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# EMOTIONS IGNITE AND FUEL CREATIVITY

Zorana Ivcevic

Yale University, CT, USA

Creativity and emotion skills are crucial for success in the changing world. The World Economic Forum in its report on the future of jobs examined key skills for 2020 and beyond. Several groups of creativity-related skills (creativity, originality, and initiative; analytical thinking and innovation; complex problem solving; reasoning, problem solving, and ideation) and emotion-related skills (emotional intelligence; leadership and social influence) made the list. That is, 6 of the 10 skills on the list referred to creativity and emotions. Moreover, this was a substantial change from the list of top skills in 2015. Creativity skills climbed up the list and more conventional skills, like quality control, dropped from the list.

If emotion and creativity skills are key for the future, the question becomes how are these skills related. We need to understand the role of emotions and emotion-related skills in creativity, as well as consider how we can build and support emotion skills and creativity. This chapter presents the newest research on how emotions ignite and fuel creativity and innovation. In turn, this knowledge forms the basis for building creativity by harnessing the power of emotions.

## WHAT IS CREATIVITY?

In everyday life when considering creativity, people tend to have an art-bias (Runco, 2008;

Runco & Pagnani, 2011; Sawyer, 2012). For example, Glăveanu (2011) examined what symbols people associate with creativity and asked them to rate their own creativity. Most common symbols were related to the arts (e.g., paintbrush and colors, musical notes) and people tended to rate their own creativity more highly if they had experiences in drawing and playing music. Similarly, creativity was rated as more essential for artistic professions (e.g., acting, writing, painting) than for any other professions (e.g., engineering, philosophy, cooking; Glăveanu, 2014).

Scholars define creativity as “the interaction among aptitude, process and environment by which an individual or group produces a perceptible product that is both novel and useful as defined within a social context” (Plucker, Beghetto, & Dow, 2004; p. 90). This definition stresses both individual building blocks of creativity – creative aptitude (or creative thinking ability), creative process – and environmental or social aspects that hinder or support creativity. Importantly, this definition puts the focus on a creative product that is both original and meaningful or useful. As such, creativity is not only found in thinking or generating ideas, but requires transformation of ideas into performances or products.

Although researchers agree on the definition of creativity, they most commonly study only one aspect of it – creative thinking or creative idea

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generation (e.g., Baas, De Dreu, & Nijstad, 2008). Creative thinking tests measure originality and flexibility in thinking and the number of ideas generated. Performance on these tests predicts real life creative behavior and achievement (e.g., King, Walker, & Broyles, 1996; Torrance, 1988; Wolfradt & Pretz, 2001), but understanding how people come up with ideas does not necessarily help us understand how they take their ideas from representations in their heads through acting, doing, and making into something tangible. Here, we acknowledge the importance of creative thinking and idea generation, but primarily focus on creativity observable in work, achievement, and everyday behavior.

### WHAT EMOTIONS HELP CREATIVITY?

Research on creativity and emotion for a long time asked what emotion states help and what emotion states hurt creative thinking. In these studies, people are first induced to feel either positive moods (e.g., by being shown comedy clips) or negative moods (e.g., by being shown clips of crying children) and then asked to complete tests of creative thinking, such as coming up with ideas for different uses of everyday objects (tin can, brick). A reliable finding emerged that those in positive and energized moods tend to come up with more ideas and more original ideas when compared to those in negative moods (Baas et al., 2008).

These studies examined a specific aspect of creativity, coming up with ideas in response to a given problem. What they show is that positive, happy moods can benefit creative idea generation. But creativity is broader than thinking. Picasso did not only have an idea for Guernica, but he made it. We can stand in front of it and experience its power. Even in laboratory studies

on creative thinking, when people are allowed time to think of ideas beyond a few minutes, the benefit of positive mood for creative thinking disappears. After analyzing dozens of studies conducted across more than a quarter century, Baas et al. (2008) concluded that “to make a difference in creative performance, manipulating mood states is not very effective and is unlikely to produce clear and visible changes in creativity” (p. 796).

Instead of asking what emotions make people think more creatively in short laboratory tasks, we can examine what emotions are involved across the creative process. We conducted a study of artists – painters and sculptors, writers, composers, choreographers – in which we asked them to describe emotions they experience at different stages of their work. When asked about emotions that appear in creative inspiration, positive emotions like love, happiness, and joy were prominent. But so was sadness, an unpleasant or negative emotion, as well as nostalgia, which is a mixed emotion, comprised of fondness and melancholy (see Figure 1).

