society, 41(0)

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#### **Publication Date**

2019

Peer reviewed

# A perspective-change based account of creativity evaluation: An investigation in simile assessments

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## Abstract

Why do people experience something as creative? We propose a perspective-change based account of creativity evaluation. Drawing upon structure mapping theory (Gentner, 1983), we show that people evaluate a simile to be creative when they spontaneously (Study 1) or are induced (Study 2) to experience a change in perspective. This account further predicts that people are unlikely to find a simile creative if they are unable to form a working perspective, as is in the case of anomalies. In addition, a simile is unlikely to be evaluated as creative when people's initial perspectives are sufficient to interpret the simile, as in the case of literal statements. We further show that repeated use of the same perspective suppresses the experience of perspective change and thus reduces creativity perception (Study 3).

**Keywords:** creativity evaluation; analogy; simile; perspective-change; structure mapping theory

## Introduction

Author J. K. Rowling apparently received many rejection letters for her first Harry Potter novel. Stories abound in academia about seminal, award-winning papers that were initially rejected by journals. Innovation requires more than just generating creative ideas—it also requires being able to evaluate ideas. Consequently, creativity evaluation is a critical and challenging step in the innovation process (Mueller, 2017). However, our knowledge of how lay people form creativity judgments is still limited (Zhou, Wang, Bavato, Tasselli, & Wu, 2019). This paper contributes by proposing and providing initial tests of a perspective-change based account of creativity evaluation.

We focus on perspective change following a proposal that evaluating creative ideas is somewhat like generating creative ideas (Cronin & Loewenstein, 2018). There is a long tradition in creativity research emphasizing the key role of changing one's perspective, discussed variably as, for example, the reorganization of cognitive structures (Mumford & Gustafson, 1988), breaking set (Boring, 1950), restructuring (Duncker & Lees, 1945), deviation from habitual use of knowledge (Luchins, 1960), and transformation (Boden, 2004). These ideas are related to work beyond the creativity literature on conceptual change (Chi, 2009) and re-representation (Gentner & Wolff, 2000). Following terminology from Page (2008) and Cronin and Loewenstein (2018), we describe it as perspective change. Briefly, as any mental representation is a partial rather than a complete account, it necessarily only provides a perspective on whatever is being represented. It follows then that adopting a particular mental representation of a situation

leaves open the possibility of changing to an alternative mental representation that is both appropriate to the situation and incompatible with the first mental representation. The possibility pursued here, building on the argument by Cronin and Loewenstein (2018), is that if the process of generating creative ideas involves a change in perspective, then it might also be the case that when the process of forming an interpretation of an item leads us to change our perspective, we are likely to perceive the item to be creative. Thus, the proposal is that creativity evaluations rest at least in part on the process of forming interpretations, and that process echoing the process of generating creative ideas.

To explore this perspective change account of creativity evaluation, we asked participants to evaluate similes: A is like B. Prior work has established that such statements can convey fresh analogies, anomalies, or mundane literal similarities or class inclusions (Bowdle & Gentner, 2005; Gentner, 1989). The perspective change account of creativity evaluation makes predictions about each case. Specifically, a simile is unlikely to be judged creative if people cannot form a coherent interpretation of it—that is, if it is an anomaly. A simile is unlikely to be judged creative if people's initial, default interpretation is apt—that is, if it is a mundane literal similarity comparison or class inclusion. In contrast, a simile is likely to be judged creative if people's initial, default interpretation is not apt but they are able to find an alternative interpretation that is appropriate—that is, it is experienced as a fresh analogy.

To further examine the role of perspective change, we draw upon the habituation paradigm (Rankin et al., 2009) to show that repeated exposure to a perspective can lead to diminished perspective change and thus reduces creativity evaluation.

## Study 1: Spontaneous Perspective Change

### Method

**Participants** This study involved 147 students from a mid-west university who participated in the study for course credit (49% male, Mean<sub>age</sub> = 20.65, SD<sub>age</sub> = 2.11, 48.30% white, 5.44% black, 41.50% Asian, 4.68% other). No participant was excluded from the analysis.

