

**Rejecting or Rejoicing in Creativity: Paradox Climate as a Moderator of the Relation  
between Need for Closure and Creativity Assessment**

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### Abstract

Generation of creative ideas does not necessarily lead to subsequent innovation in the workplace. Creative ideas are defined as being both novel and useful, concepts that seem paradoxical in nature. When assessing creative ideas, a bias against creativity is often encountered. People tend to value usefulness over novelty. Reaching integrative solutions requires people to explore ideas in detail. Epistemic motivation seems to be salient in this regard. This study explores the relation between the personality trait need for closure and the relative preference of usefulness over novelty, hypothesizing that people high on need for closure would attach greater importance to usefulness over novelty. Furthermore, drawing on paradox theory, a paradox climate is proposed as a contextual factor moderating this relationship. Using data from 113 employees from 33 organizations, results indicated no relationship between need for closure and the proposed idea evaluation ratio of novelty over usefulness, neither was a moderating effect of paradox climate found. However, the proposed paradox climate was found to be directly related to this ratio. When a paradox climate was perceived relatively more importance was given to the novelty of ideas over their usefulness. This indicates that by encouraging people to embrace the tension between novelty and usefulness when evaluating of creative ideas, they might stay with problems longer, and as such have a better chance of recognizing and selecting highly creative ideas.

*Keywords: need for closure, paradox climate, creativity assessment, novelty, usefulness, value*

## **Rejecting or Rejoicing in Creativity: Paradox Climate as a Moderator of the Relation between Need for Closure and Creativity Assessment**

"It's not that I'm so smart, it's just that I stay with problems longer."

(Albert Einstein, n.d.)

Albert Einstein is generally thought of as a radical thinker. His breakthrough ideas led to a vast body of research nowadays. By his discovery of the law of the photoelectric effect Einstein suggested that light is both a wave and a particle. This idea, known as the wave-particle duality of light is foundational for quantum theory, which to date is largely uncharted territory. This example shows how Einsteins managed to unite seemingly opposing concepts in one idea. Embracing paradox, conceiving two opposites simultaneously, is central in allowing creativity to thrive. One might argue Einstein must have been a genius, a truly creative mind. But as Einstein's quote underlines, it might not be about genius or creativity as a trait, but just about the way how to approach new ideas or creativity. Einstein may actually have been very lucky to see his radical ideas being so fruitful.

### **General importance of creativity**

Human creativity is at the heart of our achievements and development as a species. Creativity fuels radical ideas and paradigm shifts, and helps us to address simple problems we encounter in our everyday lives. In the organizational context creativity and creative ideas are equally valued. Radical creativity helps organizations go forward, achieve the best possible performance, and create revolutionary products. At the same time incremental creativity accounts for smaller improvements and is helpful in solving day-to-day challenges at the workplace (Litchfield et al., 2015; Shalley et al., 2015) Creativity is not only valuable to those in a role or team where creativity explicitly is part of their job, but for everyone facing non-

routine job challenges. Creativity and creative ideas are considered important for organizations and unsurprisingly a lot of research has been conducted to date (Zhou & Hoever, 2014).

Since Guilford (1950) proposed a psychological frame for measuring creativity, ideas have become a central unit of analysis in creativity research. Early studies aimed to identify how new ideas come into existence and focused on quantitative aspects. Ideas are thought of as the outcome of a creative process. Although the process is creative, the resulting idea is not necessarily creative. The widely adopted definition of creative ideas (Amabile, 1983) is that they are both novel and useful. In an organizational context creative ideas are necessary for innovation. Although creativity and innovation are often perceived closely linked, and the terms are used interchangeably, they differ conceptually. Where creativity is the generation of ideas that are both novel and useful, innovation is the successful implementation of creative ideas (Fetrati & Nielsen, 2018). On the road from conception towards successful innovation, creative ideas are at risk of getting rejected.

Following the concept of the idea journey (Perry-Smith & Mannucci, 2017), four phases are identified. When ideas are born (generation phase), they have to be further developed (elaboration phase). Well-developed ideas will need to be strategically put forward (championing phase) up to the point where decision makers decide to bring an idea into reality. And even when ideas are developed into finished products (implementation phase, production subphase) there is a lot of work to be done to assure acceptance and recognition of the finished product (implementation phase, impact subphase) in a particular context.

