

Creativity and psychopathology: the tenacious mad-genius controversy updated

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The mad-genius controversy concerning the relation between creativity and psychopathology is one of the oldest and most contentious in the behavioral sciences. Although the prevailing consensus is that the debate is not specious, it is also evident that its scientific resolution is far more complicated than a mere yes–no decision. To illustrate this complexity, this article examines seven central issues that must be addressed in future research: target persons, mental disorders, creative domains, specific hypotheses, quantitative assessments, data analyses, and theoretical explanations. It thus becomes apparent that the subject should continue to attract empirical and theoretical work well into the future.

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Current Opinion in Behavioral Sciences 2019, **27**:17–21

This review comes from a themed issue on **Creativity**

Edited by **Rex Jung** and **Hikaru Takeuchi**

[10.1016/j.cobeha.2018.07.006](https://doi.org/10.1016/j.cobeha.2018.07.006)

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Introduction

The conjecture that creativity is positively associated with psychopathology dates back to antiquity, making it perhaps the oldest controversy in the behavioral sciences [1]. Like many such debates, such as the nature–nurture issue, investigators have often proposed highly polarized positions, with some contemporary researchers going so far as to argue that the whole concept of the so-called ‘mad genius’ has no scientific basis whatsoever [2,3]. Nevertheless, empirical and theoretical inquiries published over the past decade make it clear that the question will not go away just by condemning the whole matter as a ‘myth’ or even a ‘hoax.’ In fact, the issue continues to inspire sufficient scientific research to fill whole edited volumes [4] as well as journal special issues [5]. Although probably no active researcher today would argue that psychopathology is *sine qua non* of creativity, the vast majority would likely defend

the proposition that some kind of connection exists, but that the nexus is far from straightforward [6]. Hence, investigations in this area require a scientific sophistication far greater than the mere ability to test a mean difference or to calculate a simple correlation coefficient. In particular, investigators must more carefully deal with the following issues: target persons, mental disorders, creative domains, specific hypotheses, quantitative assessments, data analyses, and theoretical explanations.

Target persons: who are the persons under investigation?

A central problem with scientific research on this subject is the existence of an essential disjunction between the specific nature of the hypothesis and the standard methods favored in the behavioral sciences. On the one hand, the concept of the ‘mad genius’ explicitly applies to those rare individuals who attain the highest levels of achieved eminence, particularly in creative domains, such as the arts [7^{**}]. Not only are these persons rare, but the largest proportion of the best cases are actually deceased, having thereby survived the ‘test of time.’ On the other hand, behavioral scientists primarily rely on techniques designed for the study of more commonplace and still living individuals, whether clinical populations, survey respondents, or college student research participants [8,9^{*},10]. Samples drawn from these groups need not contain a single recognized creative genius. One solution to this hypothesis–methodology disconnect is to use various at-a-distance methods, such as historiometrics, which apply objective quantitative analyses to biographical data regarding highly eminent creators [11]. Such empirical inquiries thus operate with samples that *only* contain universally recognized creative geniuses [12^{*},13]. The choice of target persons will no doubt leave some impression on the empirical findings. When the results differ, which are to be believed?

Mental disorders: what symptoms are under scrutiny?

Psychopathology is not a homogeneous psychological phenomenon, but rather consists of a diversity of syndromes defined by often rather distinct symptoms that can vary appreciably in quality, frequency, and intensity [14]. Common instances in the research literature include schizophrenia [15], mood disorders [16], the autism spectrum [17], and attention-deficit/hyperactivity disorder [18]. Complicating the diagnostic picture all the more, some symptoms associated with creativity might very well function at subclinical levels [19]. These subclinical characteristics are often collected under such

designations as schizotypy and psychoticism [20,21]. As if this complication were not enough, comorbidity introduces the problem that an individual may display more than one syndrome, such as combining anxiety and depression disorders. Comorbidity raises the possibility that creativity might be associated with a distinctive combination of subclinical cognitive and affective systems [22]. In any case, it should be evident that the choice of syndromes or symptoms to study is every bit as important as the decision about which persons to target.