**Materials and Design** We generated five groups of similes, with each group using the same target and three different bases. The five targets were: diamond, crib, snowflake, pencil, and closet. Drawing upon the structure mapping framework for analogy (Gentner, 1983), we composed three types of

similes for each of the five targets: 1) anomaly, e.g., a crib is like seaweed; 2) literal similarity, e.g., a crib is like a bed; 3) analogy, e.g., a crib is like a cocoon.

Participants saw the 15 similes twice. First, they rated them for creativity on a 7-point Likert scale (1=“highly uncreative”, 7=“highly creative”). Next, they categorized each statement as: “nonsensical”, “a literal comparison”, “a metaphor”. Participants gave ratings of perspective change by being asked the extent to which the statement made them think differently about the target in the statement on a 5-point Likert scale (1 = “Not at all differently”, 5 = “Extremely differently”). Participants also wrote down their interpretations of the statements.

## Results and Discussion

Table 1 provides descriptive data. Consistent with the materials design, most of the anomalies, literal similarity statements, and analogies were categorized by participants as such (“Nonsensical,” “Literal” and “Metaphor”; bold numbers in Table 1).

Creativity evaluations and perspective-change scores are presented in the rows of Table 1. As expected, aggregating across items, we found that the analogy type ( $Mean_{All3} = 4.84$ ) was evaluated to be more creative than the anomaly type ( $Mean_{All1} = 3.74$ ),  $F(1, 1468) = 171.64, p < .00$  as well as the literal type ( $Mean_{All2} = 2.62$ ),  $F(1, 1468) = 852.80, p < .00$ . The same pattern held for perspective-change scores. The analogy type ( $Mean_{All3} = 2.56$ ) was rated as more perspective-changing than the anomaly type ( $Mean_{All1} = 1.77$ ),  $F(1, 1468) = 164.88, p < .00$  as well as the literal type ( $Mean_{All2} = 1.33$ ),  $F(1, 1468) = 554.7, p < .00$ .

We also analyzed creativity evaluations and perspective-change scores for the similes by how participants categorized, and so presumably how they experienced, them (Table 1). Aggregating across items, planned contrasts showed that items categorized by participants as metaphors ( $M = 5.18, SD = 1.38$ ) were evaluated to be more creative than items categorized as nonsensical ( $M = 3.36, SD = 1.62$ ),  $F(1, 1320) = 400.07, p < .00, \eta^2 = 0.23$ . They were also evaluated to be more creative than items categorized as literal ( $M = 2.72, SD = 1.51$ ),  $F(1, 1320) = 842.3, p < .00, \eta^2 = 0.39$ . A similar pattern held for the perspective change ratings. Similes that participants categorized as metaphors ( $M = 2.84, SD = 1.13$ ) were rated as more perspective-changing than those categorized as nonsensical ( $M = 1.30, SD = 0.93$ ),  $F(1, 1320) = 733.21, p < .00, \eta^2 = 0.36$ . They were also rated as more perspective-changing than similes categorized as literal ( $M = 1.46, SD = 0.82$ ),  $F(1, 1320) = 627.07, p < .00, \eta^2 = 0.32$ .

The consistency in the patterns between creativity evaluations and perspective-change scores held not just in the aggregate but also at the level of individual items. The correlation between creativity evaluations and perspective change scores was high,  $r = 0.50, p < .00$ .

Taken together, these findings are consistent with the possibility that people evaluate similes to be creative to the extent that they formed interpretations that differed from how they usually interpreted the target.

Table 1: Categorizations, creativity evaluations, and perspective change scores in Study 1

List	Category (%)			Creativity			P-change		
	Ns	Lit	Met	Ns	Lit	Met	Ns	Lit	Met
All1	<b>71</b>	6	23	3.41	3.5	4.81	1.32	2.5	2.94
All2	12	<b>85</b>	3	3.08	2.52	3.57	1.46	1.29	2.24
All3	8	12	<b>80</b>	3.68	4.05	5.07	1.35	2.44	2.70

Note: Ns-Nonsensical, Lit-Literal, Met-Metaphor; 1, 2, and 3 denotes nonsensical, literal, and metaphor, respectively. Note that Ns, Lit, and Met denote participants’ categorizations, whereas 1, 2, and 3 denote the intended type of statement in the design of the materials.

