

1 Rethinking the Tortured Artist: The Role of 2 Empathy in the Shared Vulnerability Model

4 Abstract:

5 A long standing stereotype, the “tortured artist” portrays artists as striving for creativity
6 through mental suffering. Although heavily romanticized, this stereotype presents a
7 fascinating question from a scientific viewpoint about the relationship between creativity
8 and psychopathology. If creativity improves mental health, why is it often associated with
9 mental illness? One such model, the shared vulnerability model, explored this question
10 through a genetic lens, finding that creativity and psychopathology share many traits
11 whose outcomes are determined by certain protectant or risk factors. However, because
12 the work done on this topic has been largely genetic, it leaves key areas, such as
13 social-cognition, under-explored. The current paper expands the shared vulnerability
14 model to include the social-cognitive factor of empathy. Using historical analysis, research
15 on Theory of Mind, and an exploration of empathy, the paper links empathy’s impact on
16 mental health and creativity to the shared vulnerability model as a protectant factor that
17 shifts an individual more towards creativity and less towards psychopathology. These
18 findings, when integrated into therapies and treatments, apply to not only artists, but to a
19 broader population of creative individuals or individuals who experience struggles with
20 mental health. It also reduces the stigma around the tortured artists stereotype by
21 providing a more complex explanation.

23 Keyterms: Creativity, empathy, shared vulnerability model, mental illness, psychopathology,
24 theory of mind

26 Introduction

27 The “tortured artist” stereotype has been around for centuries. From as early as
28 Sophocles’ Greek tragedy Philoctetes to modern day Hollywood stars and artists, the
29 association between creativity and mental suffering has been present (Kaufman, 2014).
30 Countless famous artists, musicians, and writers, such as Van Gogh, Beethoven, Ernest
31 Hemingway, are all labeled the vague yet unifying title of “tortured artist.” The tortured
32 artist is someone who performs negative identity work, a process of defining oneself with
33 characteristics opposed to societal norm, in order to achieve a positive artistic self
34 (Alacovska & Kärreman, 2023). Modern research has begun looking past simple anecdotes
35 and case studies, diving into the mechanisms with experiments, brain scans, and models
36 for the relationship between creativity and mental illness. However, proposed explanations,

such as Shelly H. Carson's shared vulnerability model, have focused on neurological, biological, or genetic approaches. Because creativity and mental illness are both extremely complex in nature, it is important to consider alternate perspectives.

This paper will extend previous work on the shared vulnerability model (SVM) to incorporate empathy, a social-cognitive function, into the model. Understanding the role of empathy in the shared vulnerability model is important because of its role in creativity (Alzayed et al., 2022). Grounded in this model, social-cognitive functions, specifically empathy, act as a protectant factor in determining the relationship between creativity and psychopathology, meaning it shifts individuals more towards creativity and puts them less at risk for mental illness.

The importance of empathy in this discussion is that it has been overlooked due to the romanticization of the concept (Becker, 2001). Further examining the relationship between creativity and psychopathology can reduce stigma around "tortured artists." Empathy specifically is important because it plays an important role in emotional wellbeing. Using the shared vulnerability model, empathy could prove crucial in explaining how protectant factors impact creative or at-risk individuals. In addition, empathy's role can be used to improve therapy, interventions, and mental health education. Understanding the complex relationship from empathy's perspective can help refine treatments for those struggling with mental health by incorporating creativity to bring individuals away from pathology. Overall, empathy has not been explored in past research and represents an important new factor to consider.

In this paper, the history of the "tortured artist" stereotype will be explored, emphasizing that there are more factors at play than genetics. Then, the shared vulnerability model (SVM) will be discussed. The general idea is that genetically, psychopathology and creativity share multiple vulnerabilities, such as low latent inhibition and cognitive disinhibition. These traits are seen as heritable and polygenetic. Protectant and risk factors determine whether an individual is more prone to creativity or psychopathology (Carson, 2011). However, the examined risk and protectant factors have only been genetic, rather than other perspectives important to psychology. One such perspective is the social-cognitive perspective. Later research has examined Theory of Mind and its role in the SVM, suggesting it is a key mediator and important protectant factor (Sampedro et al., 2020a). However, a step further from Theory of Mind is empathy. Yet to be examined in the context of creativity and psychopathology, the role of empathy will be discussed in this paper along with applications to the real world.

71

1. History

The association of creativity with mental illness has long pre-dated neurological attempts at explaining the relationship. The idea existed as early as ancient Greece in the writings of famous philosophers such as Plato and Aristotle. Through their work, they

76 describe madness as something that can guarantee creativity. They believed that it was
77 madness that drove individuals to think imaginatively and to be in uncontrolled states of
78 mind, allowing for creativity. These Greek philosophers saw this type of madness as a
79 divine gift only given to a few (Zafeirenia, 2024). As the idea progressed, many similar
80 explanations for creative genius appeared. In the Renaissance Era, philosopher Marsilio
81 Ficino called it *furor divinus*, meaning “divine madness” in Latin (McMahon, 2013). This idea,
82 too, stated that creativity was a divine right that would cause mad states of imagination.

83 It wasn’t until the Enlightenment Era, starting in the late 17th century, that creativity
84 and genius were understood to be natural human talents (Mason, 1995). The Enlightenment
85 was defined as a period of time where reason was emphasized over divine explanation, and
86 this new rising value contributed to the shift of ideas about creativity, seeing it as an innate
87 characteristic rather than a divine intervention of madness.

88 However, beginning in the 19th century, as a response to the reason-oriented
89 perspective, the Romantic Era emerged as a turning point of the modern day concept of
90 creativity. Unlike the Enlightenment, the Romantic Era was one of emotion and passion,
91 leading to more artistic approaches to creativity. Romantic poetry, for example, explored
92 human feelings, and it was believed that madness was emotion being pushed to its limit.
93 Because creativity produced poetry, poetry was emotion, and the peak of emotion was
94 madness, the artistic process became associated with madness in the minds of not only
95 consumers, but also in the minds of artists themselves (Whitehead, 2017).

96 One of the most notable examples that demonstrates our modern belief of the
97 “tortured artist” is the story of Vincent Van Gogh. As an unsuccessful artist who, as experts
98 deduce, suffered from bipolar disorder, his story of pain and suffering is seen as the
99 epitome of a tortured artist whose mental health problems drove his artistic ability (Stamm,
100 1971). Retellings of his story largely attribute his journey through life, full of tragedies, to his
101 artistic process, each stage of his life representing one of his painting eras, such as his
102 famous *Starry Night* being painted in a mental asylum, further linking the association of
103 creative processes to mental illness. As modern art evolved, a multitude of other examples
104 rose that fit the tortured artist stereotype. After World War I, a generation in the western
105 world known as the Lost Generation gave birth to many writers who wrote books reflecting
106 the disillusionment of a post-war society as previous values of honor were destroyed and
107 replaced by suffering. One of the main writers in Lost Generation literature was Ernest
108 Hemingway, yet another example of an artist characterized by tremendous suffering
109 (Durham, 2003). Hemingway suffered a traumatizing childhood with his father committing
110 suicide, and he led a life of depression, alcoholism, and rash adventures until he ultimately
111 took his own life. At the same time, he produced many works considered masterpieces,
112 such as *The Old Man and the Sea*.

113 However, after World War II and its atrocities and the resulting trauma, the world
114 began to focus more on mental health, leading to a revolution of mental health awareness.
115 Multiple mental health organizations were established during this time as well as NIH’s

116 National Mental Health Act in 1946 in the United States (Brand, 1965). It was in this period
117 that new psychological research worked towards debunking the tortured artist stereotype
118 as its role in defining artists became toxic (Taylor, 2017).

119 As the topic of mental health approaches the present, how we see creativity has
120 shifted into a healthier light, now defining it as a process of creating original works (Young,
121 1985). However, the link between creative individuals and mental illness continues. Modern
122 day musicians, such as Michael Jackson, Amy Winehouse, and Britney Spears, continue
123 reinforcing the relationship between creativity and mental illness. Given all this history, it is
124 clear there are more than only genetic factors influencing the stereotype of the tortured
125 artist.

