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What conditions and contexts enhance artistic creativity?

Abstract:

This article reviews research into the conditions and contexts that enhance artistic creativity. It discusses the effect that educational opportunities, interpersonal relations, and culture exert on our capacities to be artistically creative. The paper concludes by formulating some of the discussed research studies in practicable terms.

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Introduction

If we could chart variations in artistic creativity through time and space we would likely find, as Dean Keith Simonton puts it, 'periods of florescence interspersed with periods of stagnation and even decadence or decay' (2011: 75–79). This paper broaches the question of why such variations might exist. To do so it examines some of the conditions and contexts that affect capacities for artistic creativity. The first section introduces creativity research. The second section discusses the effect educational opportunities, interpersonal relations, and culture exert on our capacities to be artistically creative. The article concludes by formulating some of the discussed research studies in practicable terms.

Research into creativity has enjoyed the fervent attention of psychologists since 1950, when Joy Guilford—the then-president of the American Psychological Association—described the neglect of the subject by psychologists as 'appalling' (Guilford 1950: 445). Guilford proposed two research questions which have a direct bearing on this article. '(1) How can we discover creative promise in our children and our youth? and (2) How can we promote the development of creative personalities?' (Guilford 1950: 445).

The first question relates to the disputed and unresolved issue of whether achieving excellence in a creative field requires innate, or natural, talent rather than educational opportunities, practice, and a supportive/conducive environment (see Howe et al 1998; Gaut 2014: 271, 281–283; Kieran 2014: 209–215; Simonton 1984: 1277). The second question has, to some extent, been addressed in the extensive corpus of psychological literature documenting the environmental, situational, and dispositional factors which enhance (or diminish) creativity.

Defining creativity

In his early treatment of the topic, Guilford presents creativity as a personality type, composed of a set, or 'pattern', of behavioural traits (1950: 444). By 1960 more than fifty definitions of creativity were in circulation. Repucci classifies these into six groupings, 'gestalt or perception', 'end-product', 'expressive', 'psychoanalytic', 'solution thinking', and 'various' (Repucci, cited Taylor 1988). More recently, definitions of creativity tend to be end-product focused. The 'standard definition' (Runco and Jaeger 2012: 92) used by psychologists characterises creativity as the production of ideas or artefacts that are both *novel* (or 'new', or 'original' [1]) and *valuable* (or 'fitting', 'useful', or 'appropriate'). However, a current trend in the study of creativity emphasises the social and cultural contexts within which creativity occurs (Gaut 2010: 1037; Csikszentmihalyi 1999). This is reflected in the following definition of creativity proposed by Plucker et al (2004), which is arguably more comprehensive than the 'standard' definition: 'Creativity is 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 et al 2004: 90).

The 'systems perspective' on creativity (Csikszentmihalyi 1999) cited by Plucker et al (2004: 84) situates creative products within three interconnected systems. One interconnected system is the individual and her personal background (Csikszentmihalyi 1999: 315). Another interconnected system is the 'domain', which includes the traditions, knowledge, culture, procedures, and styles of a given discipline (1999: 315). The third interconnected system is the 'field', which is composed of 'individuals who practice in a domain and have the power to change it' (1999: 321), such as: 'teachers, critics, journal editors, museum curators, agency directors' (1999: 325).

Csikszentmihalyi argues that creativity occurs when an individual changes a domain, and that change is transmitted through time (1999*:* 315). An individual is only able to change a domain,

and so be 'creative', if the agents who constitute a field (described as 'gatekeepers') recognise a given innovation or product as valuable and incorporate it into their domain. This implies that a person has only been 'creative' if her work achieves public recognition and affects a change in a domain. So, Csikszentmihalyi concludes, creativity 'is not the product of single individuals, but of social systems making judgements about individual's products' (1999: 314).

Testing for creativity

Psychological studies differ in terms of the participants they study. Experimental research studies typically recruit university students as test subjects (or 'participants') in their experiments (Simonton 1999: 116). Participants are placed in controlled environments, and the effect that manipulating a particular variable has on their capacity to be creative is recorded (Runco and Sakamoto 1999: 62). This allows researchers to assess in quantitative terms how different situational and environmental factors affect creative performance. An astounding range of variables have been investigated in this manner for their effect on creativity, including the influence of mindfulness meditation (Capurso et al 2014), the influence of mood or 'hedonic tone' (Adaman and Blaney 1995; Van Kleef et al 2010), the presentation of task instructions (Runco and Sakamoto 1999), the effect of music (Adaman and Blaney 1995), the effect of 'binaural beats' (Reedijk et al 2013), the role of motivation and the prospect of reward (Eisenberger and Rhoades 2001), the impact of external evaluation (Amabile 1979), the effect of time pressure (Baer and Oldham 2006: 379), the effect of unconscious thought (Dijksterhuis and Nordgren 2006; Baumeister et al 2007; Yang et al 2012), the effect of 'task reactivation' during sleep (Ritter et al 2012), and the effect of ambient odour (Knasko 1992), to name a few.

