
_Dual-Moods and Creativity in Organisation: A Bidirectional Mood Regulation Perspective_  
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_ABSTRACT_  
The mixed impacts of mood states on creativity call for reconciliation. Contrary to the prevailing notion that positive moods foster creativity, an emerging body of research suggests that negative moods can also boost creativity, and even that positive moods may impair creativity. More recent research suggests that the dual-moods, instead of singular positive or negative moods, can jointly foster creativity, opening a new avenue for mood-creativity research. Nevertheless, the current research which focuses on static mood states is still inadequate to explain the dynamic impacts of moods on creativity over time. To answer this question, we propose that a bidirectional mood-regulatory process can reconcile the mixed impacts of dual-moods on creativity with respect to mood changes, and discuss possible research approaches.

_**Keywords:** Creativity, Emotions_  

Creativity is not only a critical factor of organisational performance but also a key to survival of companies in today’s dynamic business environment (Amabile, 1998; George & Zhou, 2007). Not surprisingly, topics related to creativity have regularly appeared in popular business magazines, such as Business Week and Fortune, as well as the major scholarly journals (see the recent reviews of creativity published in Academy of Management Annals, 2008; Annual Review of Psychology, 2004; Journal of Management, 2004; Research in Personnel & Human Resource Management, 2003).

Awakened by a series of ground-breaking scholarly works (Ashkanasy, 2003; Brief & Weiss, 2002; Rafaeli & Worline, 2001), research on affect is gaining substantial attention in the mainstream organisational literature. Moreover, researchers such as Amabile, Barsade, Mueller, and Staw (2005),
George and Zhou (2002; 2007) and Isen (1999a, 1999b) propose that affect underlies creativity. Yet, the emerging picture is more complex than first thought and research is far from achieving a consensus as to whether positive or negative affective states promote creativity (e.g., see Kaufmann, 2003).

The controversy surrounding the relationship between mood and creativity seems to be particularly confusing. Contrary to the prevailing notion that positive moods foster creativity (Amabile, et al., 2005; Isen, 1999a; 1999b), an emerging body of research holds that negative moods can also boost creativity while positive mood may actually impair creative performance (George & Zhou; 2002; Kaufmann, 2003; Vosburg, 1998). These controversial findings call for reconciliation. Perhaps the mixed findings imply that it is not a singular positive or negative mood impact on creativity. In this respect, recent research on dual-moods by George and Zhou (2007) regarding how positive and negative moods interact to promote creativity in supportive work contexts may help to explain the confusion. Nevertheless, their approach—dual-tuning perspective—is based on static mood states, and therefore neglects the dynamic influence of moods on an individual’s judgement and creative behaviour over time. As Kaufmann (2003) has noted, the psychological processes linking mood states and creativity are “brooked and full of twists and turns, often where we least expect them” (p. 200). We suggest that additional psychological mechanisms can be explored to explain these ‘twist and turns’. In the present paper therefore, we propose that changes in mood states can foster creativity through a process of mood regulation. Literature on mood regulation was until recently focused largely on why and how individuals cope with unpleasant moods (see Morris & Reilly, 1987 for a review); but how people deal with positive moods is still very much an open question (see the symposium issue of affect regulation in Psychological Inquiry, 2000). We expand upon the emerging mood regulation literature to investigate how a bidirectional mood regulatory process may reconcile the mixed impacts of dual-moods on creativity.

We propose that an employee engaging in more effective bidirectional mood regulation will be more able (1) to alleviate negative moods to maintain stable self-environment evaluations, and thus to save on-task attention for creative solutions over time; and (2) to play out the motive towards preservation of positive moods, and thus better to capitalise on positive moods as a motivational
resource for the pursuit of long term heuristic values. We argue our model will contribute to both mood-creativity studies and mood regulation research.