### **The receiving side of creativity**

In any of these phases ideas are constantly being evaluated. Creative ideas must be recognized, valued and selected. This is referred to as the receiving side of creativity and is assumed to play a significant part in effective use of creativity in organizations. Surprisingly,

there has been little scientific attention to the receiving side of creativity. There is tremendous opportunity for organizational researchers to get a better understanding of the factors at play when evaluating creative ideas, as pointed out by Zhou (2019). A lot of creative ideas are not recognized or implemented successfully, at least not immediately. If perceivers want to increase their discernment of fresh ideas, knowing what personal and contextual factors affect their ability to recognize creativity and novelty is very helpful (Zhou et al., 2017). For instance, Caroff & Besançon (2008) found that people with high creative ability accurately identified highly creative advertisements. In a study by Toh and Miller (2016), when team members scored high on conscientiousness, agreeableness, and tolerance for ambiguity, they recognized original design concepts better. Otherwise efforts can be made to foster an organizational climate in which creativity and innovation is valued as such a climate facilitates creativity perception (Zhou et al., 2017).

In studies on idea selection and evaluation, mostly some combination of novelty and usefulness is used. Ideas which are useful but not novel are commonplace, and ideas that are novel but not useful are of little relevance. However, it is not easy to recognize highly creative ideas. To assess whether an idea is novel, a certain level of expertise is supposed to be required (Kaufman, Baer, Cole, and Sexton, 2008). Otherwise, when ideas differ radically from known ideas, their usefulness might go unrecognized (Ward, 1994).

### **Tension between novelty and usefulness**

Novelty and usefulness are sometimes perceived as fundamentally paradoxical concepts (Miron Spektor & Beenen, 2015) and a meta-analysis of 20 studies by Nijstad et al. (2010) found a moderate to substantial negative correlation between novelty and usefulness across these studies ( $r = -.42$ ). However, to recognize highly creative ideas, this paradox needs to be embraced. Embracing paradox is often not default behavior. According to Lewis, who stood at the foundation of paradox theory (Smith & Lewis, 2011), when confronted with

ambiguity, people tend to “*simplify reality into polarized either/or distinctions that conceal complex interrelationships*” (Lewis, 2000: 761). It is argued that the tension between novelty and usefulness (Litchfield et al., 2015; Rietzschel et al., 2019) is problematic for effective idea evaluation and selection. Highly original ideas tend to be disliked or rejected because they might lead to uncertainty (Baer, 2012). And as ideas need to be developed until reaching their ultimate form, it is often hard to assess their usefulness in an early stage (Campbell, 1960; Simonton, 2003). Mueller et al. (2012) found that even people who reported to value creativity, might be unconsciously biased against it. Especially when people feel the need to reduce risk and uncertainty people choose usefulness over novelty.

Moreover, Litchfield and colleagues propose “*that unpacking variation in the mix of novelty and two common conceptions of usefulness—feasibility and value—will improve our understanding of creativity and its links to subsequent innovation.*” (Litchfield et al., 2015 : 239) Where feasibility can be seen as how easy it is to implement an idea, value refers to the effectiveness of an idea. It is argued that even when an idea seems feasible, failing to recognize the value might lead to rejection of highly creative ideas (Rietzschel et al., 2019).

### **Personal factors and creativity assessment**

Several personal factors have been related to creativity assessment. For instance Sylvia (2008) found that one of the big five personality traits, openness to experience, as it might motivate people to explore new ideas in detail, led to better selection of creative ideas. Fürst et al. (2016) found that people high on the personality trait conscientiousness put more focus on feasibility. Regulatory focus (Higgins, 1997) has also been related to creativity assessment. Promotion focus is about the motivation for growth, advancements and taking risks to do so, where a prevention focus stresses safety, security and reducing risks. People with a strong prevention focus were found to recognize the feasibility of ideas better, whereas those with a strong promotion focus recognized originality better (Herman and Reiter-Palmon, 2011).