In contrast, when asked about emotions that appear during the day to day work of creating and transforming ideas into products – short stories, paintings, choreographies, or something else – frustration is the most prominently mentioned emotion (see Figure 2). Why? By definition, creativity is hard. There are obstacles when doing something original because there is no blueprint based on prior experience. Negative evaluations of the work are common, from colleagues, critics, audiences, or oneself. Joy, happiness, and excitement happen in daily work of creating, but the picture is more complex than the laboratory studies suggest.

Of course, creativity does not exist just in the arts. What emotions accompany creativity in work more generally? In a study of close to 15,000 people across all industries in the United States, we examined what work-related emotions people who are most creative at work

describe in their own words. They tend to prominently mention being happy, but also bring up frustration and stress, even being overwhelmed (see Figure 3). The picture is similar to that of artists in their daily work of creation. There is not one kind of emotional experience that is associated with creativity and both positive and negative emotions are experienced in the course of creative work.

We examined the relationship between emotions and creativity in yet another way. This research asked how often people experienced a long list of specific emotions at work, both positive (e.g., interest) and negative (e.g., frustration). It was possible to distinguish four groups of people: (1) those who didn't experience a lot of emotions at work; (2) those who experienced a lot of positive and a lot of negative feelings; (3) those who frequently experienced positive emotions and rarely experienced negative emotions; and (4) those with frequent negative emotions and infrequent positive emotions. Creativity is low when people experience almost only negative emotion, but it is very similar for people who feel predominantly positive and both positive and negative emotions.

### **A NEW QUESTION: HOW CAN WE USE AND MANAGE EMOTIONS FOR CREATIVITY?**

Emerging research and theoretical models of the role of emotions in creativity suggest that we might have been asking the wrong question. Instead of asking which emotions states help and which emotion states hurt creative thinking (or creativity more broadly), we should ask how different emotions – both pleasant/positive or unpleasant/negative – can be used and managed in the service of creativity. These are the skills of emotional intelligence – capacity to accurately perceive emotions in oneself and others, use emotions to help thinking and problem solving, understand nuances of emotions, causes, and likely consequences of emotions, and regulate emotions to serve one's goals (Mayer, Roberts, & Barsade, 2008; Mayer & Salovey, 1997).

Our study of artists illustrates how they use emotions to help creativity. Emotions can be used as fuel for different parts of the creative process. A music composer described expressing emotions in his piece, "I had just arrived at the home of my girlfriend. I was glad to be there, was feeling relaxed because our weekend was just beginning, and felt loving toward her and loved by her. I stood at her piano and just allowed all those feelings to flow through me into the relationship between my fingers and the piano, which I recorded on my iPhone." Emotions can also be used to convey information to others who are part of the creative endeavor, as described by one choreographer: "I tried to channel my negative emotions into constructive feedback for my cast, and I let my joy shine through on days I felt good about it."

Using emotions in the service of creative work does not happen only in the arts. For instance, entrepreneurs who are able to project enthusiasm (using animated facial expressions and body movement) are perceived as more passionate by potential investors and this in turn predicts their interest to fund the projects (Cardon, Sudek, & Mitteness, 2009).

Creative work is full of emotions – anxiety because of uncertainty of success, frustration because of obstacles encountered, focused happiness of being absorbed in the creative process – and these emotions have to be regulated so they do not overwhelm one's ability to make progress. Because people tend to be motivated by the enjoyment of creative work, this work can in itself be an emotion regulation strategy. A painter working on a series of small daily works described this as, "As I began to devote myself to the process, my fear and anxiety subsided. I began to feel calmer, more self-aware, more open to joy, more in touch with my emotions." But emotions also need to be regulated in order for one to do their best work and avoid being overwhelmed by strong feelings. A sculptor described regulating emotions by creating the conditions most beneficial to creative work when working on a painted

clay mask, “Before renewing the initial inspirational emotions, I had to create a ‘zone’ in which they could be evoked without the distraction of my current fluctuating emotion – in order to do this, I go into meditation briefly, and tune out my surroundings. I then create an atmosphere in my blank mind with music, or by feeling my work and soaking up the emotions embedded in its every inch.” Another artist described a specific emotion regulation strategy, “[I] Set the work aside and let it simmer in my head. Returning to work after giving it some rest produces better results than trying to push into immediate completion.”