In particular, the bidirectional mood regulation perspective we propose can supplement current mood-creativity research by taking the dynamic impacts of mood states on people’s judgment into account. In this respect, we argue that the paradoxical impacts of mood states on creativity may be attributable to one of two alternative causes. First, while positive moods may initially foster self-confidence, playfulness and divergent thinking for creative ideas, they may gradually cultivate a comfort-zone that might decrease motivation for further heuristic pursuits. Alternatively, negative moods may initially signal a problematic status quo urging people to seek new alternatives, which might accumulate to lead to a gloomy self-environment judgement that can exhaust on-task attentional resources for creative solutions over time. We propose that employee engagement in bidirectional mood regulation may be more effective to capitalise on dual-moods, and thus to devote more effective attentional and motivational resources to creativity over time. This mood regulation perspective could provide a better understanding of the mixed influences of changes in mood states on creativity, and further untangle the complex ‘twists and turns’ surrounding the mood-creativity link.

In addition, our model contributes to the mood regulation literature. While previous literature is heavily focused on negative affect regulation (see Morris, 1987 for a review), little is known about why and how people regulate their positive moods. Drawing upon the emerging mood regulation literature, the bidirectional perspective we propose potentially advances understanding of how people capitalise on positive moods. Instead of acting to preserve happy moods, people can purposively use their happy moods as a resource for heuristic and creative behaviour.

This paper is organised as follows. We first address the controversy surrounding the mood-creativity link. Next, we discuss the facets which current mood-creativity research did not address. We then propose a bidirectional mood regulation perspective to explain the mixed impact of moods on creativity. Finally, we discuss the issues for future research.

LITERATURE REVIEW

Definition of Creativity
Creativity is typically defined as the generation or production of ideas or solutions that are both novel and useful (George & Zhou, 2007). According to this definition, production of new ideas or recognition of alternatives can be novel, but they are not necessarily creative unless they are also regarded as useful or potentially useful in an organization. Similarly, effective problem solving is certainly useful in organizations but is not necessarily creativity. The effective problem-solving solutions must be novel to reflect creativity.

Controversy Surrounding Mood-Creativity Relationship

Positive mood and creativity

Evidence from both laboratory and field research seems to support the notion that positive affective states foster cognitive and associative mechanisms promoting creative performance. The idea that positive affect fosters creativity is grounded in Isen’s research (1985; 1987; 1999a; 1999b). Isen suggests that positive moods promote creativity by broadening people’s cognitive variation. In particular, positive moods increase the number of cognitive elements available for creative associations. They also increase the scope and breath of the cognition related to problems and the cognitive flexibility associating the available elements in human cognition. These processes together foster creativity, which particularly requires individuals to engage in divergent thinking and unusual associations between concepts. More recently, Amabile and her associates (2005) found field evidence to support the idea of a positive link between affect and creativity. These researchers found that employees’ daily experiences of positive, not negative, moods are associated with creativity. Consistent with these findings, Madjar, Oldman, and Pratt (2002) found that both work support from supervisors and co-workers and non-work support from family and friends make employees feel happier, resulting in more creative performance.

Negative mood and creativity

Contradictory to the above view that positive mood promotes creativity, however, a recently emerging body of research suggests that negative mood can foster creativity while positive mood may actually serve to impair creativity (George & Zhou; 2002; 2007; Kaufmann, 2003). According to mood-as-input theory, individuals use their current mood states as information cues, with positive moods signalling that things are going well and negative moods signalling that status quo is
unsatisfactory (Martin, Ward, Achee, & Wyer, 1993). George and Zhou (2002) argue that people in negative moods may thus exert greater levels of efforts towards seeking new and better problem-solving solutions when creative performance is called for and employees are clear about their feelings. By contrast, individuals in a positive mood may be less creative because their happy mood informs them that their current performance is satisfactory, so additional effort is not required. Moreover, in earlier research, Zhou and George (2001) found that, contingent on commitment and feedback, job dissatisfaction can foster creative performance. In line with these claims, Kaufmann and Vosburg (1997) argue that negative mood facilitates creative problem-solving, and that positive mood may even be detrimental to creativity.