This was seen in the highest creativity evaluations being given to those similes intended as analogies as well as in the high correlation between creativity evaluations and perspective-change scores. But perhaps the most compelling aspect of the data is that it was not the similes themselves that mattered so much as participants’ own categorizations of the similes. The same simile could be and were categorized differently by different participants. What was perceived to be an anomaly by some was perceived to be a metaphor by others, and the perspective-change scores and creativity evaluations followed from those subjective interpretations.

Taken together, the results of Study 1 found that a simile is likely to be evaluated as creative to the extent that people experience a change in perspective as they form an interpretation of the similarities between the target and the base. This is initial evidence consistent with a perspective-change based account of creativity evaluation—that what drives creativity judgments is experiencing a perspective change in the course of forming an interpretation of the item one is evaluating.

## Study 2: Induced Perspective Change

Study 2 builds on Study 1 by randomly assigning individuals to conditions that should encourage or discourage them from experiencing a change in perspective (cf., Day & Asmuth, 2017). Specifically, before participants evaluated an anomalous simile, they first read a short paragraph. That paragraph contained information that was either relevant or irrelevant to comprehending the simile as an analogy. Thus, we sought to enable participants to form a coherent change in perspective or limit them from doing so, and as a result encourage or hinder them from perceiving the simile to be creative.

## Method

**Participants** We recruited 237 participants from Mturk (45% male,  $Mean_{age} = 37.59, SD_{age} = 12.22$ , 78.90% white, 11.39% black, 7.17% Asian, 2.53% other). Participants qualified for the study if they were located in the United States and had an approval rate above 95% in previous “Human Intelligence Tasks” (HITs) on MTurk. None of the participants was excluded from the analysis.

**Materials and Design** Participants saw one of two similes: (1) Pigeons are like snowflakes, or (2) Seaweed is like a crib. Before reading the simile itself, they first read a paragraph that was either relevant or irrelevant to interpreting the target of the simile in a way that supports interpreting the simile as an analogy.

Specifically, for participants assigned to evaluate the simile about pigeons, they read one of the two paragraphs:

*Pigeons often move together and descend to the ground, blanketing it and changing its color. At some times of year, out in the countryside it seems that the wind brings pigeons and covers the roofs with the feathered creatures. Or go to a town square at certain times of day or the year and soon you may find that pigeons gradually cover the entire square (relevant information condition).*

*Pigeon is a French word that derives from the Latin *pipio*, for "peeping", based on the sounds the birds make. Pigeons are a common species. They are stout-bodied birds with short necks and slender bills. Pigeons primarily feed on seeds, fruits, and plants. Most pigeons lay one or two eggs at a time, and both the male and female pigeons care for the young (irrelevant information condition).*

For participants assigned to evaluate the simile about seaweed, they read one of the two paragraphs:

*Fish sometimes benefit from the protection provided by seaweed. The ribbons of seaweed extending upwards from the sea floor form a safe space in which fish can place their eggs. Seaweed provides a shelter for the baby fish. They can rest in the protected space that the seaweed provides. When baby fish outgrow their seaweed home, they can explore the open waters until they are ready to lay eggs of their own (relevant information condition).*

*Seaweed is a popular snack. All seaweed food is low in calories and fat. Dried seaweed comes in various flavors and is sold in sheets, flakes, or handy snack packs. Fresh seaweed, on the other hand, is commonly sold as an ingredient in prepared foods like sushi or seaweed salad. Canned seaweed snacks are also becoming trendy now; you can easily find them in the refrigerated section of the supermarkets (irrelevant information condition).*

After reading these passages and rating them for how informative they were, participants then saw the target simile. Specifically, they rated how creative the simile was on a 5-point Likert scale (1 = "Not at all creative", 5 = "Highly creative"). They also categorized each simile ("nonsensical" or "metaphor"), provided perspective change ratings by indicating the extent to which the simile made them think differently about the target on a 5-point Likert scale (1 = "Not at all different", 5 = "Extremely differently"), and wrote interpretations.