A different approach to investigating creativity examines the lives of individuals who have already achieved success in a creative field. Some studies using this approach restrict the range of the persons they study to only include individuals who have achieved 'eminent' status: i.e. who have made a lasting and significant contribution to the development of their field (Simonton 1999: 116). Other studies cast their nets more widely and investigate, for instance, people who work in 'scientific and artistic occupations' (e.g. Kyaga et al 2013). Some of the factors investigated in studies of creatively successful people include personality traits (Feist 1999), intelligence (Jauk et al 2013: 63–5), the presence of role models (Simonton 1984), experiences of hardship and childhood trauma (Simonton 1994: 154–55), mental health (Jamison 1993: 56–76), birth order (Schachter 1963), time spent practicing (Kaufman and Kaufman 2007), and multicultural experience (Simonton 1997).

Conditions and context that enhance artistic creativity

To produce artistically creative works one needs to first acquire skills and expertise that are specific to the domain in which one works (Amabile 1983: 362). The prevailing consensus seems to be that it takes (at least) ten years of immersion in a field before acquiring the status of 'expert' (Ericsson 1998: 83). Kaufman and Kaufman argue this initial ten years should be viewed as the 'preparation' time it takes before an individual is able to make an initial contribution to a field (2007: 115). They propose that, in the case of literary authors, it takes an additional (average) period of 10.6 years of further practice and immersion before their best works are produced (Kaufman and Kaufman 2007: 121).

Kaufman and Beghetto (2009) propose that professional-level expertise in a creative field can be acquired in two ways [2]: first, by enrolling in 'a formal apprenticeship', which is usually undertaken at an academic institution (Kaufman and Beghetto 2009: 7). Alternatively, they can be acquired by engaging in a period of unsupervised research and personal experimentation

('tinkering'), followed by an 'informal apprenticeship', where an experienced mentor facilitates your professional development (Kaufman and Beghetto 2009: 7).

This implies that, minimally, to develop artistic creativity to a professional level one must have the opportunity to engage in either formal apprenticeships at academic institutions, or a period of unsupervised experimentation and research, followed by meetings with an experience mentor. Opportunities to study at academic institutions can be best provided by affluent societies with a surplus of material resources (Csikszentmihalyi 1999: 322). In order to pursue the second route to professional level expertise, an individual must have access to a network of more experienced professionals who work in the same domain and who are willing to give, or exchange, their time and advice.

Further insight into the effect of mentors on eminence and success is provided by Simonton. Simonton examined the biographical information of 772 artists who lived between 1042 and 1912 (Simonton 1984: 1275). He quantified the eminence, or 'attained distinction', of each artist using 18 distinct (Anglo-American, French, German, Italian, Dutch and Columbian) sources, from which 27 indicators of eminence were derived (e.g. 'number of pages in which an artist is mentioned in a particular history of art' (Simonton 1984: 1275)). He then examined the correlation between eminence and the quantity and quality of eleven different types of interpersonal interactions which, to varying degrees, were present in each of the artist's lives.

Surprisingly, Simonton found that having a rich supply of paragons or idols (defined as 'those whom the artist admired, imitated, emulated, copied, idolized, or was otherwise influenced or inspired by (excluding parents and masters)' (Simonton 1984: 1275)) to emulate is more important to an artist's success than being in an apprenticeship with an eminent master (Simonton 1984: 1284).

Expanding on this insight in *Greatness* (1994), Simonton writes:

> Eminent personalities were usually exposed, very early in life, to illustrious predecessors … the availability of many appropriate models in childhood and adolescence often accelerates the emergence of precocious creativity. Mozart is a good example: his father made sure young Wolfgang met the main composers of the day, such as KPE Bach and Joseph Haydn. (1994: 379)

The challenge for developing artists, Simonton argues, is to learn from eminent role models—'assimilate their expertise' (1994: 385)—without merely imitating their style and becoming constrained by their legacy (1994: 380). He suggests two ways in which emerging artists can achieve this. The first is to admire more than one eminent predecessor; the second is to emulate and admire paragons from more remote cultures and time periods (Simonton 1994). In light of recent research by Hong and Lin-Siegler (2011), we might add that aspiring creators can benefit from the examples of eminent predecessors by learning about the struggles they endured in their professional lives, rather than by focusing on their successes and achievements. [3]

With regards to the social relationships that artists can enter into with their contemporaries, Simonton found that 'challenges by rivals and contacts with associates most consistently affect artistic success' (Simonton 1984: 1284). Simonton qualifies the finding that rivalry is correlated with artistic success with caveats. For example, growing up when other nations besides one's own dominate the artistic scene represses creativity in a young artist (Simonton 1994: 1282); and personal rivalry may be stimulating, whereas general competition with largely anonymous competitors may be inhibiting (Simonton 1994: 1283).