Basadur et al. (2000) found that people who avoid premature convergence were more able to discern creativity. This ability to postpone might lead to more and longer elaboration on ideas. More time spent exploring novel ideas, makes it more likely people will find a use for it (Li et al., 2013). Considering this, epistemic motivation seems particularly salient. The related concept of need for cognitive closure (NFC) has been related to creativity (Chirumbolo et al., 2005).

### **Need for closure**

NFC refers to a desire for a definite answer to a question, any firm answer, rather than uncertainty or ambiguity (Kruglanski, 1989). NFC can be defined as a state and as a trait. State NFC refers to a situation in which NFC is experienced, for instance by time pressure, or when in a noisy environment. Trait NFC refers to a stable personality aspect. A measure for trait NFC was proposed by Webster & Kruglanski (Webster & Kruglanski, 1994). People High on NFC tend to seek closure urgently (urgency tendency) and prefer a relatively stable situation in which there is no need for future adaptation (permanence tendency). They tend to seize and freeze on the first plausible answer, disregarding further options. In groups, people high on NFC generally seek consensus, as it fosters epistemic stability across persons. NFC has been shown to rise in circumstances when the benefits of closure are salient and the costs of lacking it are high. (Kruglanski & Freund, 1983; Kruglanski & Fishman, 2009)

NFC has been linked to creativity. For instance, it is found to restrict ideational fluidity, reducing the number of possible ideas and solutions considered (Mayseless & Kruglanski, 1987). People high on NFC strive for consensus (Kruglanski et al., 1993) and reject deviating opinions (Kruglanski & Webster, 1991), biasing them against original ideas, which are by default deviant. A study by Chirumbolo et al. (2004) found that trait NFC predicted creativity. Participants high on NFC showed less instances of creative problem solving. Moreover, a mediating effect of conformity pressure on the relation between NFC and creativity was

found, when conformity pressure was controlled for, the effect of NFC on creativity diminished. In another study (Wronska et al., 2019), NFC was related to divergent thinking, which in turn is related to creativity. People high on NFC felt less positive emotions, and felt less competent when working on divergent thinking tasks. A preference for convergent thinking in relation to a high NFC was found by Roets and van Hiel (2007). People with this cognitive perspective might be limited in exploring unconventional and new ideas. An interesting study by Wiersema et al. (2012) showed that in appreciating different artforms, people high on NFC disliked open endings of a play, and had a preference for figurative paintings as opposed to abstract ones, which might relate to the ability to better appreciate ideas that are less known, or that provoke uncertainty. In general high NFC is found to be detrimental to creative processes.

### **Need for closure and creativity assessment**

Although the above mentioned study by Wiersema et. al. seems indicative, thus far, no research has directly inquired about the relation between trait NFC and creativity assessment. Considering the paradoxical nature of highly creative ideas, and since trait NFC has been related to intrinsic motivation to carefully process information and form accurate judgments (Kruglanski and Webster, 1996), it seems plausible that people high on NFC will not take enough time to consider how the usefulness part integrates with the novelty part of highly creative ideas. As novel ideas deviate from what is known, it may not directly be clear how effective they may be or how easy to implement. To evade this uncertainty, the permanence tendency leads people high on NFC and to freeze on ideas consistent with existing knowledge, where the urgency tendency makes people high on NFC choose 'any' feasible decision, without further exploring for the best decision (Kruglanski & Fishman, 2009). I argue that people high on need for closure will therefore dislike ideas that are highly novel



and have a preference for ideas that are useful and feasible, which leads to my first hypothesis:

*H<sub>1</sub>: When evaluating ideas, individuals high on need for closure will attach relatively more importance to usefulness over novelty.*

### **Paradox climate**

Assuming trait NFC has an impact on creativity assessment, the question rises if situational factors could moderate this relationship. There are cues that this is the case. Roets and van Hiel (2007) found that a culture that values flexibility and openness to new ideas might reduce social pressure to reach closure quickly, and potentially facilitate creativity. Webster and Kruglanski (1994) found that feedback encouraging exploratory thinking and risk taking in creativity might buffer negative impact of high NFC on creativity. I propose that organizational climate could moderate the hypothesized relationship between need for closure and creativity assessment. Drawing on theory on paradox mindset I would like to propose a paradox climate.

