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The Science Behind Creativity

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Abstract: The Myth of the Mad Genius

The link between madness and creative genius continues to be firmly established within our cultural zeitgeist, thanks in part to an ever-growing list of mentally ill artists and innovators. However, according to thorough scientific and medical research, including peer-reviewed data collected from case studies over the past few decades, this link has no conclusive foundation in reality. I investigate the origins of this correlation by considering a multitude of perspectives, including but not limited to medicine, literature, mythology, and gender roles. While some correlations have been observed between specific disorders or professions, specifically bipolar disorder and creative writing, I explored a more philosophical explanation for the timeless popularity of this notion. According to the research I've cited, the "mad genius" stereotype can be largely attributed to confirmation bias, in which entire communities are ascribed the characteristics, symptoms, or risk factors only of its most visible members. Neurobiological advancements may eventually make it possible to trace every psychological trait, including creativity, back to its definite origin. Until then, I accept the fact that creative talents and psychological disorders can often impact one another, to both positive and negative results, but there is no causal relationship between the two.

Introduction: Likelihood Stereotypes

From prophecy and witchcraft to shell shock and hysteria, the concept of mental illness has evolved drastically throughout human history. Virtually every society has ascribed its own set of stigmas and prescribed its own methods of treatment for what we now know as psychological disorders; meanwhile, the most famous and accomplished of the mentally ill have set a historical precedent by which entire disorders or professions are often judged.

Serial killers and other notorious criminals have set sinister examples of the human mind's darkest and most destructive dysfunctions, demonstrating how many casualties can result from untreated disorders such as sociopathy and schizophrenia. While that stigma connects the disorders themselves with a minority of those who suffer from them, other stigmas generalize entire groups of people as more likely to suffer. Even in modern society, women must still confront a sexist perspective that disproportionately dismisses female emotion or agency as symptomatic of mental illness. Ancient philosophers and 19th century doctors are among the many who have equated femininity itself with an innate hysteria, which has been used to pathologize everything from sexual preferences to independence and restlessness (Showalter 287-8).

More recently, male doctors and psychoanalysts have offered a less offensive approach, acknowledging a positive correlation but rejecting the notion that women themselves are the reason. Hysteria, some argue, "is caused by women's oppressive social roles rather than by their bodies or psyches" (287). Showalter responded to this observation with the notion that men, too, have been affected by a patriarchal view in which mental illness is regarded as a weakness, and therefore a female trait. In the late 19th century, men who deviated from specific gender roles, including but not limited to physical strength and libido, were also deemed "hysterical" (289).

However, accomplished artists and influential thinkers have countered these fearful and narrow views by validating another perspective, one that romanticizes the very notion of the disordered thinking that is symptomatic of many psychiatric conditions. The common cultural correlation between genius and madness – from the mad scientist to the suicidal poet and hallucinating artist – has been echoed over the centuries by the lives of some of the most prominent figures in the fields of science, art, philosophy, and literature. However, this rose-colored view of disorders that can prove fatal may have more to do with confirmation bias than any real scientific correlation.

Three Approaches

Debra Hershkowitz classifies both modern and ancient definitions of "madness" or mental illness according to three models: neurobiological, societal, and psychological (Hershkowitz 1-2). She links the neurobiological approach of 21st century psychiatry with ancient medical theories that blamed mental illnesses on specific body parts or bodily functions. As Andrew Solomon puts it, the ancient Greeks "shared the modernist idea that an unsound mind reflects an unsound body, that all illness of the mind is connected in some fashion to corporeal dysfunction" (Solomon 286).

On the Sacred Disease, an ancient treatise commonly attributed to Hippocrates, marked the first known deviation from supernatural explanations and the turn toward physical explanations. Its author posited that a "moist" brain was to blame for sending defective fluids into the bloodstream; quiet sufferers were "mad from phlegm" while the loud, "malignant", and "improper" had veins filled with bile (Hippocrates 17). The treatment of women as "hysterics" was also dependent on a belief in the anatomical origins of psychological abnormalities; the concept of the "wandering womb", which was mostly ascribed to younger women (Fink 26), definitively excluded those with male genitalia from the risk of developing depressive or anxious symptoms.