126

127 2. The Shared Vulnerability Model

128 The relationship between creativity and psychopathology have been debated for
129 decades, as a multitude of historical anecdotes have demonstrated the positive association
130 between creativity and psychopathology. (Silvia & Kaufman, 2010). However, empirical
131 studies on this topic have resulted in contradictory evidence. These findings have pointed
132 to an explanation: the inverted-U model. This means that minor instances of
133 psychopathology can be associated with creativity, but severe cases cannot (Abraham,
134 2014). For example, one study found that while full schizophrenia is negatively correlated
135 with creativity, certain symptoms of schizophrenia are positively correlated, such as
136 psychoticism or positive schizotypy. This means that individuals with schizophrenia are
137 less likely to be creative, but specific psychopathological traits are associated with
138 creativity, supporting the inverted-U hypothesis (Acar et al., 2018). Another example with
139 bipolar disorder found that although they exhibit a small correlation, those with mild
140 bipolar traits generally tested higher in creativity while full bipolar disorders did not
141 (Forthmann et al., 2023). These studies, and a multitude more, conclude that although not
142 directly correlated with illness, creativity predicts traits of mental illness along the
143 inverted-U. This finding suggests that there is a certain point on the inverted-U at which
144 creativity and psychopathology do not associate, leading to further exploration of their
145 relationship.

146 Current and future research seek to expand the knowledge on this topic beyond
147 anecdotes and into mechanistic and empirical arenas. One of the most popular models
148 probing the relationship between the two variables is the shared vulnerability model (SVM).
149

150 As a precursor to the SVM, the stress-vulnerability model, originally adapted in 1977,
151 explored the characteristics of those prone to schizophrenia. It describes that those with
152 higher levels of these characteristics, or vulnerabilities, are more likely to respond to stress
153 with a psychiatric episode. Essentially, it explained that vulnerabilities and stress
154 contribute to mental illness such as schizophrenia (Goh & Agius, 2010).

155 The stress-vulnerability model, influencing the structure and organization of the
156 shared vulnerability model, inspired the creation of the model that explains creativity and
157 psychopathology. Similar to the 1977 model and combined with the inverted-U model, the
158 SVM model proposed by Shelly H. Carson used three specific genetic vulnerabilities that
159 are shared between creative people and those at risk for psychopathology. These
160 vulnerabilities are referred to as genetic because the traits are heritable and polygenetic.
161 This characterization suggests that traits determining creativity or psychopathology run in
162 families. However, external factors can influence the expression of these traits. The shared
163 vulnerabilities include reduced latent inhibition, novelty seeking, and neural
164 hyperconnectivity (Carson, 2011).

165 Latent inhibition, as used by Carson, is defined as the capacity to screen from
166 conscious awareness stimuli previously experienced as irrelevant (Carson, 2011). Essentially,
167 it is the ability in classical conditioning to ignore a stimulus if it is not accompanied by a
168 consequence. This skill is important in brain functions to filter out irrelevant stimuli.
169 However, both creative people and those with psychopathologic issues, such as
170 schizophrenia, have been found to have a deficit in latent inhibition (Carson et al., 2003).
171 For creativity, this means individuals can make unique connections, and those with
172 psychopathological issues have higher distractibility and are more likely to pay attention to
173 irrelevant stimuli than relevant ones. The reason the same characteristic can cause
174 different results is because of certain protectant and risk factors, such as cognitive abilities.

175 Carson also explains that novelty seeking is also present in both creativity and
176 psychopathology. Novelty seeking refers to the intrinsic motivation for new stimuli rather
177 than familiar patterns. For those who are creative, novelty seeking explains the desire to
178 create and explore, but for mental illness, it can mean recklessness and dangerous
179 behaviors (Carson, 2011). Similar to latent inhibition, the same process can yield different
180 results due to protectant and risk factors.

181 Neural hyperconnectivity refers to an abnormally great amount of neural
182 connections between different brain regions. Multiple mental dysfunctions and other
183 neurological conditions have been found to exhibit hyperconnectivity between different
184 brain regions, such as schizophrenia, bipolar disorder, major depressive disorder, and
185 synesthesia (Nguyen et al., n.d.). A multitude of studies have shown that hyperconnectivity
186 between brain circuits can serve as a neural sign that can predict traits of psychopathology,
187 such as through the default-mode-network and cerebello-thalamo-cortical network (Cao
188 et al., 2018). In creative individuals on the other hand, hyperconnectivity influences
189 metaphorical thinking (Carson, 2011). These hyperconnectivities occupy similar brain
190 circuits to those in psychosis (Lakoff, 2014).

191 These three factors make up the shared vulnerabilities of the model, but their
192 outcomes vary. According to the SVM, the outcome is determined with certain protectant
193 and risk factors. The protectant factors are high IQ, working memory, and cognitive
194 flexibility while risk factors are low IQ, working memory deficits, and perseveration.

195 Individuals who have low latent inhibition but high IQ are able to create associations but
196 also not be distracted, and in one particular study, those with high IQ and low latent
197 inhibition were found to predict 30% of variance in creativity scores (Peterson & Carson,
198 2000). These protectant and risk factors influence the expression of the shared
199 vulnerabilities by allowing them to be expressed in a healthy or an unhealthy way.

200

Creativity - Protectant Factors	Shared Vulnerability	Psychopathology - Risk Factors
High IQ Good Working Memory Cognitive Flexibility	Low Latent Inhibition Novelty Seeking Hyperconnectivity	Low IQ Working Memory Deficits Perseveration

201 Table 1: Summary of Carson's Shared Vulnerability Model with all original protectant, risk, and vulnerability
202 factors. Adapted from (Carson, 2011)

203

204 The SVM highlights the relationship between creativity and psychopathology, their
205 underlying similarities, and factors that pull individuals towards either side. However, its
206 primary focus has been genetic, and many more factors could be examined, such as
207 social-cognitive processes. These social-cognitive factors could play a crucial role in
208 further understanding the shared vulnerability model and the relationships between
209 creativity and psychopathology.

210

211 3. Theory of Mind

212 Understanding the role of social cognition is essential to further understanding
213 creativity and psychopathology. Social cognition studies the psychological processes of
214 how individuals understand, process, and respond to others. Examining social cognition is
215 important and expands on current knowledge because, like many psychological issues, it is
216 crucial to integrate environmental or interpersonal factors in addition to genetic factors.

217 Theory of Mind (ToM) refers to the ability to understand that others have their own
218 individual thoughts, beliefs, and perceptions (Frith & Frith, 2005). It forms one of the pillars
219 of social cognition processes that works with understanding intentions. Studies find that
220 psychopathological individuals, particularly those with schizophrenia or bipolar disorder,
221 exhibit deficits in ToM (Burghardt et al., 2023). On the other hand, creativity and ToM are
222 positively associated, meaning those who are more creative often have higher levels of ToM
223 (Beloyianni et al., 2024). In creative individuals, ToM is especially important in the ability to
224 understand perspectives and create new, original thinking.

225 One particular study published in 2020 explores the role of ToM in Carson's model
226 of shared vulnerability (Sampedro et al., 2020b). It explores how neurological and, more
227 importantly, social-cognitive functions, can determine the extent to which an individual

will exhibit creativity and/or psychopathology. Researchers found that in their experimental groups, social cognition, specifically ToM, was positively correlated with creativity. In fact, the study found that social cognition had a stronger correlation and was more important than many neurological functions. The study then went further to refer to the SVM, highlighting the importance of ToM as a protectant factor that can channel vulnerabilities into creativity rather than psychopathology. This addition of a social-cognitive function in this study to the SVM brings in new possibilities for risk and protectant factors.

To account for limitations, the study further explains that although ToM was examined, it is not enough to determine if social cognition is, as a whole, a protectant factor in the shared vulnerability model. These limitations, with the fact that this study was the first to include ToM, open a new world of possible factors to the SVM: social cognition. Naturally, the next step from ToM is the importance of empathy, as empathy is one step further from understanding the existence of different beliefs and emotions, but is actually feeling those emotions. Empathy is also a key social-cognitive function, and learning its place in the shared vulnerability model would provide deeper connections and insights.