Where people high on need for closure dislike ambiguity, it is embraced and even enjoyed by people who adopt a paradox mindset. Adopting this mindset has found to increase creativity (Miron-Spektor & Erez, 2017), and leaders with a paradox mindset seem to have a positive moderating effect on subordinates thriving at work (Liu et al., 2020). They “*shift their expectations from rationality and linearity to accept paradoxes as persistent and unsolvable puzzles*” (Smith & Lewis, 2011: 385). They feel comfortable when pursuing conflicting goals and are energized by the tensions. It motivates them to gain a full understanding of the complexity of the problem and more possible solutions are considered. Paradox mindset was found to enable people to differentiate and integrate opposing elements,

and to stimulate complex thinking (Tetlock, Peterson, & Berry, 1993). Complex thinking enables people to link seemingly opposing ideas, and as such enables greater innovation (Smith & Tushman, 2005). I theorize that when experiencing tensions, people who are able to embrace paradox, will see them as opportunities, stimulating them to find integrative solutions.

A study by Rothernberg (1996) in which he interviewed 22 perceived ‘geniuses’ showed that they applied similar strategies. The work indicated the importance of the janusian process wherein one actively conceives multiple opposites or antitheses simultaneously. Returning to Einstein’s quote at the beginning of this article, “it’s just that I stay with problems longer” probably refers to this janusian process. Einstein’s wave-particle duality of light (Einstein, 1905) is a literal example of uniting two opposites in one idea.

In organizations people are continuously confronted with conflicting goals and demands. Embracing paradox might be key for creativity and innovation in organizations. However, people high on trait NFC will probably not adopt a paradox mindset and therefore a paradox climate seems more relevant. As a measure of paradox climate is currently non-existent, I adapted the paradox mindset scale (Miron-Spektor et al., 2018) in such a way that the items now target the organization rather than the individual.

A paradox climate would be defined as an organizational climate in which paradoxes are embraced, where it is stimulated to work on to contradictory goals at the same time, and where it is celebrated when two seemingly opposing ideas are unified. To unlock the creative potential of paradox, people should be comfortable with, and be uplifted by the tension that paradoxes provoke (Eisenhardt and Westcott, 1988; Lewis, 2000). A paradox climate might be supportive in this regard and could moderate the relation between NFC and how people evaluate creative ideas. A paradox climate can articulate the importance of experiencing and valuing tension between conflicting ideas. Similarly a paradox climate can combat premature

closure, to reach solutions in which opposites can be found to be true at the same time. As such, it might help to buffer the tendency to focus on usefulness at the cost of novelty when evaluating ideas. I theorize that a paradox climate enables people to embrace the tension between novelty and usefulness, increasing the chance of recognizing and selecting truly creative ideas. So my second hypothesis follows:

*H2: When evaluating ideas, a perceived paradox climate moderates the relation between need for closure and idea evaluation ratio in such a way that relatively more importance is attached to novelty over usefulness.*

## **Method Section**

Data was collected from 33 organizations in the Netherlands and Germany in the form of an online cross-sectional survey. This survey instrument consisted of questions designed to discern the roles that need for closure and paradox climate play in the evaluation of creative ideas. The study is part of a larger bachelor thesis project. The survey contained items of multiple different variables, that were used in theses of other group members (Bruinsma, 2024; Fiedler, 2024; Meerema, 2024; Spratt, 2024; van Weers, 2024). The survey was translated into Dutch, German and English; participants could choose the language they preferred.

### **Participants**

Our sample consisted of employees from 33 organizations in the Netherlands and Germany. Organizations were contacted through our own personal networks. Response rates could not be calculated, because it was unknown how many individual people received the link. In total, 170 surveys were submitted. Based on attention checks, data from 55 people were removed; leaving us with a total of 115 complete surveys. Further analysis of outliers

and data quality led to the removal of an additional 2 people from the dataset. The final dataset included  $n = 113$  participants, between the ages of 18 and 61+. Including 61 females (54%), 52 males (46%), and 0 others (e.g., nonbinary; 0%).

