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Pleasantness of creative tasks and creative performance

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ABSTRACT

To examine the impact of emotion on creative potential, experimental studies have typically focused on the impact of induced or spontaneous mood states on creative performance. In this report the relationship between the perceived pleasantness of tasks (using divergent thinking and story writing tasks) and creative performance was examined. Overall perceived pleasantness did not differ between tasks. However, results indicate that the perceived pleasantness of the story writing task increased during task completion whereas the perceived pleasantness of divergent thinking tasks remained stable during task performance. The number of generated ideas in a divergent thinking task (fluency) was significantly related to overall perceived pleasantness of the task.

1. Introduction

1.1. Creativity and emotion: a preliminary study relating the perceived pleasantness of creative tasks to creative performance

Creativity refers to the capacity to produce work that is both original, and adapted to the constraints of the situation (Lubart & Sternberg, 1995). Previous studies have examined the relationships between emotion and creative cognition. The experimental approach has dominated this research. In this work, mood is induced; analysis of variance is employed to test mean differences between an experimental condition (induction of a positive or a negative mood state) and a control condition (no induction or induction of a neutral mood state), with creative-thinking-task performance used as the dependent variable. In these studies, the first stage consists usually of the induction of a positive, negative or "neutral" emotional state leading to independent groups of participants. Then, emotional states of individuals are evaluated, usually with auto-evaluation, to verify that the three groups of participants are, on average, in different emotional states. The last stage of the typical experiment consists of the completion of a creativity task. Analyses of variance are conducted to determine whether there are significant differences of creative performance between the groups. Results diverge from one study to another. Based on general theories concerning emotion and cognition (Forgas, 2002), some of the relationships observed between emotion and creativity can be explained in terms of cognitive or motivational explanations.

1.2. Positive affect and creativity: a cognitive explanation

Isen proposed that "positive affect" facilitates creative performances (Estrada, Isen, & Young, 1994; Isen & Williams, 1988; Isen, Johnson, Mertz, & Robinson, 1985; Isen, Daubman, & Dowicki, 1987). A series of experiments (Isen et al., 1987)

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involving the candle task, (Duncker, 1945) and the Remote Associate Test (RAT; Mednick, 1968) indicated that participants in a positive emotional state produced significantly more correct solutions than individuals in a neutral and negative emotional state. Isen suggested that positive affect impacts on individuals' attention, facilitating perception of diverse characteristics and qualities of the object included in a task and enhancing the possibility of combining the different elements. Later, to support this interpretation, physiological data were provided suggesting that positive effects of mood state on creativity are due to the release of dopamine on the assumption that it facilitates flexible deployment of attention and multiple cognitive perspectives, consequently enhancing cognitive flexibility and creativity (Ashby, Isen, & Turken, 1999).

Isen also suggested that positive emotions enhance creativity by facilitating access to positive material in memory (Isen, 1987; Isen, Shalker, Clark, & Karp, 1978). There should be a process of emotional congruency (Bower, 1981; Isen, 1987) explained by spreading activation: a positive emotional state activates positive memories. According to Isen (1987), positive information in memory is hypothesized to be more richly interconnected than negative information for most people.

1.3. Impact of affect on creativity: a motivational explanation

Some authors suggest that a motivational component may explain links between emotion and creativity (De Dreu, Baas, & Nijstad, 2008). Whereas a positive affect may be beneficial, we may also observe that negative affect stimulates creativity and positive affect inhibits it, contrary to Isen's assumption. Kaufmann and Vosburg (1997), Vosburg (1998a, 1998b), Abele (1992) and Hirt, Levine, McDonald, Melton, and Martin (1997) emphasized some of the "motivational conditions" in which emotional states have a specific impact on creativity.

1.3.1. Satisfaction, optimalization and creative performances

Kaufmann and Vosburg (1997) proposed a model to summarize the impact of emotion on creativity (see Vosburg & Kaufmann, 1998). According to this model, optimizing versus satisficing criteria for solutions must be distinguished. Optimizing suggests that a person examines many alternative solutions to answer a problem and perseveres in this work until he or she finds the most effective solutions. Satisficing suggests that the first solutions considered as satisfactory will be accepted. Based on "Cognitive Tuning Theory" (Schwarz, 1990), a positive mood state signals that a person is in a satisfactory position. Consequently the participant may not be motivated to exert extra cognitive effort. Thus, in a creative task, participants may produce fewer ideas because they are more rapidly satisfied by their initial ideas. In contrast, a negative mood state indicates implicitly that there is a problematic situation and that some extra effort is needed in order to return to a neutral situation. Thus participants in a negative emotional state are more optimizing, they seek the best solution(s) and consequently show more creative results.

Using problem solving tasks (insight tasks) which favor an optimizing criterion, Kaufmann and Vosburg (1997) observed that a positive emotional state led to decreased creative performance whereas a negative mood led to a better performance. In contrast, with a divergent thinking task, Vosburg (1998a) predicted that a positive emotional state should enhance performance because each idea generated will be considered satisfactory (satisficing strategy) and retained in the list of responses proposed for the task. In contrast, negative emotional states will lead to decreased creativity, because individuals should seek only the best solutions and consequently reduce divergent production. Indeed, using divergent thinking tasks, Vosburg (1998a) indicated that positive mood state increased the number of ideas produced whereas a negative emotional state decreased the number of produced ideas. Vosburg (1998a) concluded that the satisficing/optimizing criteria modulated by emotional state can explain variations of idea generation according to the nature of the creativity task (insight tasks versus divergent thinking tasks).

1.3.2. "Mood repair" and creative performance

Abele (1992) predicted that the induction of negative emotion can favor creativity: an individual in a negative emotional state is motivated to find ways that will help him or her to return to a neutral emotional state. Thus fluency and flexibility reflect "mood repair" strategies. This is a case of emotion as a motivational moderator: the more a task is interesting, the more creativity due to a "mood repair" strategy may occur. Abele (1992) tested this hypothesis, comparing three emotional induction conditions (happiness, sadness and no induction) and using two kinds of divergent thinking tasks: a task of unusual uses of an object and a fictitious-situation task. According to Abele, the unusual uses tasks are enjoyable and present a high "interest" for participants, even if most ideas produced in this kind of tasks are neutral. In contrast, Abele assumed that the fictitious-situation tasks, which consist of imagining the logical consequences of a new situation, are ambiguous, involves mainly the generation of negative ideas and thus has a low interest for participants.[1]

Results indicated that the impact of negative emotional state varied based on the interest of the task: sad participants produced more ideas than participants in the control group when the task was interesting (unusual uses task), whereas they produced less ideas than control group when the task was less interesting (fictitious-situation tasks) and thus did not allow a potential mood repair. Finally, compared to the control condition, only the negative emotional state showed an increased number of positive ideas for the interesting task.

[1] Note that the difference of interest between the tasks was not explicitly measured in Abele's experiment.