244

4. Empathy

The role of empathy is important as social cognition in the SVM continues to be explored. Empathy is the ability of an individual to not only understand that others may have different perceptions than they do, but to also share in the associated feelings. Unlike ToM, which is simply being able to know that others can have different thoughts, empathy is more complicated, referring to both the cognitive ability to understand those thoughts and an affective response. Modern psychology defines these two halves as cognitive empathy, which is understanding another perspective, and affective empathy, which is emotionally responding to others (Cuff et al., 2016). Because empathy operates both intellectually and emotionally, it is in a unique position to influence personal experiences in individuals and can provide insights on creativity and mental illness.

256

Empathy and Mental Wellbeing

Research has shown that positive empathy plays a significant role in wellbeing and happiness, where higher levels of empathy predict higher levels of wellbeing and life satisfaction in individuals (Morelli et al., 2015). A mastery of empathy demonstrates high social functioning skills that are imperative to mental wellbeing. Not only does empathy enable an individual to identify emotions, but it also enables them to interpret and react to emotions effectively. In one study, it was shown that participants with higher empathy levels had higher-quality apologies, meaning their apologies contained more apology elements, such as remorse or responsibility (Schumann & Dragotta, 2021). Empathy also

266 reduces emotional stress and promotes prosocial behavior, allowing an individual to both
267 react emotionally in a healthy way and connect socially.

268 The role of empathy and its relationship with mental illness has also been explored.
269 Specifically, in schizophrenic individuals, it was found that they exhibit a deficit of empathy
270 both socially and neurally (Farrow & Woodruff, 2007). Additionally, a number of antisocial
271 mental health disorders also exhibit similar dysfunctions, such as psychopathy and
272 narcissism, where individuals were shown to have the most trouble identifying negative
273 emotions. In depressive disorders as well, dysfunctional empathy has been shown to be
274 associated with depression, as empathy is replaced with guilt rather than emotional
275 regulation. In these mental illnesses, it is clear that a lack of empathy contributes to their
276 development.

277 Considering the positive effects of empathy and the negative effects of a lack
278 thereof, it is shown that empathy has a considerable impact on the mental health of an
279 individual. Its relationship with mental wellbeing demonstrates empathy's ability to
280 properly identify and regulate emotion on multiple levels, highlighting its potential role as a
281 factor that decreases risk of psychopathology.

282

283 **Empathy and Creativity**

284 Research has found that creativity and empathy are positively correlated, with more
285 expressions of creativity predicting higher levels of empathy (Li et al., 2024). Empathy
286 reflects an ability to use imagination to imagine how another feels, and the ability to do so
287 enhances creative imagination as well. Additionally, the ability to take in and understand
288 new perspectives allows for an open mind and increased idea generation (Tie et al., 2025).
289 In one study, empathy classes were taught at a school and creativity was measured. After
290 comparison with a control group, it was found that creativity increased in the school with
291 the empathy class (Demetriou & Nicholl, 2022). Overall, empathy has been proven to have a
292 positive effect on creativity.

293

294 **Empathy in the Shared Vulnerability Model**

295 To recap, Carson's SVM proposes a relationship between creativity and
296 psychopathology through shared genetic and neural traits between the two states, such as
297 latent inhibition, novelty seeking, and hyperconnectivity. Additionally, the model proposes
298 that there are protectant and risk factors that pull an individual towards either creativity or
299 psychopathology. These include working memory, intelligence, and cognitive flexibility.
300 However, Carson's SVM focused solely on genetic factors and did not account for other
301 perspectives, such as social-cognitive functions (Carson, 2011).

302 Past research has considered empathy as a possible factor for further research, but
303 it had not yet been integrated into the model. With the findings outlined in this paper, I
304 propose empathy as a social-cognitive protectant factor in the SVM. Empathy has been

305 shown to significantly improve mental health conditions and many issues of mental health
306 can be connected to deficits in empathy. Creativity is also shown to benefit from empathy,
307 further solidifying empathy's role as a protectant factor. Similar to other protectant factors
308 already in the SVM, empathy demonstrates an ability to utilize vulnerability with less risk of
309 psychopathology. As the vulnerability in the SVM represents heightened stimuli, empathy
310 seems to play a key role in mediating whether sensitivity is expressed through creativity or
311 through psychopathology.

312 Furthermore, within
313 the SVM, empathy is also
314 closely related to the
315 other protectant factors.
316 Empathy and working
317 memory have been found
318 to be closely associated
319 (Gaesser, 2013). Similarly,
320 empathy and social
321 intelligence correlate
322 positively, as do social
323 intelligence and IQ
324 (Kaukiainen et al., 1999).
325 Empathy is positively
326 associated with cognitive
327 flexibility as well (Grattan
328 et al., 1994).

329
330
331
332 The addition of empathy differs from the other protectant factors because it
333 extends the discussion beyond genetic factors and brings in the possibility of more
334 personal influences, such as social-cognition. While genetic factors provide insight on a
335 more bio-deterministic level of understanding, social-cognition applies factors of human
336 interaction, such as social meaning and emotional salience. Studying the role of empathy
337 expands the possibilities and makes the SVM more applicable to real life.

339 Applications

340 Carson provided many applications for the SVM, noting the model suggests that
341 chances of psychopathology can be reduced either through treating vulnerability factors,
342 enhancing protective factors, or enhancing overall creativity (Carson, 2011). Carson notes

that because directly trying to rid individuals of vulnerabilities for treatment could impact an individual's creativity, she suggests regulation rather than a removal of those shared vulnerabilities. This means individuals would most likely prefer treatment related to bolstering creativity. For example, she suggested implementing creative therapies, such as art, music, writing, and theater, to enhance creativity (Carson, 2011).

However, because Carson's SVM was based on genetic factors, it would be difficult to provide treatment by enhancing protective factors. With empathy as a protectant factor, which is a skill that can be learned and improved, enhancing it would also be a possible treatment method. Many empathy-based therapies, such as mentalization-based therapy or psychoanalytic therapy, would be effective (Garrote-Caparrós et al., 2023). Additionally, empathy can be applied to educational environments to improve creativity. By fostering skills in emotional regulation and perspective-taking, the likelihood of shared vulnerabilities leading to psychopathology would decrease while also supporting creative growth (Demetriou & Nicholl, 2022).

357

358 Conclusion

The relationship between creativity and psychopathology has long been in discussion and romanticized throughout history. Modern research, however, has begun to examine this relationship further, such as through the shared vulnerability model, which provides a framework for understanding shared genetic traits between creativity and psychopathology, mediated by protective and risk factors. Because Carson's SVM was focused on genetic factors, it did not account for other potential parts to the puzzle.

This paper extends the SVM's discussion into the social-cognitive realm, proposing empathy as a protectant factor in the SVM. By first setting up the scene by outlining the history of the tortured artist, the paper clarifies that the discussion of creativity and psychopathology extend well beyond simple genetic or biological explanations. Then, explaining the SVM, the paper introduces a model explaining the relationship and identifies shortcomings. Finally, introducing social-cognition through ToM led to the proposal of another social-cognitive factor, fitting empathy into the picture. The evidence reviewed demonstrates empathy's positive associations with creativity and how deficits in empathy can lead to mental health issues, highlighting its role as a protectant factor.

Further research should test the role of empathy empirically in the SVM to confirm validity, using empathy tests such as the Empathy Quotient (EQ) test or the Questionnaire of Cognitive and Affective Empathy (QCAE). It is also important to consider information about differing populations, such as gender, culture, or ethnicity. Furthermore, other social-cognitive functions can be tested, such as neurological perspectives, emotional functions, and developmental factors. In the SVM, it is also important to consider the spectrum between creativity and psychopathology, and future research could examine this continuum.

