Creativity and Psychopathology: The Fine Line of Genius

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The idea that creativity and psychopathology are somehow linked goes way back to antiquity-to the time of Aristotle. Centuries later, this belief was developed and expanded by various psychiatrists, psychoanalysts and psychologists. For instance, Cesare Lombroso, M.D., argued toward the end of the 19th century that genius and madness were closely connected manifestations of an underlying degenerative neurological disorder. To be sure, this idea has not gone without challenge. On the contrary, humanistic psychologists were inclined to associate creativity with mental health. Nevertheless, the prevailing view appears to be that psychopathology and creativity are positively associated.

But what is the scientific evidence supporting this hypothesized association? And what does this evidence suggest is the basis for the relationship?

Empirical Evidence

Scientific data addressing this issue come from three main sources: historiometric, psychiatric and psychometric. Although each source has distinct methodological problems, the findings all converge on the same general conclusions.

Historiometric research. In this approach, historical data are subjected to objective and quantitative analyses. In particular, the biographies of eminent creators are systematically analyzed to discern the presence of symptoms associated with various psychopathological syndromes. Such historiometric inquiries lead to four conclusions.

First, the rate and intensity of psychopathological symptoms appear to be higher among eminent creators than in the general population (Ellis, 1926; Raskin, 1936). Although the differential depends on the specific definition used, a reasonable estimate is that highly creative individuals are about twice as likely to experience some mental disorder as otherwise comparable noncreative individuals (Ludwig, 1995). Depression seems to be the most common symptom, along with the correlates of alcohol(Drug information on alcohol)ism and suicide (Goertzel et al., 1978; Ludwig, 1990; Post, 1996).

Second, on average, the more eminent the creator, the higher is the expected rate and intensity of the psychopathological symptoms (Ludwig, 1995).

Third, the rate and intensity of symptoms varies according to the specific domain of creativity (Ludwig, 1992; Post, 1994). For example, psychopathology is higher among artistic creators than among scientific creators (Post, 1994; Raskin, 1936). Thus, according to one study, 87% of famous poets experienced psychopathology whereas only 28% of the eminent scientists did so, a figure close to the population baseline (Ludwig, 1995).

Fourth, those family lines that produce the most eminent creators also tend to be characterized by a higher rate and intensity of psychopathological symptoms (Jamison, 1993; Juda, 1949; Karlsson, 1970).

Hence, even though there is some evidence that the lifestyle of creative activity can have adverse consequences for mental health (Schaller, 1997), it remains the case that there may be a common genetic component to both creativity and psychopathology (Ludwig, 1995).

Psychiatric research. This type of evidence depends on the incidence of clinical diagnosis and therapeutic treatment in samples of contemporary creators. Hence, the research does not require retrospective analysis as in historiometric research, and the assessment of psychopathology reflects modern standards. In any case, psychiatric studies also seem to find higher rate and intensity of symptoms among distinguished creators, especially those engaged in artistic creativity (Andreasen and Canter, 1974; Jamison, 1989). Once more, depression, alcoholism and suicide appear to be the most common indicators. Furthermore, the evidence suggests that creativity and mental illness run in the same family lines (Andreasen, 1987; McNeil, 1971; Myerson and Boyle, 1941).

Psychometric research. Here, standard assessment instruments are applied to contemporary creators. The sampled creators either vary substantially in creative achievement or else they are compared to a control group of noncreative participants who are otherwise comparable. The psychometric measures include the Minnesota Multiphasic Personality Inventory (MMPI) and the Eysenck Personality Questionnaire (EPQ) (Gough, 1953). In general, highly creative individuals score above normal level on several dimensions associated with psychopathology (Barron, 1963). For instance, creativity is positively correlated with psychoticism scores on the EPQ (Eysenck, 1995, 1994). In addition, the higher the level of creativity displayed, the higher the scores tend to be on the clinical scales. Nonetheless, artistic creators still have more elevated scores than do scientific creators (Simonton, 2004).

The days of getting eminent creators to take the MMPI or EPQ are long gone, with the classic studies done in the 1950s and '60s. Eysenck's work is a research integration of work published much earlier. More recent work tends to focus on specific components, such as the research on latent inhibition discussed later. Also, the psychometric literature provides some unique empirical results that can shed some light on the specific nature of the relationship between creativity and psychopathology. The following two sets of findings stand out.

First, although highly creative individuals tend to exhibit elevated scores on certain psychopathological symptoms, their scores are seldom so high as to represent bona fide psychopathology. Instead, the scores lie somewhere between the normal and abnormal ranges (Barron, 1963; Eysenck, 1995). For example, although successful writers score higher than normals on most clinical scales of the MMPI, and highly creative writers score higher still, scores

for both groups remain below those received by individuals who are psychotic (Figure). At these moderate levels, the individual will possess traits that can actually be considered adaptive from the standpoint of creative behavior. For instance, higher than average scores on psychoticism are associated with independence and nonconformity, features that lend support to innovative activities (Eysenck, 1995). In addition, elevated scores on psychoticism are associated with the capacity for defocused attention (e.g., reduced negative priming and latent inhibition), thereby enabling ideas to enter the mind that would normally be filtered out during information processing (Eysenck, 1993). This less restrictive mode of information processing is also associated with openness to experience, a cognitive inclination that is positively associated with creativity (Peterson and Carson, 2000; Peterson et al., 2002).