Creative domains: does the type of creativity make a difference?

Having just observed that psychopathology is not a homogeneous phenomenon, it now becomes necessary to stress that creativity is rather heterogeneous as well. Not only must artistic creativity be distinguished from scientific creativity, but also distinctions must be made among different artistic domains (e.g. fiction versus non-fiction literature [23]) as well as among different scientific disciplines (e.g. 'hard' versus 'soft' sciences [24]). Yet there exists no a priori reason for believing that the relation between psychopathology and creativity would prove invariant across creative domains. Indeed, it was already hinted earlier that artistic geniuses may be more at risk than scientific geniuses (see also [25,26]). The latter might even be less at risk than the general population [11]. Admittedly, some indicators of individual differences in creativity appear to be domain generic rather than specific to a given domain: The ubiquitous measures of divergent thinking provide obvious examples (e.g.

[17,27]). Yet because these psychometric instruments are one or more steps removed from bona fide creative achievement, the most proximate instrument most likely must be domain specific [13]. Artists create art and scientists make discoveries. Psychopathology, or at least subclinical symptoms, may correspond to that difference.

Specific hypotheses: have all orthogonal conjectures been tested?

The mad-genius debate cannot be resolved by a single answer because the core conjecture can imply more than one hypothesis. Worse still, these alternative hypotheses are potentially independent of each other, so that the confirmation or rejection of one may provide little or no guidance about the empirical status of any other. Table 1 provides a tentative inventory of the diverse and potentially orthogonal hypotheses. Altogether, eight hypotheses are presented. The first four all entail differences in group means or proportions (e.g. risk rates), whereas the last four all involve correlations between quantitative variables, two linear and two curvilinear. Further distinguishing the various hypotheses, creativity may be assessed by multiple options, namely, occupation choice, eminent achievement, and either psychometric or historiometric instruments. Each of the eight hypotheses are illustrated by a specific example. Of special note is the fact that the hypothesis identified with a 'b' (viz. I-b, II-b, III-b, and IV-b) most directly address the mad-genius issue, whereas the others marked with an 'a' serve only as distal proxies, such as using occupational choice or university major [28]. To be sure, the potential

Table 1

Eight logically orthogonal hypotheses concerning the creativity–psychopathology relation

Hypothesis	Type	Contrast/variation	Creativity definition	Specific illustration
I-a	Proportions or mean differences	General population versus creatives	Creative occupation	Do professional artists exhibit higher risk of psychopathology than the population base rates?
I-b	Proportions or mean differences	General population versus creatives	Creative achievement	Do artistic geniuses exhibit higher risk of psychopathology than the population base rates?
II-a	Proportions or mean differences	Different creative domains	Occupational category	Do professional artists exhibit higher risk of psychopathology than do professional scientists?
II-b	Proportions or mean differences	Different creative domains	Achievement category	Do artistic geniuses exhibit higher risk of psychopathology than do scientific geniuses?
III-a	Correlations: linear	Quantitative creativity score	Psychometric instruments	Do scores on standard creativity tests correlate positively with degree of psychopathology?
III-b	Correlations: linear	Quantitative creative achievement	Historiometric assessments	Does degree of eminence as an artistic genius correlate positively with magnitude of psychopathology?
IV-a	Correlations: nonlinear	Quantitative creativity score	Psychometric instruments	Are scores on standard creativity tests an inverted-U function of magnitude of psychopathology?
IV-b	Correlations: nonlinear	Quantitative creative achievement	Historiometric instruments	Is degree of eminence as an artistic genius an inverted-U function of magnitude of psychopathology?

Note: Hypotheses distinguished by an 'a' involve indirect tests of the 'mad-genius' conjecture, whereas those distinguished by a 'b' represent direct tests.

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