References

- Abraham, A. (2014). Is there an inverted-U relationship between creativity and psychopathology? *Frontiers in Psychology*, 5, 750.
- Acar, S., Chen, X., & Cayirdag, N. (2018). Schizophrenia and creativity: A meta-analytic review. *Schizophrenia Research*, 195, 23–31.
- Alacovska, A., & Kärreman, D. (2023). Tormented selves: The social imaginary of the tortured artist and the identity work of creative workers. *Organization Studies*, 44(6), 961–985.
- Alzayed, M. A., Miller, S. R., & McComb, C. (2022). Does empathy beget creativity? Investigating the role of trait empathy in idea generation and selection. In *Design computing and cognition'20* (pp. 437–454). Springer.
- Becker, G. (2001). The association of creativity and psychopathology: Its cultural-historical origins. *Creativity Research Journal*, 13(1), 45–53.
- Beloyianni, V., Zbainos, D., & Karagianni, M. (2024). From mindreading to originality: Exploring the relationship between Theory of Mind and Creativity across the lifespan. *British Journal of Developmental Psychology*, 42(2), 215–233.
- Brand, J. L. (1965). The national mental health act of 1946: A retrospect. *Bulletin of the History of Medicine*, 39(3), 231–245.
- Burghardt, J., Gradl, S., Knopp, M., & Sprung, M. (2023). Psychopathology and theory of mind in patients with personality disorders. *Borderline Personality Disorder and Emotion Dysregulation*, 10(1), 18.
- Cao, H., Chén, O. Y., Chung, Y., Forsyth, J. K., McEwen, S. C., Gee, D. G., Bearden, C. E., Addington, J., Goodyear, B., & Cadenhead, K. S. (2018). Cerebello-thalamo-cortical hyperconnectivity as a state-independent functional neural signature for psychosis prediction and characterization. *Nature Communications*, 9(1), 3836.
- Carson, S. H. (2011). Creativity and psychopathology: A shared vulnerability model. *The Canadian Journal of Psychiatry*, 56(3), 144–153.
- Carson, S. H., Peterson, J. B., & Higgins, D. M. (2003). Decreased latent inhibition is associated with increased creative achievement in high-functioning individuals. *Journal of Personality and Social Psychology*, 85(3), 499.
- Cuff, B. M., Brown, S. J., Taylor, L., & Howat, D. J. (2016). Empathy: A review of the concept. *Emotion Review*, 8(2), 144–153.
- Demetriou, H., & Nicholl, B. (2022). Empathy is the mother of invention: Emotion and cognition for creativity in the classroom. *Improving Schools*, 25(1), 4–21.
- Durham, C. A. (2003). Modernism and Mystery: The Curious Case of the Lost Generation. *Twentieth Century Literature*, 49(1), 82–102.
- Farrow, T. F., & Woodruff, P. W. (2007). *Empathy in mental illness*. Cambridge University Press.

Forthmann, B., Kaczykowski, K., Benedek, M., & Holling, H. (2023). The Manic Idea Creator? A Review and Meta-Analysis of the Relationship between Bipolar Disorder and Creative Cognitive Potential. *International Journal of Environmental Research and Public Health*, 20(13), 6264.

Frith, C., & Frith, U. (2005). Theory of mind. *Current Biology*, 15(17), R644–R645.

Gaesser, B. (2013). Constructing memory, imagination, and empathy: A cognitive neuroscience perspective. *Frontiers in Psychology*, 3, 576.

Garrote-Caparrós, E., Lecuona, Ó., Bellosta-Batalla, M., Moya-Albiol, L., & Cebolla, A. (2023). Efficacy of a mindfulness and compassion-based intervention in psychotherapists and their patients: Empathy, symptomatology, and mechanisms of change in a randomized controlled trial. *Psychotherapy*, 60(2), 182.

Goh, C., & Agius, M. (2010). The stress-vulnerability model how does stress impact on mental illness at the level of the brain and what are the consequences? *Psychiatria Danubina*, 22(2), 198–202.

Grattan, L. M., Bloomer, R. H., Archambault, F. X., & Eslinger, P. J. (1994). Cognitive flexibility and empathy after frontal lobe lesion. *Cognitive and Behavioral Neurology*, 7(4), 251–259.

Kaufman, J. C. (2014). *Creativity and mental illness*. Cambridge University Press.

Kaukiainen, A., Björkqvist, K., Lagerspetz, K., Österman, K., Salmivalli, C., Rothberg, S., & Ahlbom, A. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 25(2), 81–89.

Lakoff, G. (2014). Mapping the brain's metaphor circuitry: Metaphorical thought in everyday reason. *Frontiers in Human Neuroscience*, 8, 958.

Li, X., Chen, J., & Fu, H. (2024). The roles of empathy and motivation in creativity in design thinking. *International Journal of Technology and Design Education*, 34(4), 1305–1324.

Mason, J. H. (1995). Thinking about genius in the eighteenth century. *The Scriblerian and the Kit-Cats*, 27(2), 165.

McMahon, D. (2013). *Divine fury: A history of genius*. Constellation.

Morelli, S. A., Lieberman, M. D., & Zaki, J. (2015). The emerging study of positive empathy. *Social and Personality Psychology Compass*, 9(2), 57–68.

Nguyen, M., Strádalová, E., Sharma, A., & Castillo, E. (n.d.). Hyperconnectivity Patterns in Psychological Disorders: A Literature Review of Connectivity Patterns within Depression and Anxiety Compared to Other Psychiatric Disorders. *The Girls in Med Journal of Neuroscience*.

Peterson, J. B., & Carson, S. (2000). Latent inhibition and openness to experience in a high-achieving student population. *Personality and Individual Differences*, 28(2), 323–332.

Sampedro, A., Peña, J., Ibarretxe-Bilbao, N., Sánchez, P., Iriarte-Yoller, N.,
Ledesma-González, S., Tous-Espelosin, M., & Ojeda, N. (2020a). Mediating role of
cognition and social cognition on creativity among patients with schizophrenia and
healthy controls: Revisiting the shared vulnerability model. *Psychiatry and Clinical
Neurosciences*, 74(2), 149–155.

Schumann, K., & Dragotta, A. (2021). Empathy as a predictor of high-quality
interpersonal apologies. *European Journal of Social Psychology*, 51(6), 896–909.

Silvia, P. J., & Kaufman, J. C. (2010). Creativity and mental illness. *Cambridge
Handbook of Creativity*, 381–394.

Stamm, J. L. (1971). Vincent van Gogh: Identity crisis and creativity. *American Imago*,
28(4), 363–372.

Taylor, C. L. (2017). Creativity and mood disorder: A systematic review and
meta-analysis. *Perspectives on Psychological Science*, 12(6), 1040–1076.

Tie, B., Yang, W., Huo, T., Gao, Y., Yang, X., Tian, D., Pelowski, M., & Qiu, J. (2025).
Empathy to creativity: The associations between empathy and everyday creativity.
Journal of Personality, 93(6), 1212–1225.

Whitehead, J. (2017). *Madness and the romantic poet: A critical history*. Oxford
University Press.

Young, J. G. (1985). What is creativity? *The Journal of Creative Behavior*.

Zafeirenia, B. (2024). Creativity in the ancient Greek philosophy: The politics of
Demiourgein. *The Journal of Creative Behavior*, 58(2), 227–244.

Great work! This paper fulfills the requirements of originality and significance, as well as clarity and structure. In your Abstract, lines 14 & 15 frame the theory and methods of the paper. The sentence is structured as if it is listing 3 types of methods, or 3 theoretical frameworks. I suggest describing this paper as an analytic discussion, or an examination of schools of thought, rather than a research paper. I also suggest rephrasing Lines 18 - 20 of the Abstract, where it says the findings of this paper "will reduce stigma," as there is no guarantee stigma will be reduced. Instead, when listing the findings, state what is suggested by the findings, describe the significance, the goals, the implications for the field of mental health, etc.

Line 42 introduces the shared vulnerability model and how this paper discusses social-cognitive function and its role in creativity. Why choose empathy over another social-cognitive function, such as social perception or attribution? One might argue that any social-cognitive function has the potential to impact creativity. The author explains why empathy is important, but not why empathy is more important than other social cognitive functions.