*Dual-moods as a potential reconciliation*

The mixed findings we note above may imply that there is not a singular positive or negative mood influence on creativity. George and Zhou (2007) speculate that a dual-mood process fosters creativity. In this respect, Kaufmann (2003) points out that some important aspect of creativity, such as fluent flow of ideas and unusual associations of conceptions, may be fostered by positive moods. In contrast, reframing or persistently striving for finding insightful and original solutions may instead be boosted by negative moods. Rooted in the mood-as-information theory developed by Schwarz and Clore (1983), dual tuning perspective holds that positive and negative moods exert interactive tuning effects on creativity. On the one hand, positive moods signalling an unproblematic environment tune peoples’ cognitive processes to divergent and playful approach. On the other hand, negative moods signalling a problematic environment tune peoples to adopt the more analytic, detail-oriented cognitive strategies, and to understand current situation with less attention on pre-existing schemas. The dual-tuning perspective holds that the two mood states interactively foster creativity in a supervisory supportive context, where positive mood boosts confidence and divergent thinking, and negative mood promotes dissatisfaction, need for change, problem identification and greater problem-solving effort for improvement.

*Unaddressed Facets of Current Research on Dual-Moods*

Research on dual-moods appears to open a promising new avenue for future mood-creativity research. Yet, given the complicated mood-creativity link, we argue that the dual-moods perspective
nevertheless may be flawed. In the following paragraphs, we firstly discuss the facets which the current dual-mood perspective did not address. We then propose a mood regulation perspective and hypothesize how a bidirectional mood regulatory process facilitates creativity over time.

Mood states provide judgemental information not only about external states of environment but also about internal states of one self

Recent research on dual-moods based on mood-as-information theory assumes that moods influence people’s judgment about their external environment only. The dual-moods perspective needs to be supplemented by a second premise that moods can also provide information values on people’s internal self-judgement (Clore & Colcombe, 2003; Kaufmann, 2003). For instance, positive moods provide not only favourable information about an employee’s situational state—e.g., “Results are satisfactory”—but also positive information about her or his own self—e.g., “I’m capable of performing the tasks”. Similarly, negative moods can also inform internal judgement. Ashkanasy, Härtel and Daus (2002) hold that these affective influences that employees experience everyday at work can be accumulated and therefore affect how employees feel over time, Without alleviation, for example, an accumulation of negative moods may result in pessimism, lower self-confidence and other creativity-inverse irritations. These notions are in line with the theories that working self-concepts of individuals are dynamic and multifaceted and sensitive to momentary variations in external situations and internal states (e.g., Dodgson & Wood, 1998; Markus & Wurf, 1987). Preliminary findings supporting this assertion suggest that moods activating the schematic processing of self-referent thoughts (Brown & Taylor, 1986) can be positively or negatively associated with self-assessments such as self-efficacy and memory retrieval (Kavanagh & Bower, 1985; Smith & Petty, 1995). The point here is that moods do not merely inform environmental judgement. Rather, moods can also accumulate to colour an individual’s internal judgment.

Mood states do not necessarily produce mood-congruence over time.

Perhaps, instead of exactly listening to our heart, we may tell our heart—“I don’t feel like it”. This is a mood-incongruent response (Clark & Isen, 1982). George and Zhou’s (2007) dual-moods model, focusing on static mood states, may fail to explain the mood-incongruent effects over time. Forgas and Ciarrochi (2002) suggest that initially mood-congruence can be replaced in time by mood-
incongruence. According to the mood regulation literature, people can initiate a variety of strategies to work against the natural flow of mood-congruent judgments associated with negative moods (Larsen, 2000; Morris, 2000). For example, people can generate mood-incongruent thoughts to override their negative moods and associated judgement and thus maintain a more stable self-view over time—e.g., “I know I’m good at the tasks, but I was just too rushed to prepare myself that day”. Similarly, positive moods may not necessarily produce mood-congruent positive responses such as explorative or heuristic behaviours. Rather, people in happy moods can become more conservative because they may develop a higher motive for preserving their pleasant moods and thus avoid engaging in activities that threaten to reduce their good moods. Studies providing support to this assertion show that people in good moods may avoid looking at negative materials, taking risk or helping behaviour; when the nature of these activities seem incompatible with their good moods (Mischel, Ebbesen & Zeiss, 1973; Isen & Levin, 1972).