## Results and Discussion

As predicted, the initial passages that participants read influenced their interpretations of the similes and their judgments of creativity. Specifically, for the simile about pigeons, participants assigned to the relevant information condition rated it as more creative than those in the irrelevant information condition ( $Mean_{relevant} = 3.08$ ,  $SD_{relevant} = 1.21$ ,  $Mean_{irrelevant} = 2.34$ ,  $SD_{irrelevant} = 1.22$ ,  $t = 3.33$ ,  $p < .00$ ,

Cohen's  $d = 0.61$ ). In addition, a higher proportion of participants categorized the simile as a metaphor in the relevant information condition than in the irrelevant information condition ( $Metaphor_{relevant} = 68\%$ ,  $Metaphor_{irrelevant} = 30\%$ ,  $\chi^2 = 17.61$ ,  $p < .00$ ,  $\phi = 0.38$ ). Lastly, participants assigned to the relevant information condition also rated the simile as more perspective-changing than those in the irrelevant information condition ( $Mean_{relevant} = 2.59$ ,  $SD_{relevant} = 1.12$ ,  $Mean_{irrelevant} = 1.97$ ,  $SD_{irrelevant} = 1.08$ ,  $t = 3.12$ ,  $p < .00$ , Cohen's  $d = 0.57$ ).

The same pattern was found for the simile about seaweed. Specifically, compared to participants assigned to the irrelevant information condition, those assigned to the relevant information condition rated the simile as more creative ( $Mean_{relevant} = 3.26$ ,  $SD_{relevant} = 1.17$ ,  $Mean_{irrelevant} = 1.84$ ,  $SD_{irrelevant} = 1.20$ ,  $t = 6.51$ ,  $p < .00$ , Cohen's  $d = 1.20$ ), were more likely to categorize it as a metaphor rather than a nonsensical statement ( $Metaphor_{relevant} = 75\%$ ,  $Metaphor_{irrelevant} = 12\%$ ,  $\chi^2 = 46.47$ ,  $p < .00$ ,  $\phi = 0.63$ ), and rated it as more perspective-changing ( $Mean_{relevant} = 2.72$ ,  $SD_{relevant} = 1.06$ ,  $Mean_{irrelevant} = 1.67$ ,  $SD_{irrelevant} = 1.16$ ,  $t = 5.22$ ,  $p < .00$ , Cohen's  $d = 0.97$ ).

Study 2 found that providing participants with particular information about the target in a simile could encourage them to see a coherent, novel metaphor in what otherwise would likely have been an anomalous statement. This was likely to be experienced as a change in perspective and likely to have led to considering the simile to be creative. Thus, in inducing a perspective-change and prompting evaluations of creativity, this study offers further support for perspective change playing a role in the process of forming creativity evaluations.

## Study 3: Suppressed Perspective Change

Study 3 tests whether minimizing a perspective change will lead to lower evaluations of creativity. If experiencing a change in perspective contributes to judging something to be creative, then continuing with an existing perspective could dampen judgments of creativity. For example, examining several items in a row could provide an opportunity to compare judgments of the same item when it is either distinct from what has come before and so a change in perspective, or in line with what has come before and so consistent with the existing perspective.

A variety of research examines sequences of judgments of potentially similar and potentially different items, ranging from research using a habituation paradigm (Rankin et al., 2009), to research on deviant items (Sakamoto & Love, 2004), to work on expectation violations (Loewenstein, 2019). We used work on repetition-break structures (Loewenstein & Heath, 2009; Loewenstein, Raghunathan & Heath, 2011) to design sequences of items. The repetition-break structure allows us to identify items that are likely to be experienced as a perspective change: the first item and the break item. It also allows us to identify items that are likely to be experienced as consistent with the existing perspective: the second and any subsequent items that are highly similar to the first one. Thus, we can use sequencing to lead to either a diminished perspective change and therefore diminished

creativity judgments, or a perspective change and therefore expected creativity judgments.