Great job on the History section, which articulates the social and historical conditions that shaped the perception of the tortured artist over time. However, there is plenty here about how society views the artist, but not a lot about the artists themselves, besides the 2 examples: Van Gogh and Hemingway. I would add another paragraph that defines and describes the caricature of the tortured artist, and mention that before advancements in medicine, there was no name for conditions like schizophrenia, depression, anxiety, borderline personality, histrionic personality disorder, and self-medication through illicit substances. So behaviors such as staying awake for days on end to complete a painting would now be a symptom of a manic episode. Or the obsessive and superstitious sculptor who needs his studio to be in perfect order, nowadays would be OCD. This does not need to be a long section, just a paragraph that describes what behaviors are "negative identity work" (as you described in your intro), and now those behaviors are symptoms of mental illness, and then how mental illness has become the hallmark of artistry.

In the first paragraph of the Shared Vulnerability Model section, I suggest adding a visual/figure of the Inverted U Model, for more clarity for your reader. On Line 132, where you start to describe how you explain the Inverted U model, perhaps give a few specific examples. Are there any cases in the literature with vignettes? For example, something like: "XYZ study found that for a patient suffering from anxiety, creative outlets such as painting were found to be therapeutic. Whereas for a patient with chronic depression and fugue states, music therapy had less intended effect." In general, you might want to mention somewhere in this paper how music therapy, art therapy, and other creative pursuits have specifically been incorporated into mental health treatment plans. What does that mean? Is the tortured artist already inundated with creative options, therefore these therapies don't work on them? etc Just a thought to consider, but not a requirement to write at length on music/art therapy in this paper, I did see that there is a sentence about it later in the paper.

On Line 158, where you introduce Carson's 3 vulnerabilities, list all 3 vulnerabilities here in that sentence: deficits in latent inhibition, novelty seeking, and neural hyperconnectivity.

Lines 240 - 245 do a great job of helping to explain why empathy has been chosen for this paper; it is the logical next step after Theory of Mind. But it is not quite clear how TOM has a positive association with creativity. Provide a few specific examples of what this looks like in social interactions, what deficits in TOM look like, and why/how that leads to more creativity. The following section does a great job giving specific examples of deficits in empathy, and uses the same structure with this section on TOM & positive correlation with creativity.

On Line 104, split into a new paragraph with the sentence "After World War I..."

On Line 138, split into a new paragraph with the sentence "Another example with bipolar disorder..."

On line 146, move those couple of sentences up and add them to the previous paragraph.

Starting with the words "Current and future research seek..."

Also, throughout your paper, I believe you may want to replace the word "protectant" with "protective." Clean up the figure with the Venn diagram; it is difficult to read at the moment. My opinion is that this paper is ready to **accept, with minor revisions**.

Rethinking the Tortured Artist: The Role of Empathy in the Shared Vulnerability Model

Abstract:

A long standing stereotype, the “tortured artist” portrays artists as striving for creativity through mental suffering. Although heavily romanticized, this stereotype presents a fascinating question from a scientific viewpoint about the relationship between creativity and psychopathology. If creativity improves mental health, why is it often associated with mental illness? One such model, the shared vulnerability model, explored this question through a genetic lens, finding that creativity and psychopathology share many traits whose outcomes are determined by certain protectant or risk factors. However, because the work done on this topic has been largely genetic, it leaves key areas, such as social-cognition, under-explored. The current paper expands the shared vulnerability model to include the social-cognitive factor of empathy. Using historical analysis, research on Theory of Mind, and an exploration of empathy, the paper links empathy’s impact on mental health and creativity to the shared vulnerability model as a protectant factor that shifts an individual more towards creativity and less towards psychopathology. These findings, when integrated into therapies and treatments, apply to not only artists, but to a broader population of creative individuals or individuals who experience struggles with mental health. It also reduces the stigma around the tortured artists stereotype by providing a more complex explanation.

Keyterms: Creativity, empathy, shared vulnerability model, mental illness, psychopathology, theory of mind

Introduction

The “tortured artist” stereotype has been around for centuries. From as early as Sophocles’ Greek tragedy Philoctetes to modern day Hollywood stars and artists, the association between creativity and mental suffering has been present (Kaufman, 2014). Countless famous artists, musicians, and writers, such as Van Gogh, Beethoven, Ernest Hemingway, are all labeled the vague yet unifying title of “tortured artist.” The tortured artist is someone who performs negative identity work, a process of defining oneself with characteristics opposed to societal norm, in order to achieve a positive artistic self (Alacovska & Kärreman, 2023). Modern research has begun looking past simple anecdotes and case studies, diving into the mechanisms with experiments, brain scans, and models for the relationship between creativity and mental illness. However, proposed

Commented [1]: What type of research? The sentence is framed as if it is listing 3 types of methods, or 3 theoretical frameworks.

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Commented [3]: thesis

Commented [4]: Rephrase this, there is no guarantee stigma will be reduced. Instead, when listing the findings of a study, state what is suggested by the findings, describe the significance, the goals, the implications for the field of mental health, etc.

37 explanations, such as Shelly H. Carson's shared vulnerability model, have focused on
38 neurological, biological, or genetic approaches. Because creativity and mental illness are
39 both extremely complex in nature, it is important to consider alternate perspectives.

40 This paper will extend previous work on the shared vulnerability model (SVM) to
41 incorporate empathy, a social-cognitive function, into the model. Understanding the role
42 of empathy in the shared vulnerability model is important because of its role in creativity
43 (Alzayed et al., 2022). Grounded in this model, social-cognitive functions, specifically
44 empathy, act as a protectant factor in determining the relationship between creativity and
45 psychopathology, meaning it shifts individuals more towards creativity and puts them less
46 at risk for mental illness.

47 The importance of empathy in this discussion is that it has been overlooked due to
48 the romanticization of the concept (Becker, 2001). Further examining the relationship
49 between creativity and psychopathology can reduce stigma around "tortured artists."
50 Empathy specifically is important because it plays an important role in emotional
51 wellbeing. Using the shared vulnerability model, empathy could prove crucial in explaining
52 how protectant factors impact creative or at-risk individuals. In addition, empathy's role
53 can be used to improve therapy, interventions, and mental health education.
54 Understanding the complex relationship from empathy's perspective can help refine
55 treatments for those struggling with mental health by incorporating creativity to bring
56 individuals away from pathology. Overall, empathy has not been explored in past research
57 and represents an important new factor to consider.

58 In this paper, the history of the "tortured artist" stereotype will be explored,
59 emphasizing that there are more factors at play than genetics. Then, the shared
60 vulnerability model (SVM) will be discussed. The general idea is that genetically,
61 psychopathology and creativity share multiple vulnerabilities, such as low latent inhibition
62 and cognitive disinhibition. These traits are seen as heritable and polygenetic. Protectant
63 and risk factors determine whether an individual is more prone to creativity or
64 psychopathology (Carson, 2011). However, the examined risk and protectant factors have
65 only been genetic, rather than other perspectives important to psychology. One such
66 perspective is the social-cognitive perspective. Later research has examined Theory of
67 Mind and its role in the SVM, suggesting it is a key mediator and important protectant
68 factor (Sampedro et al., 2020a). However, a step further from Theory of Mind is empathy.
69 Yet to be examined in the context of creativity and psychopathology, the role of empathy
70 will be discussed in this paper along with applications to the real world.

72 1. History

73 The association of creativity with mental illness has long pre-dated neurological
74 attempts at explaining the relationship. The idea existed as early as ancient Greece in the
75 writings of famous philosophers such as Plato and Aristotle. Through their work, they

Commented [6]: change to "protective" throughout the paper. You can do Ctrl+F, and replace all

Commented [7]: Great job on this section, which articulates the social and historical conditions that shaped the perception of the tortured artist over time. However, there is plenty here about how society views the artist, but not alot about the artist themselves, besides the 2 examples: Van Gogh and Hemingway. I would add another paragraph that defines and describes the caricature of the tortured artist, and mention that prior to advancements in medicine, there was no name for conditions like schizophrenia, depression, anxiety, borderline personality, histrionic personality disorder, and self-medication through illicit substances. So behaviors such as staying awake for days on end to complete a painting, would now be a symptom of a manic episode. Or the obsessive and superstitious sculptor who needs his studio to be in perfect order, nowadays would be OCD. This does not need to be a long section, just a paragraph that describes what behaviors are "negative identity work" (as you described in your intro), and now those behaviors are symptoms of mental illness, and then how mental illness has become the hallmark of artistry.