Neglecting the effects of mood-incongruence over time and accumulation of moods on self-judgement, mood-creativity research is not adequate to explain the dynamic impacts of dual moods on creativity.

The dual-moods perspective (George & Zhou, 2007) holds that supervisory supportive contexts, such as interactional justice, developmental feedback and trust, need to be present to help employees to benefit from their dual-moods and the associated tuning effects. This assertion of context-dependent mood influences, is not completely adequate to explain the changing impacts of the dual-moods on creativity over time. Given the accumulated mood influences on self-judgement, we may ask why negative moods would only lead to dissatisfaction with status quo and need for change. Perhaps the accumulated negative moods may also lead an employee towards a gloomier self-evaluation over time—e.g., “I’m not capable of responding to the demands”. An employee with negative moods like these may develop withdrawal and duty-neglecting behaviour (Zhou & George, 2003) instead of striving for creativity. In this sense, for example, we may ask why justice in the workplace (e.g., interactional justice) can prevent the accumulation of sad moods and the associated negative judgements in the work life. On the contrary, a fairly and clearly explained reward/distribution system may actually judge an employee’s incompetence rather than prompt a frustrated worker to strive for unproven and risky creative ways.
Another example is development feedback from supervisors. George & Zhou (2007) hold that the developmental feedback benefits employees in negative moods by providing the employees with useful information and putting the employees into a proactive, improvement mode for creativity. Indeed, developmental feedback can provide employees in negative moods with problem-solving information. Still, we may question why the feedback prompts employees in negative moods to enter into a proactively improvement mode if moods only inform external but not internal judgement. Perhaps the missing link is that chronic developmental feedback can also help to improve an employee’s negative moods and the associated negative self-evaluation over time. This can be achieved by guiding the employee towards a constructive and learning stance rather than just focusing on the current flaws. Therefore, employees may be more proactive in striving for new and better problem-solving solutions when they realise what the problem is (an external judgement) and feel they are capable of tackling the problematic situation (an internal judgement).

George & Zhou (2007) hold that, in supervisory supportive contexts, negative moods facilitate creativity in the presence of positive moods because positive moods boost confidence and divergent thinking. In another study, George and Zhou (2002) showed the opposite—that negative moods promote creativity without the presence of positive moods and that positive moods can impair rather than foster creativity. The authors reasoned that this is because employees in positive moods may think that good progress has been made, and thus stop striving for new and better ideas for improvements. Perhaps a static perspective of mood states and contexts may not be enough to clearly clarify the confusion. We argue that the mood-incongruent effects over time may provide an additional explanation. That is, positive moods may at first prompt confident and divergent thinking for creativity, but that people in happy moods may gradually develop a motive towards preserving their pleasantness over time and thus reduce striving efforts for further heuristic pursuits. As will be clearer in the following section, a mood regulation perspective may further explain the mixed impacts of moods on creativity with respect to mood changes. In summary, the current dual-moods perspective needs to be supplemented by considering the impact of moods on self-judgement and mood-incongruent patterns over time. Additional psychological mechanisms need to be explored to untangle the dynamic impact of moods on creativity. In doing so, we develop a mood regulation proposition in the next section.
A MOOD REGULATION PROPOSITION

According to Larsen (2000) and Morris (2000), moods provide people with evaluative information about the internal resources they have available to meet the environmental demands. Small changes in the resource-demand ratio will lead to automatic changes in moods (Morris, 2000). Ashkanasy et al. (2002) and Weiss and Cropanzano (1996) contends that these moment-to-moment affective changes will subtly accumulate to colour and even to bias what an employee feels like doing.

We propose as a solution to this conundrum that effective mood regulation can reset the perceived resource-demand balance giving an employee optimal energy to action. As will be clarified in the following paragraphs, effective dual-mood regulation plays a crucial role in promoting affect-laden creativity. The definition of this bidirectional mood regulation process here refers to a self regulatory process in which an individual deliberately recruits one of two strategies. The first of these is to restore negative mood to a more comfortable state, which we refer to as the comfort-the-disturbed regulation. The second is to capitalise on positive mood to push the self beyond a comfortable state. We refer to this as disturb-the-comforted regulation. We describe the two strategies next.