The study uses sequences of similes, some of which are arranged using the repetition-break structure. For a given target in a simile, we generated two sets of bases incorporating two distinctive perspectives. We used three similar bases to establish an initial repetition pattern, and then broke this pattern by contrasting this set of three similes with a fourth simile that whose base drew from a different perspective. In this way, for each target we are able to create two distinctive interpretations of it. Thus, we expected an evaluation experience that can be described by the following process: initial exposure to perspective A → habituation to perspective A with the second and third exposures → initial exposure to a different perspective B. It is at the last stage of this evaluation process that we expect to observe the switch from perspective A to a second different perspective B, and so be experienced as a perspective change.

If the experience of a perspective change underlies creativity evaluation as we proposed, we should expect to see the following patterns: First, the gradual habituation to a perspective will result in reduced ratings of creativity. Through repeated exposure to similar bases incorporating the same perspective, the initial perspective will be gradually assimilated into participants' knowledge structure and thus should lose its freshness. Since it can no longer induce any departure from or change to participants already existing interpretations regarding the target, similes incorporating this perspective will be perceived as less creative. We therefore predict that there will be a decrease in creativity and perspective-change ratings over the course of encounters with the first, second, and third simile.

Second, in the repetition break condition, given that the last simile conveys a second perspective of the target that is different from the first one, we should observe that comprehending the fourth simile will induce a change in perspective—switching from one way of interpreting the target to another way. As a result of this experienced perspective-change, we predict that there will be a jump in creativity and perspective-change ratings for the last simile.

## Method

**Participants** We recruited 428 participants from Mturk. There were 14 participants who failed the attention check. They were excluded, leaving 414 in the final sample (44% male,  $Mean_{age} = 36.91$ ,  $SD_{age} = 12.31$ , 78.83% white, 7.79% black, 6.81% Asian, 6.38% other). Unless otherwise noted, inclusion of the 14 participants did not change any of the results reported below substantially. Participants qualified for the study if they were located in the United States and had an approval rate above 95% in previous “Human Intelligence Tasks” (HITs) on MTurk. This sample size was determined using G\*Power (Faul, Erdfelder, Lang, & Buchner, 2007), based on a priori power analysis by setting 80% statistical power with an effect size of 0.50, which was obtained through pilot studies.

**Materials and Design** To generate similes that can be organized in the repetition break structure, we conducted

several rounds of pretests. Our final materials included similes with two targets: (1) poverty and (2) marriage. For each target, we generated two sets of bases, with four bases in each set. Each set of bases are synonyms or phrases with similar meanings, such that they are centered around one specific interpretation of the target (i.e., a perspective). The two perspectives for interpreting poverty were that it is a destructive, spreading influence (i.e., poverty is like an infection/an illness/a disease/a virus) and that it is a barrier (i.e., poverty is like a fence/a barricade/a moat/a wall). The two perspectives for interpreting marriage were that it is a thrilling activity (i.e., marriage is like skydiving/bungee jumping/parachuting/hang gliding) and that it is a nurturing activity (i.e., marriage is like growing flowers/caring for your lawn/farming/gardening).

We used a 3 (three structure conditions) by 2 (two targets) by 2 (two sets of bases) design. The first factor is structure, which has three conditions: repetition break, consistent, and baseline. Using “poverty is like a virus” as an example, this simile conveys the interpretation that poverty is destructive and contagious. In the repetition break condition, three similes conveying the other interpretation of poverty were presented in a sequence prior to it (i.e., poverty is like a fence/a barricade/a moat/a wall). This way, when appeared at the fourth position, the focal simile “poverty is like a virus” constituted a break from the initial perspective for poverty.

In the consistent condition, the preceding three similes conveyed the same perspective (i.e., poverty is like an infection/an illness/a disease) as the ending simile, such that the focal simile “poverty is like a virus” is a continuance of rather than a break from the initial perspective. In this condition the focal simile in the fourth position is consistent with the preceding perspective. Lastly, in the baseline condition, the focal simile “poverty is like a virus” was presented on its own without any preceding similes about poverty.

Across the three conditions, our focus is on comparing the creativity and perspective-change ratings for the focal simile—“poverty is like a virus”. We expect that: (1) the consistent condition will generate lower creativity and perspective-change ratings than the baseline condition; (2) the consistent condition will generate lower creativity and perspective-change ratings than the repetition break condition; and (3) given that the standing-alone condition provides us with a baseline level of how creative and perspective-changing the focal simile is, we expect to see that the repetition break condition will lead to a jump in perceived creativity and perspective-change of the focal simile such that the ratings are restored to a level comparable to that in the baseline condition.