76 describe madness as something that can guarantee creativity. They believed that it was
77 madness that drove individuals to think imaginatively and to be in uncontrolled states of
78 mind, allowing for creativity. These Greek philosophers saw this type of madness as a
79 divine gift only given to a few (Zafeirenia, 2024). As the idea progressed, many similar
80 explanations for creative genius appeared. In the Renaissance Era, philosopher Marsilio
81 Ficino called it *furor divinus*, meaning “divine madness” in Latin (McMahon, 2013). This
82 idea, too, stated that creativity was a divine right that would cause mad states of
83 imagination.

84 It wasn’t until the Enlightenment Era, starting in the late 17th century, that creativity
85 and genius were understood to be natural human talents (Mason, 1995). The Enlightenment
86 was defined as a period of time where reason was emphasized over divine explanation, and
87 this new rising value contributed to the shift of ideas about creativity, seeing it as an innate
88 characteristic rather than a divine intervention of madness.

89 However, beginning in the 19th century, as a response to the reason-oriented
90 perspective, the Romantic Era emerged as a turning point of the modern day concept of
91 creativity. Unlike the Enlightenment, the Romantic Era was one of emotion and passion,
92 leading to more artistic approaches to creativity. Romantic poetry, for example, explored
93 human feelings, and it was believed that madness was emotion being pushed to its limit.
94 Because creativity produced poetry, poetry was emotion, and the peak of emotion was
95 madness, the artistic process became associated with madness in the minds of not only
96 consumers, but also in the minds of artists themselves (Whitehead, 2017).

97 One of the most notable examples that demonstrates our modern belief of the
98 “tortured artist” is the story of Vincent Van Gogh. As an unsuccessful artist who, as experts
99 deduce, suffered from bipolar disorder, his story of pain and suffering is seen as the
100 epitome of a tortured artist whose mental health problems drove his artistic ability
101 (Stamm, 1971). Retellings of his story largely attribute his journey through life, full of
102 tragedies, to his artistic process, each stage of his life representing one of his painting eras,
103 such as his famous *Starry Night* being painted in a mental asylum, further linking the
104 association of creative processes to mental illness. As modern art evolved, a multitude of
105 other examples rose that fit the tortured artist stereotype. After World War I, a generation
106 in the western world known as the Lost Generation gave birth to many writers who wrote
107 books reflecting the disillusionment of a post-war society as previous values of honor were
108 destroyed and replaced by suffering. One of the main writers in Lost Generation literature
109 was Ernest Hemingway, yet another example of an artist characterized by tremendous
110 suffering (Durham, 2003). Hemingway suffered a traumatizing childhood with his father
111 committing suicide, and he led a life of depression, alcoholism, and rash adventures until
112 he ultimately took his own life. At the same time, he produced many works considered
113 masterpieces, such as *The Old Man and the Sea*.

114 However, after World War II and its atrocities and the resulting trauma, the world
115 began to focus more on mental health, leading to a revolution of mental health awareness.

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Multiple mental health organizations were established during this time as well as NIH's National Mental Health Act in 1946 in the United States (Brand, 1965). It was in this period that new psychological research worked towards debunking the tortured artist stereotype as its role in defining artists became toxic (Taylor, 2017).

As the topic of mental health approaches the present, how we see creativity has shifted into a healthier light, now defining it as a process of creating original works (Young, 1985). However, the link between creative individuals and mental illness continues. Modern day musicians, such as Michael Jackson, Amy Winehouse, and Britney Spears, continue reinforcing the relationship between creativity and mental illness. Given all this history, it is clear there are more than only genetic factors influencing the stereotype of the tortured artist.

2. The Shared Vulnerability Model

The relationship between creativity and psychopathology have been debated for decades, as a multitude of historical anecdotes have demonstrated the positive association between creativity and psychopathology. (Silvia & Kaufman, 2010). However, empirical studies on this topic have resulted in contradictory evidence. These findings have pointed to an explanation: the **inverted-U model**. This means that minor instances of psychopathology can be associated with creativity, but severe cases cannot (Abraham, 2014). For example, one study found that while full schizophrenia is negatively correlated with creativity, certain symptoms of schizophrenia are positively correlated, such as psychoticism or positive schizotypy. This means that individuals with schizophrenia are less likely to be creative, but specific psychopathological traits are associated with creativity, supporting the inverted-U hypothesis (Acar et al., 2018). **Another** example with bipolar disorder found that although they exhibit a small correlation, those with mild bipolar traits generally tested higher in creativity while full bipolar disorders did not (Forthmann et al., 2023). These studies, and a multitude more, conclude that although not directly correlated with illness, creativity predicts traits of mental illness along the inverted-U. This finding suggests that there is a certain point on the inverted-U at which creativity and psychopathology do not associate, leading to further exploration of their relationship.

Current and future research seek to expand the knowledge on this topic beyond anecdotes and into mechanistic and empirical arenas. One of the most popular models probing the relationship between the two variables is the shared vulnerability model (SVM).

As a precursor to the SVM, the stress-vulnerability model, originally adapted in 1977, explored the characteristics of those prone to schizophrenia. It describes that those with higher levels of these characteristics, or vulnerabilities, are more likely to respond to stress with a psychiatric episode. Essentially, it explained that vulnerabilities and stress

Commented [9]: Perhaps insert a Figure in this section of the paper, for a visual explanation accompanying the text.

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155 contribute to mental illness such as schizophrenia (Goh & Agius, 2010).

156 The stress-vulnerability model, influencing the structure and organization of the
157 shared vulnerability model, inspired the creation of the model that explains creativity and
158 psychopathology. Similar to the 1977 model and combined with the inverted-U model, the
159 SVM model proposed by Shelly H. Carson used three specific genetic vulnerabilities that
160 are shared between creative people and those at risk for psychopathology. These
161 vulnerabilities are referred to as genetic because the traits are heritable and polygenetic.
162 This characterization suggests that traits determining creativity or psychopathology run in
163 families. However, external factors can influence the expression of these traits. The shared
164 vulnerabilities include reduced latent inhibition, novelty seeking, and neural
165 hyperconnectivity (Carson, 2011).

166 Latent inhibition, as used by Carson, is defined as the capacity to screen from
167 conscious awareness stimuli previously experienced as irrelevant (Carson, 2011).
168 Essentially, it is the ability in classical conditioning to ignore a stimulus if it is not
169 accompanied by a consequence. This skill is important in brain functions to filter out
170 irrelevant stimuli. However, both creative people and those with psychopathologic issues,
171 such as schizophrenia, have been found to have a deficit in latent inhibition (Carson et al.,
172 2003). For creativity, this means individuals can make unique connections, and those with
173 psychopathological issues have higher distractibility and are more likely to pay attention to
174 irrelevant stimuli than relevant ones. The reason the same characteristic can cause
175 different results is because of certain protectant and risk factors, such as cognitive
176 abilities.

177 Carson also explains that novelty seeking is also present in both creativity and
178 psychopathology. Novelty seeking refers to the intrinsic motivation for new stimuli rather
179 than familiar patterns. For those who are creative, novelty seeking explains the desire to
180 create and explore, but for mental illness, it can mean recklessness and dangerous
181 behaviors (Carson, 2011). Similar to latent inhibition, the same process can yield different
182 results due to protectant and risk factors.

183 Neural hyperconnectivity refers to an abnormally great amount of neural
184 connections between different brain regions. Multiple mental dysfunctions and other
185 neurological conditions have been found to exhibit hyperconnectivity between different
186 brain regions, such as schizophrenia, bipolar disorder, major depressive disorder, and
187 synesthesia (Nguyen et al., n.d.). A multitude of studies have shown that hyperconnectivity
188 between brain circuits can serve as a neural sign that can predict traits of
189 psychopathology, such as through the default-mode-network and cerebello-thalamo-
190 cortical network (Cao et al., 2018). In creative individuals on the other hand,
191 hyperconnectivity influences metaphorical thinking (Carson, 2011). These
192 hyperconnectivities occupy similar brain circuits to those in psychosis (Lakoff, 2014).