Comfort-the-Disturbed Regulation

This conception, which is based on the mood-incongruence literature holds that individuals recruit mood-incongruent thoughts to work against the unfavourable judgment loaded by negative moods (see Morris & Reilly, 1987 for a review). Mood can deteriorate when available resources are perceived as inadequate to meet environmental demands (Morris, 2000). At first, a negative mood may disturb an employee in the sense of indicating a dissatisfactory status quo. This can lead the individual to seek new problem-solving solution (Kaufmann, 2003). These affectively loaded disturbances however may accumulate and subtly tire an employee especially if employee in a negative mood fails to improve her or his mood, or to prevent them from getting worse (Ashkanasy & Daus, 2002; Morris, 2000). Being occupied with the distressed affective state, employees’ on-task focal attention can be disturbed (Cron et al., 2005; Morris, 2000). When attentional resources are allocated to an off-task activity, such as being preoccupied with negative affect, fewer resources are available for a productive on-task function (Kanfer & Ackerman, 1989). This effect is likely to be particularly detrimental to creativity. This is because creative activities normally demand a higher level of attentional resources
for framing and reframing insightful, original ideas. At the same time, they impose a considerable amount of emotional costs such as anxiety, frustration and tension.

In other words, engaging in creativity may actually expose an individual—who may be already in a bad mood—to a higher level of bad moods. These accumulating bad moods may in turn further distract one’s on-task focal attention and further consume creative ideas and solutions. To break this negative accumulation process, ongoing mood-regulatory processes needs to take place to alleviate negative moods employees may experience time by time. An employee engaging in effective regulation of negative moods may prevent the occurrence of overloaded negative judgements imposed by accumulated negative moods. Chronically, this can help an employee to alleviate unwanted negative mood states, to maintain a more stable resource-demand judgement, and thus to save more on-task focal attention for figuring out new and useful problem-solving solutions.

**Disturb-the-Comforted Regulation**

This dimension is based on the idea that people can use their positive moods as resources for the pursuit of long-term values at the expense of immediate positive moods (see Fishbach & Labroo, 2007). Mood can rise when people perceive that they have plenty of available resources to meet environmental demands (Larsen, 2000; Morris, 2000). Thus, positive moods signalling an unproblematic status quo may give rise to a playful, divergent thinking, and self-confidence (George & Zhou, 2007). But, these resources would not necessarily crystallise into creativity. This is because people in positive moods may also gradually develop a motive towards mood preservation. As a result, they may try to avoid unproven or risky actions that may reduce their happy moods. Thus, people who want to preserve their happy moods in a comfort zone may reduce intention to explore new things or openness to unproven paths. Clearly, all of these may inhibit creativity over time.

To be creative, people need to play out the motive towards positive mood preservation and to channel the resources provided by positive moods to ongoing creativity. As such, the internal task enjoyment associated with (Harackiewicz & Larson, 1986), and the unproblematic environment signalled by (Schwarz & Clore, 2003) positive moods can be better transformed into longer-lived intrinsic motivation for a heuristic sake. This should act to drive people to keep trying, rather than attempting to maintain the status quo. As such, positive self-views associated with positive moods can
better serve as an affirming asset to facilitate effective coping in stressful situations, to reduce defensiveness (Aspinwall, 1998; Kaufmann, 2003) and thus to promote sustainable explorative behaviours. Also, the creative thoughts prompted by positive moods (Isen, 1999a; 1999b) can be better brought into continual creative solutions. Taken together, regulated positive moods are therefore likely to be a more effective motivational resource for creativity over time.

Proposition: An employee performing effective mood regulation of dual-moods (comfort-the-disturbed and disturb-the-comforted regulations) will be more capable of preventing the occurrence of overloaded affective influences, and of capitalising on dual-moods as resources. They thus can be expected to devote more effective on-task attentional and motivational resources to creativity over time.