The second factor in our design was the target (i.e., poverty vs. marriage). We chose to use two rather than just one target in order to show that the pattern of creativity evaluation we predicted did not hinge on the idiosyncrasies of one specific simile target, and that the effect of perspective-change can be generalized to similes with various targets.

In a similar spirit, for each target, we fully counterbalanced the position of the two perspectives, such that each perspective was placed as the opening one (i.e., the repetition stage) in one condition and the ending one (i.e., the break

stage) in another condition. Our intention is to show that the pattern of creativity evaluation we predicted did not rely on one specific perspective being in a specific position. Regardless of the specific content of a perspective, it is the cognitive experience of viewing it as either a continuance of or a break from the already existing perspective that predicts how creative people perceive it to be.

In the current study we have four focal similes: poverty is like a virus/a wall, and marriage is like gardening/hang gliding. Each of the four focal simile is presented in three different structures: repetition break, consistent, and baseline. We thereby generated a total of 12 conditions. In each condition, participants were asked to rate one (i.e., the baseline condition) or four similes (i.e., consistent condition and repetition break condition) for creativity (1 = “not at all creative”, 5 = “extremely creative”) and perspective-change (1 = “not at all perspective-changing”, 5 = “extremely perspective-changing”).

In the repetition break and the consistent conditions, the focal simile always appeared at the fourth position. Given that the focus of the current study is on examining the experience of switching from one coherent interpretation to another one, being able to understand a simile and form a perspective in the first place is therefore an important prerequisite. Thus, we gave participants the option of marking a simile as non-sensical if they failed to form an interpretation of it (“this simile doesn’t make sense to me”), in which case they were excluded from the analysis.

## Results and Discussion

The creativity ratings showed that the consistent condition generated the lowest level of creativity ( $M = 2.07, SD = 0.95$ ), lower than both the baseline condition ( $M = 2.70, SD = 1.07, t = 7.13, p = 0.000, \text{Cohen's } d = 0.62$ ) and the repetition break condition ( $M = 2.89, SD = 1.09, t = 9.06, p = 0.000, \text{Cohen's } d = 0.80$ ). Although we didn’t predict to see a significant difference across the repetition break condition and the baseline condition, results showed that while the difference was small in absolute magnitude (i.e., 0.19), it reached statistical significance level ( $t = 2.02, p = 0.04, \text{Cohen's } d = 0.18$ ). These are overall effects of the structure condition; there were no reliable effects or interactions due to the particular targets or bases so we collapsed across them.

Analysis of perspective-change ratings showed a similar pattern, such that the consistent condition generated the lowest level of perspective-change ( $M = 1.80, SD = 1.12$ ), lower than both the baseline condition ( $M = 2.45, SD = 1.20, t = 5.43, p = 0.000, \text{Cohen's } d = 0.47$ ) and the repetition break condition ( $M = 2.50, SD = 1.33, t = 6.82, p = 0.000, \text{Cohen's } d = 0.60$ ). There was no difference across the repetition break condition and the baseline condition ( $t = 1.52, p = 0.13, \text{Cohen's } d = 0.13$ )<sup>1</sup>.

Figure 1 shows the ratings for similes in each of the four positions, and once again there were no effects or interactions due to the particular targets or bases. As we predicted, creativity and perspective-change ratings declined from

position 1 to position 4 in the consistent condition. On the contrary, in the repetition break condition we observed a decline over the first three similes but a jump in the last one. Switching from the initial perspective to a different one restored the perceptions of creativity and perspective-change to a level comparable to that in the baseline condition.

Taken together, Study 3 provided evidence largely in support of our predictions that repeated exposure to the same perspective will result in reduced creativity perception, whereas breaking from one perspective to another one (i.e., a perspective-change) will lead to an increase in creativity perception to the baseline level. This is evidence in support of the general proposition that the experience of a perspective-change underlies creativity evaluation.