The societal model of madness, according to Hershkowitz, is rooted instead in social control and the effect that psychological disorders have on relationships. Madness with external origins, she argues, has historically served as an "indication of a dysfunctional interpersonal relationship between man and man, and madness resulting from divine intervention… is an indication of a

dysfunctional interpersonal relationship between man and god" (Hershkowitz 4-5). Just as gods were thought to punish mortals with madness, modern societal approaches seek to establish a proper social order by regarding the mentally ill as the "other", separating them from the "norm" of mainstream society.

Finally, the psychological model encompasses the majority of modern treatment and diagnostic methods. It entails the view that mental illness is "a product of dysfunctional mental processes within the individual" (2), which leads to an emphasis on cognitive and behavioral therapy. It is this perspective, rather than moral objections, that led to the rejection of older, more physical methods of treatment, including electroshock therapy and lobotomies. While non-invasive treatment methods yield much better results, they're still often accompanied by biological remedies in the form of pharmaceuticals. Mood stabilizers, anti-depressants, and tranquilizers are among the most commonly prescribed psychiatric medications, creating a climate of complementary treatments and allowing the neurobiological and psychological models to coexist.

Creative Artists & Confirmation Bias

Artist Vincent van Gogh famously amputated his own ear during a severe depressive episode in 1888; 120 years later, contemporary author David Foster Wallace took his own life and reignited a national debate about the link between creativity and depression, a debilitating disorder that Foster Wallace proved couldn't be resolved by any amount of success or support. Individual cases like theirs have continued to perpetuate the idea that the world's most creative people are highly likely to suffer from psychological disorders. This suggests that extreme talent is indicative of an equally extreme psyche, a generalization which mostly seeks to simplify any deviation, whether positive or negative, from societal norms.

On November 1, 1959, less than four years before she committed suicide, Sylvia Plath reflected on her own writing process during the midst of a deep depression. She wrote in her journal that "the absence of a tightly reasoned and rhythmed logic bothers me. Yet frees me" (Plath 521). Her conflicting opinion about her own condition demonstrates the fact that mental illness or disordered thinking, regardless of its origin, can simultaneously have both a positive and a negative effect on the creative process. This nuance has been echoed by thinkers as early as Plato, who welcomed the kind of "creative madness" that "meant being seized and manipulated by the gods" (Schlesinger 62).

Andrew Solomon was one of many authors to regard isolated examples like Plath and Foster Wallace as evidence that mental illness is abundantly prevalent among creative types. He claims that "scientists, composers, and high-level businessmen are five times more likely to kill

themselves than the general population; writers, especially poets, have an even higher rate of suicide" (Solomon 255). Even if these particular groups were overrepresented among suicide victims, that fact alone doesn't prove that mental illness caused either their career choices or their suicides; in fact, a simple personality trait like intelligence or perfectionism could just as easily be the cause.

Paul Silvia and James Kaufman argue that generalizations and anecdotes cannot replace case studies in determining the "curiously specific" stereotype of the mad genius (Silvia 383). They explored this phenomenon in terms of the rationality – or lack thereof – with which such claims have historically been made. To demonstrate the effect that confirmation bias and a long-standing cultural stigma can have, they compared two groups of American writers. John Cheever, William Faulkner, and F. Scott Fitzgerald could be – and often are – cited as proof that many writers are troubled alcoholics. However, writers such as Toni Morrison, Tom Wolfe, and Gay Talese have also experienced great success, without ever having been diagnosed with personality disorders or addictions.