Second, creative individuals score high on other characteristics that would seem to dampen the effects of any psychopathological symptoms. In particular, creators display high levels of ego strength and self-sufficiency (Barron, 1963; Cattell and Butcher, 1968). Accordingly, they can exert meta-cognitive control over their symptoms, taking advantage of bizarre thoughts, rather than having the bizarre thoughts take advantage of them. Furthermore, the capacity to exploit unusual ideas is supported by general intelligence. Although intelligence is not correlated with creativity in the upper levels of the intelligence distribution, a certain minimal level of intelligence is required for exceptional creativity (Simonton, 2000). That threshold level is in the gifted range, roughly equivalent to an IQ 120. Creators do not necessarily have genius-grade IQs, but they do have sufficient information processing power to select, develop, elaborate and refine original ideas into creative contributions.

Theoretical Interpretation

Do these results imply that creativity and psychopathology are intimately connected? Are genius and madness tantamount to the same thing? The answer to the first question is affirmative, but the response to the second is negative. The affirmation comes from the fact that various indicators of mental health appear to be negatively associated with creative achievement. This fact is demonstrated by historiometric, psychiatric and psychometric sources. The negation emerges from the equally crucial reality that few creative individuals can be considered truly mentally ill. Indeed, outright psychopathology usually inhibits rather than helps creative expression.

Even more significant is the fact that a very large proportion of creators exhibit no pathological symptoms, at least not to any measurable degree. Hence, psychopathology is by no means a sine qua non of creativity. Instead, it is probably more accurate to say that creativity shares certain cognitive and dispositional traits with specific symptoms, and that the degree of that commonality is contingent on the level and type of creativity that an individual displays. To be more specific, the relationship can be expressed as follows.

In general, creativity requires the cognitive ability and the dispositional willingness to "think outside the box"; to explore novel, unconventional and even odd possibilities; to be open to serendipitous events and fortuitous results; and to imagine the implausible or consider the unlikely. From this requirement arises the need for creators to have such traits as defocused attention, divergent thinking, openness to experience, independence and nonconformity. Let us call this complex configuration of traits the "creativity cluster."

The higher the level of creativity displayed, the higher the likelihood that the individual manifests this cluster. In addition, some domains require this cluster more than others do. For instance, scientific creativity tends to be more constrained by logic and fact than artistic creativity. Accordingly, this creativity cluster of attributes will be more apparent in artists than in scientists (Simonton, 2004). However, there will be some differences even with each of these general domains. For example, artists operating in formal, classical or academic styles will operate under more constraints than artists working in more expressive, subjective or romantic styles (Ludwig, 1998). The extent to which they exhibit the creativity cluster will reflect this stylistic contrast.

Because some psychopathological symptoms correlate with several of the characteristics making up the creativity cluster, moderate amounts of these symptoms will be positively associated with creative behavior. Moreover, more creative individuals will display these traits to a higher degree. Creators operating in less-constrained domains will also exhibit these symptoms to a greater extent.

To the extent that these symptoms have a genetic foundation, creativity can be said to be partly biologically determined. Nevertheless, psychopathological symptoms are not the only possible source for the cognitive and dispositional attributes underlying creativity. Many environmental experiences and conditions can also nurture the development of the same cluster. Although some of these developmental influences are also associated with psychopathology, others are not. Thus, on the one hand, creative development is frequently associated with traumatic experiences in childhood or adolescence, experiences that may also contribute to depression and suicidal tendencies (Eisenstadt, 1978; Goertzel and Goertzel, 1962). On the other hand, development is also linked to an enriched and diverse intellectual and cultural environment, an environment that is neutral with respect to psychopathology (Simonton, 1999). Growing up under such conditions fosters the emergence of many cognitive and dispositional traits that define the creativity cluster.

Implications

The theoretical interpretation just provided holds that creativity and psychopathology share a common set of traits. As a consequence, creators will commonly exhibit symptoms often associated with mental illness. The frequency and intensity of these symptoms will vary according to the magnitude and domain of creative achievement. At the same time, these symptoms are not

equivalent to out-and-out psychopathology. Besides the fact that characteristics are normally at subclinical levels, their effects are tempered by positive attributes, such as high ego strength and exceptional intellect. Moreover, many of the relevant components can be nurtured by environmental factors that lessen their dependence on any psycho-pathological inclinations. Taken altogether, this means that creativity is not incompatible with mental and emotional health. This affirmation is reinforced by the existence of numerous creative individuals who display little or no symptoms beyond normal baselines.

As a result, creators should have no fear that therapeutic treatment for disabling mental or emotional disorders would undermine their creative potential. Because the relationships between certain symptoms and creativity are described by curvilinear inverted-U curves, one goal of psychiatric intervention should be to identify the optimum level of functioning and then maintain the creative individual at that level.

Furthermore, treatment can also concentrate on those aspects of the creative personality that have a positive linear association with both creativity and mental health. Examples include ego strength and openness to experience. Although such an intervention clearly requires a delicate balancing act, the task is not by any means impossible. Executed carefully, it should be possible to help clients become more creative and more healthy at the same time.

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