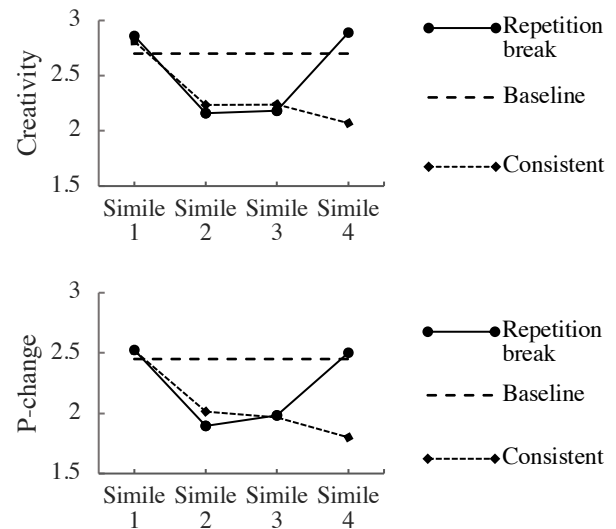


Figure 1: Results in Study 3

## General Discussion

The proposal that some kind of change in perspective is involved in generating creativity has long drawn the attention of theorists, but there has been much less said about the process of evaluating creativity. We outlined and tested the beginnings of a perspective change account of creativity evaluation. Three studies found strong relationships between a simile prompting changes in perspective and evaluating the simile to be creative.

Critical to the account was specifying that an item, such as a simile, is likely to be experienced as creative if in the process of comprehending it people experienced a change in perspective. We followed existing research on changes in representation within the cognitive science literature, particularly work on analogy and comparison, to provide plausible specifications of what a change in perspective might involve and what might make a change more and less compelling. Other approaches could also be useful. Our intent was not to delve into accounts of mental representation

<sup>1</sup> Inclusion of the 14 participants who failed the attention check yielded marginally significant difference in perspective-change across the repetition break condition ( $M = 2.68, SD = 1.19$ ) and the

baseline condition ( $M = 2.51, SD = 1.20, t = 1.15, p = 0.09, \text{Cohen's } d = 0.14$ ).

but rather to emphasize why doing so could advance research on creativity evaluations.

The current results offer initial support for the value in thinking about perspective change as a driver of creativity evaluations. Using both spontaneous (Study 1) and induced (Study 2) changes in perspective, we found consistent evidence that a simile is likely to be judged creative if it is experienced as a new way to interpret the target. Further, we also found (Study 3) that repeated use of the same perspective suppresses the experience of perspective change and thus reduces creativity perception. Taken together, these studies indicate that the process of forming an interpretation of an item, and the kind of interpretation we form, influences our evaluation of its creativity.

Focusing on the cognitive process of forming and changing perspectives opens a new area for research on creativity evaluation. Most work has focused on whether an item is novel and useful for a community or domain (e.g., Amabile, 1983, 1988, 1996; Cropley & Cropley, 2010; Oldham & Baer, 2012; Runco & Jaeger, 2012; Shalley, Zhou, & Oldham, 2004; Sternberg & Lubart, 1999; Woodman, Sawyer, & Griffin, 1993). The current work shifts the focus of creativity judgments from the product to the process—from the characteristics (i.e., novelty and usefulness) of the item to the work of making sense of the item and the perspective that results.

In emphasizing the forming and changing of perspectives, this work opens up new ways to think about the role of expertise and culture in shaping creativity evaluations. There might be expertise needed to appreciate an item as creative, as absent that expertise one might not change perspective or perceive the change to have much potential. There might be cultural assumptions that resonate or impede the change in perspective. These are cognitive issues, and they also lead to considerations around attitudes and values. Creativity evaluations are, after all, judgments about worth.

Developing an account of creativity evaluations resting on perspective change provides an opening. The considerable amount of research on knowledge and knowledge change in cognitive science is not always or even usually at the center of discussions about creativity. Yet it may hold significant potential to help advance such discussions. As researchers whose central task is innovation, we are aware of the imperfect evaluations generated by grant review panels, journals, and promotion review committees. It is clear that deepening our understanding of the creativity evaluation process is consequential. It is likely to be similarly consequential for all the other domains of innovation in our societies.

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