193 These three factors make up the shared vulnerabilities of the model, but their
194 outcomes vary. According to the SVM, the outcome is determined with certain protectant

Commented [13]: list the 3 vulnerabilities here in this sentence: deficits in latent inhibition, novelty seeking, and neural hyperconnectivity.

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and risk factors. The protectant factors are high IQ, working memory, and cognitive flexibility while risk factors are low IQ, working memory deficits, and perseveration. Individuals who have low latent inhibition but high IQ are able to create associations but also not be distracted, and in one particular study, those with high IQ and low latent inhibition were found to predict 30% of variance in creativity scores (Peterson & Carson, 2000). These protectant and risk factors influence the expression of the shared vulnerabilities by allowing them to be expressed in a healthy or an unhealthy way.

Creativity - Protectant Factors	Shared Vulnerability	Psychopathology - Risk Factors
High IQ Good Working Memory Cognitive Flexibility	Low Latent Inhibition Novelty Seeking Hyperconnectivity	Low IQ Working Memory Deficits Perseveration

Table 1: Summary of Carson's Shared Vulnerability Model with all original protectant, risk, and vulnerability factors. Adapted from (Carson, 2011)

The SVM highlights the relationship between creativity and psychopathology, their underlying similarities, and factors that pull individuals towards either side. However, its primary focus has been genetic, and many more factors could be examined, such as social-cognitive processes. These social-cognitive factors could play a crucial role in further understanding the shared vulnerability model and the relationships between creativity and psychopathology.

3. Theory of Mind

Understanding the role of social cognition is essential to further understanding creativity and psychopathology. Social cognition studies the psychological processes of how individuals understand, process, and respond to others. Examining social cognition is important and expands on current knowledge because, like many psychological issues, it is crucial to integrate environmental or interpersonal factors in addition to genetic factors.

Theory of Mind (ToM) refers to the ability to understand that others have their own individual thoughts, beliefs, and perceptions (Frith & Frith, 2005). It forms one of the pillars of social cognition processes that works with understanding intentions. Studies find that psychopathological individuals, particularly those with schizophrenia or bipolar disorder, exhibit deficits in ToM (Burghardt et al., 2023). On the other hand, creativity and ToM are positively associated, meaning those who are more creative often have higher levels of ToM (Beloyianni et al., 2024). In creative individuals, ToM is especially important in the ability to understand perspectives and create new, original thinking.

One particular study published in 2020 explores the role of ToM in Carson's model of shared vulnerability (Sampedro et al., 2020b). It explores how neurological and, more importantly, social-cognitive functions, can determine the extent to which an individual will exhibit creativity and/or psychopathology. Researchers found that in their experimental groups, social cognition, specifically ToM, was positively correlated with creativity. In fact, the study found that social cognition had a stronger correlation and was more important than many neurological functions. The study then went further to refer to the SVM, highlighting the importance of ToM as a protectant factor that can channel vulnerabilities into creativity rather than psychopathology. This addition of a social-cognitive function in this study to the SVM brings in new possibilities for risk and protectant factors.

To account for limitations, the study further explains that although ToM was examined, it is not enough to determine if social cognition is, as a whole, a protectant factor in the shared vulnerability model. These limitations, with the fact that this study was the first to include ToM, open a new world of possible factors to the SVM: social cognition. Naturally, the next step from ToM is the importance of empathy, as empathy is one step further from understanding the existence of different beliefs and emotions, but is actually feeling those emotions. Empathy is also a key social-cognitive function, and learning its place in the shared vulnerability model would provide deeper connections and insights.

4. Empathy

The role of empathy is important as social cognition in the SVM continues to be explored. Empathy is the ability of an individual to not only understand that others may have different perceptions than they do, but to also share in the associated feelings. Unlike ToM, which is simply being able to know that others can have different thoughts, empathy is more complicated, referring to both the cognitive ability to understand those thoughts and an affective response. Modern psychology defines these two halves as cognitive empathy, which is understanding another perspective, and affective empathy, which is emotionally responding to others (Cuff et al., 2016). Because empathy operates both intellectually and emotionally, it is in a unique position to influence personal experiences in individuals and can provide insights on creativity and mental illness.

Empathy and Mental Wellbeing

Research has shown that positive empathy plays a significant role in wellbeing and happiness, where higher levels of empathy predict higher levels of wellbeing and life satisfaction in individuals (Morelli et al., 2015). A mastery of empathy demonstrates high social functioning skills that are imperative to mental wellbeing. Not only does empathy enable an individual to identify emotions, but it also enables them to interpret and react to emotions effectively. In one study, it was shown that participants with higher empathy

Commented [15]: Good, this helps to explain why empathy has been chosen for this paper, it is the logical next step after Theory of Mind. But it is not quite clear how TOM has a positive association with creativity. Provide a few specific examples of what this looks like in social interactions, what do deficits in TOM look like, and why/how that leads to more creativity. The following section does a great job giving specific examples of deficits in empathy, use the same structure with this section on TOM & positive correlation with creativity.

levels are higher, meaning their apologies contained more apology elements, such as remorse or responsibility (Schumann & Dragotta, 2021). Empathy also reduces emotional stress and promotes prosocial behavior, allowing an individual to both react emotionally in a healthy way and connect socially.

The role of empathy and its relationship with mental illness has also been explored. Specifically, in schizophrenic individuals, it was found that they exhibit a deficit of empathy both socially and neurally (Farrow & Woodruff, 2007). Additionally, a number of antisocial mental health disorders also exhibit similar dysfunctions, such as psychopathy and narcissism, where individuals were shown to have the most trouble identifying negative emotions. In depressive disorders as well, dysfunctional empathy has been shown to be associated with depression, as empathy is replaced with guilt rather than emotional regulation. In these mental illnesses, it is clear that a lack of empathy contributes to their development.

Considering the positive effects of empathy and the negative effects of a lack thereof, it is shown that empathy has a considerable impact on the mental health of an individual. Its relationship with mental wellbeing demonstrates empathy's ability to properly identify and regulate emotion on multiple levels, highlighting its potential role as a factor that decreases risk of psychopathology.

Empathy and Creativity

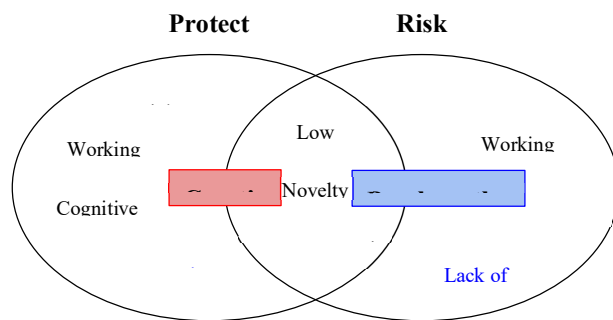
Research has found that creativity and empathy are positively correlated, with more expressions of creativity predicting higher levels of empathy (Li et al., 2024). Empathy reflects an ability to use imagination to imagine how another feels, and the ability to do so enhances creative imagination as well. Additionally, the ability to take in and understand new perspectives allows for an open mind and increased idea generation (Tie et al., 2025). In one study, empathy classes were taught at a school and creativity was measured. After comparison with a control group, it was found that creativity increased in the school with the empathy class (Demetriou & Nicholl, 2022). Overall, empathy has been proven to have a positive effect on creativity.

Empathy in the Shared Vulnerability Model

To recap, Carson's SVM proposes a relationship between creativity and psychopathology through shared genetic and neural traits between the two states, such as latent inhibition, novelty seeking, and hyperconnectivity. Additionally, the model proposes that there are protectant and risk factors that pull an individual towards either creativity or psychopathology. These include working memory, intelligence, and cognitive flexibility. However, Carson's SVM focused solely on genetic factors and did not account for other perspectives, such as social-cognitive functions (Carson, 2011).

Past research has considered empathy as a possible factor for further research, but it had not yet been integrated into the model. With the findings outlined in this paper, I propose empathy as a social-cognitive protectant factor in the SVM. Empathy has been shown to significantly improve mental health conditions and many issues of mental health can be connected to deficits in empathy. Creativity is also shown to benefit from empathy, further solidifying empathy's role as a protectant factor. Similar to other protectant factors already in the SVM, empathy demonstrates an ability to utilize vulnerability with less risk of psychopathology. As the vulnerability in the SVM represents heightened stimuli, empathy seems to play a key role in mediating whether sensitivity is expressed through creativity or through psychopathology.