## **Procedure**

We recruited participants using a convenience sampling method using our personal networks. Participants were told the questionnaire would take approximately 15 minutes to complete, consisting of questions about their experiences concerning idea development procedures at work. The respondents first received information about the nature and global purpose of the study, which they read and were asked to agree with before completing the questionnaire. Then, participants were asked to fill in their demographic information. Following the first scale, they were asked to fill in the Positive Trait Affect scale. Subsequently, they were asked to fill in the Entrepreneurial Curiosity Scale, after which they filled in the Need for Closure scale. The next scale they filled in was the Cognitive Flexibility Inventory, after which they responded to the Paradoxical Climate scale. Next, they filled in the Role Ambiguity scale, and then the Efficiency Work Climate scale. Rounding up, they filled in our self-made scale measuring Idea evaluation. Lastly, participants were asked to fill in the Job Satisfaction scale, with a final attention check at the end of the questionnaire.

## **Measures**

### ***Demographics***

We asked the participants about basic demographics: age, sex (male, female, nonbinary/third gender, I prefer to self-describe, I prefer not to say).

### ***Idea evaluation ratio***

We have constructed a 6-item scale based on the literature on the evaluation of creative ideas (Amabile, 1983; Litchfield et al., 2015, Mueller et al., 2012). The scale consists of 2 items for each part of creative evaluation; originality, feasibility and value. Participants

responded by indicating to what extent they agreed with each of the items (*1 =strongly disagree, 5 = strongly agree*). An example item is “When evaluating ideas, I focus on the novelty of an idea.” To assess the degree to which participants tended to focus on usefulness at the cost of novelty, we calculated a ratio by dividing the mean score on the two novelty items by the mean score on the 4 usefulness (feasibility and value) items. A value higher than one implies that participants focused more on novelty than on usefulness; a value lower than one implies that participants focused more on usefulness than on novelty. The intercorrelations between the items for novelty, feasibility, and value were .49, .25, and .32 respectively, suggesting low internal consistency for these scales. In line with this, the Cronbach's alpha for feasibility and value combined was only .48.

### ***Need for closure***

Need for cognitive closure was measured with the 15-item Need for Closure Scale developed by Roets & van Hiel (2011). Participants responded by indicating on a 5-point scale to what extent they agreed with each of the items (*1 =strongly disagree, 5 = strongly agree*). An example item is “I don’t like situations that are uncertain.” The reliability of the scale was good, with  $\alpha = 0.73$ .

### ***Paradox climate***

Paradox climate was measured with a 9-item scale adapted from the Paradox Mindset Scale developed by Miron-Spektor (2018). All items were rephrased for this study to reflect participants’ perceptions of paradox climate within their organization, instead of an individual paradox mindset. Participants responded by indicating on a 5-point Likert scale to what extent they agreed with each of the items (*1 = does not apply to my organization at all, 5 = completely applies to my organization.*). An example item is “In my organization, when we consider conflicting perspectives, we gain a better understanding of an issue”. The reliability of the scale was good, with  $\alpha = 0.89$ .

### ***Exclusion criteria***

Exclusion criteria were established to ensure data integrity and reliability. Participants exhibiting response times that deviated significantly from the mean were singled out for further examination. In addition, straight lining criteria were applied to detect participants who consistently provided the same response patterns across all items. Furthermore, attention check questions were included to assess participants' attentiveness and comprehension of the study instructions. Responses failing attention checks were excluded. Missing items referred to questionnaire items left unanswered were excluded. The use of these criteria aimed to ensure data quality while maximizing the inclusion of valid responses.

## **Results**

### **Descriptive statistics**

First, I inspected the scores from which we constructed our dependent variable. Mean novelty scores (3.03,  $SD = 0.85$ ) were found to be distributed around the midpoint of the scale, demonstrating quite some variance in the sample. The mean usefulness scores (4.14,  $SD = 0.46$ ) were distributed mostly on the higher part of the scale, displaying only little variance within the sample. It seems that in this sample, the variance in the novelty scores would account for most of the variance in the dependent variable idea evaluation ratio, with a mean of  $M = 0.74$  ( $SD = 0.23$ ). This data demonstrates a slightly stronger focus on usefulness over novelty across the sample, we based this study on. A one sample t-test was performed showing that the mean idea evaluation ratio was significantly different from 1;  $t(112) = -12.27$ ,  $p < .001$ .