Emotion regulation is important for creativity across different kinds of work, as well as for people of different ages. In a study of high school students, Ivcevic and Brackett (2015) found that those with potential for creativity (curious, open to new experiences) who were also more skilled at regulating emotions were more likely to be persistent in the face of obstacles and maintain passion for their interests, which in turn predicted their creativity. Discussing emotional intelligence of organizational leaders, Zhou and George (2003) described how leaders help employees regulate their emotions to achieve the best outcomes. Emotionally intelligent leaders can help employees better cope with unpleasant emotions, like working through frustrations and disappointments by reframing problems as opportunities or by identifying supports within their teams. They also need to help employees manage their strong pleasant emotions which could get in the way of creative goals. For example, leaders can help employees to realize that happiness after a brief brainstorming of ideas can lead them to prematurely settle on some solutions and not explore a full range of perspectives.

Research is starting to build a nuanced picture of the role of emotions and emotion skills in creativity. Creativity requires potential in the form of creativity-general skills (e.g., finding interesting problems) and domain specific skills (e.g., spatial abilities needed to be an architect

or a mechanical engineer). An individual has to face the unnerving blank canvass or computer screen, generate ideas, evaluate the ideas and choose the best one to develop into performances or products. Throughout this process, there are hurdles to overcome.

Emotions happen during the whole creative process, from deciding whether to engage in challenging open-ended projects through making and presenting one’s work. But emotions don’t just happen as if imposed on people. People have agency in relation to their emotions and can exercise this agency in the service of creativity. This happens on the individual level – we perceive our own emotions and those of others, channel our emotions to fuel and enrich our thinking and work, and we use strategies that maintain helpful emotions, intensify them, or change what we experience. Emotions and emotion skills also operate on the interpersonal and social level.

To examine the social influence of emotion skills we conducted a nationally representative survey of close to 15,000 workers across industries in the United States (Ivcevic, Moeller, Menges, & Brackett, 2020). The study examined four groups of variables: supervisors’ emotionally intelligent behavior (e.g., how often supervisors notice if someone is feeling upset about a work decision; how often supervisors generate enthusiasm to motivate others); people’s emotional experiences of work; extent to which they have opportunities to grow and make progress at work; and how often they are creative and innovative at work (e.g., contribute new ideas or original ways to achieve work goals). Results show that when supervisors act in emotionally intelligent ways, work climate becomes more positive and supportive. Those whose supervisors show emotional intelligence mention being happy three times more often than being stressed, and describe feelings of growth (e.g., challenged, fulfilled), feeling motivated and enjoying work, and feeling appreciated. By contrast, those whose supervisors do not show emotionally intelligent behavior most often mention being frustrated and



## Emotions influence creative thinking and enable sustained creative action

stressed, as well as describe being angry (from being irritated, aggravated, annoyed, to mad) and unappreciated. The quality of relationships spills into feelings about work responsibilities. When supervisors show emotionally intelligent behavior, employees experience more opportunities for growth at work, feel more positively, and that in turn predicts higher creativity and innovation in what they do.

### CONCLUSION

Creativity is fueled by emotions, as well as guided, directed, and shaped by emotion skills. Emotions influence creative thinking and enable sustained creative action. Importantly, there isn't one kind of emotion uniquely beneficial to creativity. Rather, emotional intelligence enables different emotions to be used and managed in the service of creativity. Crucially, both our own emotional intelligence and that of others around us can support creative work.

The knowledge of the role of emotions and emotional intelligence in creativity can be applied in programs that aim to enhance creativity. Creativity skills and attitudes can be taught and emotion skills can be taught. While much previous research teaching creativity skills focused on thinking and idea generation (Scott, Lertz, & Mumford, 2004; Tsai, 2013), we worked to develop and test programs at the Centro Botín (Santander, Spain) that use emotions to teach creativity and use the arts as the vehicle to achieve this goal. A series of courses for children, adolescents, adults, and families were developed and show success in developing creativity (Ebert, Hoffmann, Ivcevic, Phan, & Brackett, 2015a; Ebert, Hoffmann, Ivcevic, Phan, & Brackett, 2015b; Hoffmann, Ivcevic, & Maliakkal, 2018; Hoffmann, Ivcevic, & Maliakkal, 2020; Maliakkal, Hoffmann, Ivcevic, & Brackett, 2016; Maliakkal,

Hoffmann, Ivcevic, & Brackett, 2017). As such, this work illustrates Lewin's (1951) maxim stating that "there is nothing so practical as a good theory".

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