There is some evidence to suggest that the effect rivalry and competition has on creativity may vary with gender. Conti et al hypothesise that competition enhances the creativity of boys, but diminishes creativity in girls (2001: 1275). Their findings did not fully support this hypothesis,

but they found that when groups of children self-segregated on the basis of gender and were placed under competition conditions, boys were significantly more creative than girls (Conti et al 2001: 1286).

With regards to the influence of family and friends on creativity, Kéri (2011) found (non-eminent) creativity to be correlated with size of 'primary social group': close friends and family. Kéri conducted creativity tests (the Creative Achievement Questionnaire) on 111 volunteers who were recruited 'via personal acquaintances, advertisement, and e-mail networks' (2011: 216). Alongside IQ, schizotypal personality traits, and latent inhibition—the latter of which is, 'a special ability of the nervous system to tune down information that was previously experienced as irrelevant' (Kéri 2011: 215)—Kéri measured the size of each participants 'primary social group' (friends and relatives), and 'broader secondary social network' (Kéri 2011: 217). Kéri found that 'the size of the core group of individuals known and personally contacted by each other (relatives and friends) was the strongest predictor of creative success', and that, 'the size of the broader social network was not related to creativity' (Kéri 2011: 217–18).

Moving beyond immediate personal relationships, the cultural milieu in which artists live also exerts influence on their capacity for artistic creativity. Lubart suggests that a culture's 'worldview'—that is, 'a culture's broad conception of the nature of the world and the people's role within the world' (1999: 345)—can either nurture or inhibit creativity. Lubart argues that 'individualistic', but not 'collectivist', cultures nurture creativity (1999: 345). To support this, Lubart cites evidence that the personality trait of 'individuality' (the willingness to differentiate oneself from others) is linked with 'creative activities and behaviours'.

A similar position is found in Niu and Sternberg (2001), who asked participants from comparable universities in China and America (Peking University and Yale) to complete two creativity tasks. These were to draw a picture of an extra-terrestrial alien and to produce a collage that represented one of four emotions ('happy, sad, angry, or frightened') (2001: 231–32). The collages and drawings of the American and Chinese students were ranked anonymously by both American and Chinese psychology graduate students. They found that 'American students, in general, showed higher artistic creativity than did Chinese students' (Niu and Sternberg 2001: 235). This finding is used to support their hypothesis that, 'independent self-oriented culture is more encouraging of the development of artistic creativity than is an interdependent self-oriented culture' (Niu and Sternberg 2001: 225).

It is questionable whether the conclusions arrived at by Niu and Sternberg (2001) are adequately supported by their research. Their findings need to be considered in light of a point made by Csikszentmihalyi that societies which enjoy a surplus of material resources will place a higher value on creativity (1999: 322)—this seems particularly true of artistic creativity, compared with creativity that directly benefits infrastructural or economic development. The high value American culture places on artistic creativity is at least partly explicable by the sustained period of economic prosperity the country has enjoyed. China, by contrast, has only relatively recently benefited from a surplus of material resources, so—it could be argued—Chinese culture has not been afforded the same opportunity to place as much value on artistic creativity (at least in recent centuries) as American culture. We might therefore take the findings of Niu and Sternberg to instead support the conclusion that cultures *that have benefited from a sustained period of economic prosperity* encourage the development of artistic creativity. In short, their findings seem explicable by reference to economic factors, rather than the different emphasis the respective cultures place on individuality.

An alternative explanation for Niu and Sternberg's findings appeals to an established link between the cultural diversity of a country (or city) and the creativity of its populace. Since the

USA is more culturally diverse than China (Fearon 2003: 215–17), it could be argued that American students are on average more artistically creative than Chinese students. I now examine the relation between cultural diversity and creativity.

Why does cultural diversity enhance creativity? Csikszentmihalyi notes that:

> societies located at the confluence of diverse cultural streams can benefit more easily from the synergy of different ideas that is so important for the creative process … The Italian renaissance was in part due to the Arab and Middle-eastern influences that businessmen and their retinues brought into Florence and the sea ports of Venice, Genoa, and Naples. (1999: 323)

Simonton gives a similar explanation:

> [Creative] activity in a civilisation tends to increase after it has opened itself to extensive alien influences, whether through immigration, travel abroad, or studying under foreign teachers … By enriching the cultural environment, the ground may be laid for new creative syntheses (Simonton 2000: 155).