A writer's mental health is only publicized – and often attributed to their success – when it's compromised by disordered thought, behavior, or emotion. Even if mentally "healthy" writers and artists far outnumber their mentally ill peers, the focus will remain on the abnormalities found among that minority. In order to avoid such biased associations, Silvia and Kaufman endorse a psychological perspective that requires society to "set aside our strong feelings and cultural prejudices" and instead confront real scientific evidence (381).

Swedish researchers attempted to do just that. After studying 1.2 million people over the course of four decades, Simon Kyaga and his colleagues concluded that those in scientific or artistic jobs were *not* more likely to suffer from any psychiatric disorder except bipolar disorder, which was still only 8% more likely. In fact, they found that the opposite could be true, and that "individuals holding creative professions had a significantly reduced likelihood of being diagnosed with schizophrenia, schizoaffective disorder, unipolar depression, anxiety disorders, alcohol abuse, drug abuse, autism, ADHD, or of committing suicide" (Kyaga 4). Even those with high IQs, whether they were creative types or not, saw no increased risk of suffering from a psychiatric disorder.

However, the researchers did observe a possible trend among authors in particular, finding that "regardless of psychopathy, being an author seemed to increase suicide risk" (4). They explored possible reasons for this increased likelihood, tying it in part to the manic and depressive cycles experienced by patients with bipolar disorder. Mania itself increases personal ambition and motivation, both of which strongly determine whether someone will undertake a creative project or produce a work of art.

While strongly emphasizing the importance of a scientific, rather than social, approach, Kyaga and his colleagues agreed that “divergent thinking” was characteristic of both psychiatric disorders and creativity itself (7). Marie J. C. Forgeard came to a similar conclusion, acknowledging that the two realms are connected, but that the connection is not direct. Instead, she hypothesized that “the experience of adversity is a recurrent theme in the lives of eminent creative individuals,” and went on to cite famous “examples of great creative achievements following traumatic or very difficult experiences” (Forgeard 245), including the painful personal life and prodigious career that Mexican painter Frida Kahlo simultaneously maintained.

Forgeard explored the possibility that trauma and adversity can permanently alter one’s psychological makeup, and that the traits that develop as a result – rather than being symptoms of a preexisting disorder – have allowed artists to “channel their negative experiences into sources of inspiration and motivation for their work” (245). While this adversity could include psychological disorders, she attributes that more specific link to the possibility of self-selection, which leads “individuals prone to psychological disorders to gravitate toward creative careers” or to “engage in creative endeavors as a way to heal and grow from their experiences” (246). While disordered thinking can help facilitate more unique, experimental artistic work, that work in turn provides therapeutic benefits that help decrease the negative effects of these disorders. This mutually beneficial relationship counteracts the mutually destructive nature of the supposed link between madness and genius, a link that implicates psychological disorders as simultaneously constructive and destructive.

Even Solomon, who claims there is a verifiable link between creativity and mental illness, admits that highly successful people “tend to set high standards for themselves and are often disappointed even in their greatest achievements” (Solomon 255). This suggests that individual personality traits – the same ones that lead to increased productivity and more critical thinking – are distinct from mental illness, and that specific abnormalities aren’t always the reason that certain people produce, create, and achieve more often and more successively than others.

Conclusion

People with unusual creative talent have long been stereotyped as especially prone to psychological disorders. The suicides and erratic behaviors of prominent artists have contributed to a common belief that madness and genius are likely to coexist, and that a disordered brain is

more capable of producing unique and successful work. It is much more likely that these prominent figures have simply been the most visible members of two important communities – artists and the mentally ill – thereby allowing people to mistake confirmation bias for scientific proof. More generally, a link between adversity and creative thinking has actually been established, based on increased creativity among patients who are working to overcome traumatic or otherwise negative experiences. Traits that are common among the most creative and intelligent – such as obsessiveness and abnormal views of the world or usage of language – also happen to be symptoms of psychological disorders. Modern scientific research has produced no data that confirms a causal relationship between the two; however, a more nuanced interconnectivity does exist between mental illness and creativity.

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