Secondly, I inspected scores of the different predictors. The mean NFC score was 2.86 ( $SD = 0.47$ ), The average score is around the midpoint of the scale and variance in mean scores is little, indicating that this sample contains little to none particularly high or low scores on NFC. A one sample t-test was performed showing that the mean NFC score was

significantly different from 3, being the neutral midpoint of the scale;  $t(112) = -3.06$ ,  $p = .003$ . The mean paradox climate score was 3.18 ( $SD = 0.77$ ), indicating that the mean scores were distributed around the midpoint of the scale while demonstrating quite some variance in the sample.

Next, I computed correlations between the different variables. Evidence for a correlation between idea evaluation ratio and NFC was not found. However a moderate correlation between paradox climate and idea evaluation ratio was found to be significant,  $r = .28$ ,  $p = .003$  (two-tailed). This points in the direction that a perceived paradox climate is related to the idea evaluation ratio in such a way that relative focus on novelty is higher. The medium correlation found between paradox climate and mean novelty scores underlines this idea,  $r = .33$ ,  $p < .001$  (two-tailed).

### **Assumptions**

The moderation analysis that will be presented requires that assumptions necessary for linear regression are met. Visual inspection of the data pointed in the direction that the required assumptions were met.

Independence of observations were checked by performing the Durbin Watson test. Values of this statistic ranging from 1.5 to 2.5 are thought to be acceptable. In this dataset the Durbin Watson statistic was an acceptable 1.77.

Visual inspection of the histograms and pp-plots did not show problematic patterns. For the paradox climate scores the Shapiro-wilk test produced a p-value slightly smaller than the alpha of .05 ( $p = .037$ ). This might raise concerns about the normality of the distribution of PCS scores and is most probably related to the relatively small sample size of the data ( $N = 113$ ). Since regression is found to be robust against non-severe violations of normality (Hayes, 2018) the analysis is done without correction for violations of normality.

By inspecting a scatter plot of studentized residuals against predicted residuals we checked our assumptions of linearity and homoscedasticity. Since the data appear to be horizontal in nature, there is no concern for violation of linearity. Inspecting the same scatterplot we see that the residuals fit a rectangular shape, which leaves us to conclude that heteroscedasticity is not present in the sample.

The data show no signs of multicollinearity between the independent variables. Collinearity tolerance values ranged from .967 to .986 and values for the variance inflation factor (VIF) ranged from 1.014 to 1.034.

Relevant supplementary materials, such as plots, figures and statistics concerning assumption checks can be found in in the research project data folder in the database.

### **Hypothesis Testing**

Our hypotheses were tested performing a moderation analysis in the form of a linear regression containing standardized scores of NFC and paradox climate and a computed interaction variable. Results show that, although the model is found to be significant,  $F(3, 109) = 3.02, p = .033$ ), no main effect of NFC on Idea Evaluation Ratio ( $\beta = -0.01, p = .866$ ), nor an interaction effect were found ( $\beta = 0.01, p = .902$ ). The data in this sample do not support our hypotheses that NFC would be related to idea evaluation, and that a perceived paradox climate moderates this relationship. However, a main effect of Paradox Climate on Idea Evaluation Ratio was found ( $\beta = 0.06, p = .004$ ).

### **Discussion**

This research investigated factors, on both the personal and contextual level, that influence how people would evaluate creative ideas by asking for the importance they attach to the novelty and usefulness components of ideas. A first point to discuss is that the rather high usefulness scores found in our sample are consistent with the bias against creativity, which is part of the underlying theoretical framework of this study.



The assumption that people high on NFC would focus more on usefulness of an idea at the cost of novelty was not supported by the data in this sample. In fact, the data show no relationship between idea evaluation ratio, as operationalized in this study, and NFC scores at all. This finding is in contrast with the research by Wiersema et al. (2012) where NFC was found to have an effect on how people evaluated different works of art. Those that were more open ended, or abstract and more vague were disliked more by people scoring high on NFC.

A possible explanation can be that, while scores were distributed close around the neutral midpoint of the scale, our sample contained little to none particularly high or low scores on NFC. Considering the relatively small sample size, the strength of NFC as a predictor in our model is questionable at the least. It does not necessarily mean that NFC cannot be a factor at play choosing usefulness over novelty. What our data does show is that when people are asked how they evaluate ideas in general, and not in a specific context or situation, in this sample NFC is not found to be a significant factor.