In support of this theory, Simonton (1994) investigated 1,803 historical Japanese figures who lived between CE580 and 1939 and achieved eminence in one of fourteen different fields: politics, war, business, religion, medicine, philosophy, nonfiction, fiction, poetry, drama, painting, sculpture, ceramics, and swords (Simonton 1997: 87–88). From their biographical information, Simonton located particular years at which 'extracultural factors' had an influence on each of the fields. Extracultural factors include 'outside influence' such as studying under a foreigner or admiring or emulating a foreigner, 'travel abroad', and the presence of 'eminent immigrants'. Based on his earlier work, Simonton was also able to estimate the year in which each of the eminent persons in his sample reached the peak of their career (1997: 87). This allowed him to assess the effect of foreign influence on Japanese national achievement in each of the fields. He found that achievements in creative fields (medicine, philosophy, nonfiction, fiction, poetry, drama, painting, sculpture, ceramics, and sword making) were stimulated 'by the influx of foreign ideas and peoples' after a delay of two generations (Simonton 1997: 92).

On an individual level, recent research suggests that experience of living in a different country increases performance on creativity-related tests (Maddux and Galinsky 2009; Leung et al 2008). Interestingly, Maddux and Galinsky found that, of the participants in their studies who had lived abroad, those who reported high levels of adaption to the local culture were more creative. They theorise that 'an individual who has lived abroad can frame such a problem or behavior in multiple ways, understanding that it has multiple meanings depending on the cultural context (i.e. leftover food could serve either as a complement or a criticism)' (2009: 1054).

Implementing creativity research

In what ways might the types of research just mentioned be used to enhance artistic creativity? There seem to be three levels at which creativity research can inform efforts to enhance artistic creativity. These are at an individual level, on familial and community level, and at a societal or systemic level.

First, on an individual or personal level, the creative practitioner can herself alter the conditions under which she works so that they reflect conditions that have been shown in laboratory settings to enhance creativity. A practitioner could, for instance practice a particular style of meditation (Capurso et al 2014), live in culturally diverse places (Simonton 2000: 155), or travel or study abroad (Maddux and Galinsky 2009, Leung et al 2008). Second, at a familial or community level, creativity research can inform the actions of parents, schools, and employers.

For instance, parents and schools can take steps to ensure that children have the opportunities to regularly engage in immersive practice of creative activities art (Kaufman and Kaufman 2007). They could also help children acquire a large primary social group (Kéri 2011: 217–18), meet appropriate role models (Simonton 1984: 1275), and learn about the struggles overcome by the trailblazing creative practitioners who have gone before them (Hong and Lin-Siegler 2011).

Third, research can inform policies implemented by governments, large companies, and organisations at a societal or systemic level. Recall Simonton's argument that having access to appropriate role models can help advance precocious ability in young people. One way this could inform government policy is by governments providing funding only to creative practitioners who work in a particular domain on the condition that they interact with children and young people who show promise in that domain. This would allow for musically talented children, for instance, to have the opportunity to observe, and interact with, successful composers and musicians. Additionally, governments could implement policies aimed at encouraging the cultural diversity of institutions that facilitate, teach, or promote creative practices. This could take the form of scholarships, overseas recruitment, teacher and student exchange programmes, and progressive immigration policies.

Concluding remarks

The extensive corpus of literature on creativity can seem daunting, contradictory, and impenetrable. Close examination of the research methodology used by particular studies is required to ensure that the purported findings of the authors are supported by evidence. Further, it is often unclear how much detail one should cover in discussing a particular experiment or research project. I hope in this short piece to have provided the reader with an accessible and useful overview of some of the conditions and context that enhance artistic creativity.

Endnotes

[1] For an interesting investigation into pre-theoretical concepts of creativity see Runco and Charles (1993). Their research suggests that we associate creativity more with 'originality' than 'appropriateness' or 'fittingness'.

[2] They also claim that a very small number of people transition directly to a professional level of expertise, without undergoing formal or informal apprenticeships. I take it they have in mind child prodigies.

[3] Hong and Lin-Siegler (2011) examine the effect which learning about the *struggles* of eminent scientists Einstein, Newton and Galileo, as opposed to their *achievements*, has on the motivation and performance of physics students. They found that students who learnt about the struggles of Einstein, Newton and Galileo were better able to recall key scientific terms after a delay one week, and provided better solutions to complex physics problems, when compared to their peers who learnt about the scientists' achievements and successes.

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