ISSUES FOR FUTURE RESEARCH

Mood Changes and Mood Regulatory Strategy in Ongoing Work Life

Most of the current mood-creativity research focuses on static mood states, overlooking the influences of mood changes, mood-incongruence and mood-accumulation over time. Future theoretical perspectives should pay more attention to the dynamic mood impacts. Particularly, future research should further investigate how employee’ momentary mood-regulatory strategies affect the directions and strength of their mood changes. Such a dynamic picture can help researchers to further explain the “twist and turns” between the mood-creativity link.

Positive Mood Regulation and Individual Differences

While the aversive nature of negative affect gives its own initiative calling for a regulatory process, the motive for regulating positive affect is less obvious. “If we feel good, why not just enjoy it” (Morris & Reilly, 1987: 223). In this regard, Clark & Isen (1982) argue that people regulate their positive affect in the sense of acting to preserve the pleasant affect and avoid engaging in mood-inverse acts. Nevertheless, an alternative research perspective holds that people in positive moods may be actually more able to channel the resources provided by positive moods to deal with mood-inverse tasks (see the symposium issue of affect regulation in Psychological Inquiry, 2000). Whether an individual desires to preserve or to capitalise on positive moods may be dependent on individual differences. This opens a new avenue for future research to investigate how individual differences
such as optimism, goal orientation, and other personality traits determine how an individual deals with positive moods; and how this influences subsequent behaviours.

**Relationship between Mood-regulation and Creativity and Context**

Our mood-regulation perspective holds that employees regulate dual-moods to achieve creativity. Nevertheless, the importance of creativity may vary across different types of jobs within a firm (Oldham & Cummings, 1996). Some job types call for more creative pursuits but others do not. In other words, in an ongoing work life, employees may situate in different work contexts where mood regulation may have different degrees of effectiveness on creativity. Future studies need to take the influences of contextualisation into account to build a more thorough mood-regulation perspective on creativity (see Johns, 2006). For example, job complexity measured by Motivating Potential Score may moderate the relationship between mood-regulation and creativity (Oldham & Cummings, 1996).

**Methodological Considerations**

To track the changes of mood states and mood regulatory processes in the workplace, the Experience Sampling Method (ESM) developed by Csikszentmihalyi and Larson (1987) can provide time-sampling data for the longitudinal research. Larsen (2000) suggests that within-subject time-series analyses using lagged autoregressive components can be used to analyze the effectiveness of each mood-regulatory behaviour at time \( T \) on mood at time \( T+1 \); and to examine whether mood at time \( T \) produce a particular mood-regulatory behaviour at time \( T+1 \). In addition, a multi-level analysis with fixed and random effect models using hierarchical linear models (see Larsen, 2000) can be used to examine the relationship between the intra-individual mood changes, inter-individual mood-regulation effectiveness and creativity. Furthermore, ESM lessens the memory problem (Robinson & Clore, 2002). Field studies of mood using cross-sectional design often ask participants to recall their moods and to report an average mood score over a period. These potential memory problems are particularly detrimental to mood studies. The longer the time-lag between emotional experiences and emotional recalls is, the more likely respondents report their moods based on their belief about their mood instead of the real experiences about their mood (Robinson & Clore, 2002). ESM which asks the respondents to report their momentary moods through the survey period may reduce the memory problems and thus tap more episodic mood experiences (Robinson & Clore, 2002).
CONCLUSION

Current mood-creativity research focusing on static mood states may fail to explain the mixed and changing effects of mood states on creativity over time. The mood-regulation perspective we propose in this paper takes the effects of mood-accumulation and mood-incongruent responses into account may thus provide an additional explanation to the paradoxical relationship between mood and creativity. The overloaded influences of positive or negative moods can particularly detrimental to creativity which is affect-laden. An employee performing effective mood regulation of dual-moods (comfort-the-disturbed and disturb-the-comforted regulations) will be more capable of preventing the occurrence of overloaded affective influences, of capitalising on dual-moods as resources. This individual may thus be in a position to devote more effective on-task attentional and motivational resources to creativity over time.

REFERENCES


Brown, J and Taylor, S (1985) Affect and the processing of personal information: Evidence for mood-


Martin, LL, Ward, DW, Achee, JW and Wyer, RS (1993) Mood as input: People have to interpret the


Vosburg, SK (1998) The effects of positive and negative mood on divergent-thinking performance,