When studying creativity outcomes deriving from person-in-situation, van Knippenberg and Hirst(2020) propose a motivational lens model. In this model it is argued that it is salient whether a personality trait is associated with intrinsic motivation for (activities inducive to) creativity or extrinsic motivation that can be directed at creativity. The researchers argue that NFC should intrinsically motivate learning, exploration and information integration and will thus influence creativity. However, since, in spite of the level of trait NFC, NFC tends to be provoked in situations where the benefits of closure are salient and the costs of lacking it are high (Kruglanski & Freund, 1983; Kruglanski & Fishman, 2009), NFC might as well be associated with extrinsic motivation directed at creativity.

This could indicate that NFC would be provoked in a specific context or situation, for instance when in a group setting. This would be in line with other findings such as the mediating effect of conformity pressure on the relation between NFC and creativity as found

by Chirumbolo et al.(2005) and findings Roets and van Hiel (2007) that a culture valuing flexibility and openness to new ideas might reduce social pressure to reach closure quickly, and potentially facilitate creativity. NFC might be particularly salient in specific contexts or in group settings.

This study also investigated whether the contextual factor paradox climate could moderate the relationship between NFC and idea evaluation. Returning to the motivational lens model, van Knippenberg and Hirst argue that contextual factors can be of particular interest when they reflect opportunities or expectations of creativity. A paradox climate does not reflect these expectations and opportunities explicitly, but by embracing paradox and the tensions that come with it and valuing and celebrating integrative solutions and outcomes, it might do so implicitly. Although no evidence has been found indicating an interaction effect, a significant main effect of paradox climate on idea evaluation ratio was found. This seems to be explained by the notion that a paradox climate encourages employees to reach integrative solutions in which two seemingly opposing ideas or goals are unified. Which is analogue with highly creative ideas being both novel and useful. Furthermore a significant moderate correlation was found between paradox climate and mean novelty. This indicates that when people perceive a paradox climate, more importance is attached to the novelty of an idea, and thereby is related to idea evaluation ratio.

This lines up with findings that contextual factors such as an organizational climate can influence creativity in the workplace, and indicate it may even improve assessment and recognition of creative ideas. Further research is needed to investigate more in detail how a paradox climate can be beneficial in this regard. A climate that encourages embracing paradox can at least stimulate employees to value novelty and originality more, which is valuable information for those organizations or departments that value innovation.

### **Strengths and limitations**

The sample size of the study is quite small. The survey was filled out by 170 respondents, but after removing incomplete responses and those that participants indicated not to use, the total number of responses used was  $n = 113$ . Because of the small sample size and little statistical power, it is difficult to discern smaller effects.

A second limitation is the way in which we operationalized the dependent variable idea evaluation ratio. We constructed two items each for measuring focus on novelty, feasibility and value respectively. These items were rated by participants using a 5-point Likert scale. Since the items were rated independently, a trade-off between novelty and usefulness was not incorporated in our operationalization. Participants were free to rate each item. What could have led to a ceiling effect, producing a high mean with little variance. This might have been the case for the mean usefulness score which had a value of 4.14 ( $SD = 0.46$ ). Lack of variance in this variable can have distorted the idea evaluation ratio. On the other hand this finding is consistent with our underlying theoretical framework of the bias against creativity. Incorporating a trade-off in the items, in such a way that endpoints of the scale would reflect novelty and usefulness, might have given stronger effects of our dependent variable. But then again this would disregard highly creative ideas, that are both high on novelty and usefulness.

Another limitation considering the operationalization of the dependent variable is in the questionable internal consistency of the items measuring novelty, feasibility, value and usefulness. Results should be interpreted with caution.

Furthermore, our items asked for focus on novelty, feasibility and value when evaluating ideas in the workplace in general. No further situational context was given, neither were concrete ideas presented to be evaluated. We therefore do not know whether participants were thinking of creative ideas, or any idea that might come up at all. Neither was there any

context presented that could have provoked NFC. Since participants filled out the survey on their own, we do not know if results would have been different in a group setting.

It would be very interesting to look into what manipulations could be applied. For instance in the form of a vignette study in which scenarios or exemplar ideas are presented. An experimental or semi-experimental design would be interesting as well. In such a study state NFC could be induced, or conformity pressure could be provoked by having participant interact with other participants or by a computer generated manipulation of a group setting.

I would like to add that in future research where participants are asked to evaluate ideas on novelty, feasibility and value it seems good advice to incorporate recent findings of Johnson and Proudfoot (2023) in the theoretical framework and consequent design of the study. Their research suggests that in the case of novel ideas, as they are distant from existing knowledge, greater variability in evaluations of the value of such ideas exist among raters. They also suggest that when variance in ratings of idea value is high, people interpret this as a signal of risk what will consequently lead to a higher change of rejection of the idea, independent from the average assessed value.

A final limitation of the study is that it was a correlational design conducted using an online survey, having no control over the environment, the state or the engagement of the participants. Lastly the measures were self-report only. We cannot conclude anything regarding causality, and results should be interpreted very carefully.

### **Future research**

Since findings in this study indicated a relation between a Paradox Climate and the Idea Evaluation Ratio, further investigation into such a climate is recommended. It would be recommended to explore more in detail how such a climate can be developed. A future study could for instance investigate what leadership behaviors contribute to employees perceiving such a climate and what resources would be needed in practice to embrace paradox.

Secondly, I would recommend to study the relation between a perceived Paradox Climate and creativity assessment by presenting concrete ideas. I would like to stress that the ideas presented should be relevant to the evaluators participating in the study.

A paradox climate can have similarities with other contextual factors, such as an innovation climate or a culture that values flexibility and openness to new ideas as mentioned by Roets en van Hiel(2007). It might therefore be interesting to review other contextual factors that relate to creativity and embracing paradox and study how these different contextual factors are related to each other.

Finally it is recommended to that future research will work on more reliable measures of the idea evaluation ratio. For instance a validation study, in which new items are proposed to measure the constructs of novelty, feasibility and value. Next to the scholarly perspective on creative ideas, lay people in organizations might make assessments of creativity that go beyond novelty and usefulness. Research by Loewenstein and Mueller (2016) indicates that the scholarly conceptual definition differs from lay people's implicit theories and they might adopt either a broad or narrow implicit theory of creativity. I would recommend to elaborate further on these implicit theories of creative ideas and investigate how they could be incorporated in a new measure.

### **Conclusion**

The current research shows that creative idea assessment can be related to factors both on the personal and the contextual level. The most salient finding however is that a climate that stimulates embracing paradox is related to the relative importance attached to novelty over usefulness and it would be worthwhile for organizations that strive for innovation to see how such a climate could be developed. Embracing the paradoxical nature of creative ideas might encourage people to stay with problems longer and thereby have a better chance of recognizing and selecting truly creative ideas.

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## Appendices

Table 1

### *Descriptives and Correlations*

	<i>M (SD)</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>1. Idea Evaluation Ratio</i>	0.74 (0.23)	<b>n.a.</b>				
<i>2. Need for Closure</i>	2.86 (0.47)	-.05	<b>.73</b>			
<i>3. Paradox Climate</i>	3.18 (0.77)	.28*	-.12	<b>.89</b>		
<i>4. Mean Novelty</i>	3.03 (0.85)	.92*	-.01	.33*	<b>.49**</b>	
<i>5. Mean Usefulness</i>	4.14 (0.46)	-.34*	.07	.11	.37	<b>.48</b>

*Note.*  $N = 113$  respondents. Scale reliabilities are given in bold on the diagonal where applicable. \*  $p < .01$ ; \*\* Correlation instead of reliability.

Table 2

*Regression of Idea Evaluation Ratio on Need for Closure, Paradox Climate and Their Interaction*

	<i>B</i>	<i>SE</i>	<i>t</i>	<i>p</i>	Adj. R <sup>2</sup>	Model <i>F</i>	<i>p</i>
					.51	3.02	.033
<i>Intercept</i>	.74	.02	35.64	<.001			
Need for Closure (Z-score)	-.01	.02	-.17	.866			
<i>Paradox Climate</i> (Z-score)	.06	.02	2.97	.004			
<i>Need for Closure * Paradox Climate</i>	.01	.02	.12	.902			