Furthermore, within the SVM, empathy is also closely related to the other protectant factors. Empathy and working memory have been found to be closely associated (Gaesser, 2013). Similarly, empathy and social intelligence correlate positively, as do social intelligence and IQ (Kaukiainen et al., 1999). Empathy is positively associated with cognitive flexibility as well (Grattan et al., 1994).



Adapted from (Carson, 2011). This is the SVM with the newly integrated empathy factor

The addition of empathy differs from the other protectant factors because it extends the discussion beyond genetic factors and brings in the possibility of more personal influences, such as social-cognition. While genetic factors provide insight on a more bio-deterministic level of understanding, social-cognition applies factors of human interaction, such as social meaning and emotional salience. Studying the role of empathy expands the possibilities and makes the SVM more applicable to real life.

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Applications

Carson provided many applications for the SVM, noting the model suggests that chances of psychopathology can be reduced either through treating vulnerability factors, enhancing protective factors, or enhancing overall creativity (Carson, 2011). Carson notes that because directly trying to rid individuals of vulnerabilities for treatment could impact an individual's creativity, she suggests regulation rather than a removal of those shared vulnerabilities. This means individuals would most likely prefer treatment related to bolstering creativity. For example, she suggested implementing creative therapies, such as art, music, writing, and theater, to enhance creativity (Carson, 2011).

However, because Carson's SVM was based on genetic factors, it would be difficult to provide treatment by enhancing protective factors. With empathy as a protectant factor, which is a skill that can be learned and improved, enhancing it would also be a possible treatment method. Many empathy-based therapies, such as mentalization-based therapy or psychoanalytic therapy, would be effective (Garrote-Caparrós et al., 2023). Additionally, empathy can be applied to educational environments to improve creativity. By fostering skills in emotional regulation and perspective-taking, the likelihood of shared vulnerabilities leading to psychopathology would decrease while also supporting creative growth (Demetriou & Nicholl, 2022).

Conclusion

The relationship between creativity and psychopathology has long been in discussion and romanticized throughout history. Modern research, however, has begun to examine this relationship further, such as through the shared vulnerability model, which provides a framework for understanding shared genetic traits between creativity and psychopathology, mediated by protective and risk factors. Because Carson's SVM was focused on genetic factors, it did not account for other potential parts to the puzzle.

This paper extends the SVM's discussion into the social-cognitive realm, proposing empathy as a protectant factor in the SVM. By first setting up the scene by outlining the history of the tortured artist, the paper clarifies that the discussion of creativity and psychopathology extend well beyond simple genetic or biological explanations. Then, explaining the SVM, the paper introduces a model explaining the relationship and identifies shortcomings. Finally, introducing social-cognition through ToM led to the proposal of another social-cognitive factor, fitting empathy into the picture. The evidence reviewed demonstrates empathy's positive associations with creativity and how deficits in empathy can lead to mental health issues, highlighting its role as a protectant factor.

Further research should test the role of empathy empirically in the SVM to confirm validity, using empathy tests such as the Empathy Quotient (EQ) test or the Questionnaire of Cognitive and Affective Empathy (QCAE). It is also important to consider information about differing populations, such as gender, culture, or ethnicity. Furthermore, other social-cognitive functions can be tested, such as neurological perspectives, emotional functions, and developmental factors. In the SVM, it is also important to consider the spectrum between creativity and psychopathology, and future research could examine this continuum.

References

- Abraham, A. (2014). Is there an inverted-U relationship between creativity and psychopathology? *Frontiers in Psychology*, 5, 750.
- Acar, S., Chen, X., & Cayirdag, N. (2018). Schizophrenia and creativity: A meta-analytic review. *Schizophrenia Research*, 195, 23–31.
- Alacovska, A., & Kärreman, D. (2023). Tormented selves: The social imaginary of the tortured artist and the identity work of creative workers. *Organization Studies*, 44(6), 961–985.
- Alzayed, M. A., Miller, S. R., & McComb, C. (2022). Does empathy beget creativity? Investigating the role of trait empathy in idea generation and selection. In *Design computing and cognition'20* (pp. 437–454). Springer.
- Becker, G. (2001). The association of creativity and psychopathology: Its cultural-historical origins. *Creativity Research Journal*, 13(1), 45–53.
- Beloyianni, V., Zbainos, D., & Karagianni, M. (2024). From mindreading to originality: Exploring the relationship between Theory of Mind and Creativity across the lifespan. *British Journal of Developmental Psychology*, 42(2), 215–233.
- Brand, J. L. (1965). The national mental health act of 1946: A retrospect. *Bulletin of the History of Medicine*, 39(3), 231–245.
- Burghardt, J., Gradl, S., Knopp, M., & Sprung, M. (2023). Psychopathology and theory of mind in patients with personality disorders. *Borderline Personality Disorder and Emotion Dysregulation*, 10(1), 18.
- Cao, H., Chén, O. Y., Chung, Y., Forsyth, J. K., McEwen, S. C., Gee, D. G., Bearden, C. E., Addington, J., Goodyear, B., & Cadenhead, K. S. (2018). Cerebello-thalamo-cortical hyperconnectivity as a state-independent functional neural signature for psychosis prediction and characterization. *Nature Communications*, 9(1), 3836.
- Carson, S. H. (2011). Creativity and psychopathology: A shared vulnerability model. *The Canadian Journal of Psychiatry*, 56(3), 144–153.
- Carson, S. H., Peterson, J. B., & Higgins, D. M. (2003). Decreased latent inhibition is associated with increased creative achievement in high-functioning individuals. *Journal of Personality and Social Psychology*, 85(3), 499.

Cuff, B. M., Brown, S. J., Taylor, L., & Howat, D. J. (2016). Empathy: A review of the concept. *Emotion Review*, 8(2), 144–153.

Demetriou, H., & Nicholl, B. (2022). Empathy is the mother of invention: Emotion and cognition for creativity in the classroom. *Improving Schools*, 25(1), 4–21.

Durham, C. A. (2003). Modernism and Mystery: The Curious Case of the Lost Generation. *Twentieth Century Literature*, 49(1), 82–102.

Farrow, T. F., & Woodruff, P. W. (2007). *Empathy in mental illness*. Cambridge University Press.

Forthmann, B., Kaczykowski, K., Benedek, M., & Holling, H. (2023). The Manic Idea Creator? A Review and Meta-Analysis of the Relationship between Bipolar Disorder and Creative Cognitive Potential. *International Journal of Environmental Research and Public Health*, 20(13), 6264.

Frith, C., & Frith, U. (2005). Theory of mind. *Current Biology*, 15(17), R644–R645.

Gaesser, B. (2013). Constructing memory, imagination, and empathy: A cognitive neuroscience perspective. *Frontiers in Psychology*, 3, 576.

Garrote-Caparrós, E., Lecuona, Ó., Bellosta-Batalla, M., Moya-Albiol, L., & Cebolla, A. (2023). Efficacy of a mindfulness and compassion-based intervention in psychotherapists and their patients: Empathy, symptomatology, and mechanisms of change in a randomized controlled trial. *Psychotherapy*, 60(2), 182.

Goh, C., & Agius, M. (2010). The stress-vulnerability model how does stress impact on mental illness at the level of the brain and what are the consequences? *Psychiatra Danubina*, 22(2), 198–202.

Grattan, L. M., Bloomer, R. H., Archambault, F. X., & Eslinger, P. J. (1994). Cognitive flexibility and empathy after frontal lobe lesion. *Cognitive and Behavioral Neurology*, 7(4), 251–259.

Kaufman, J. C. (2014). *Creativity and mental illness*. Cambridge University Press.

Kaukiainen, A., Björkqvist, K., Lagerspetz, K., Österman, K., Salmivalli, C., Rothberg, S., & Ahlbom, A. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 25(2), 81–89.

Lakoff, G. (2014). Mapping the brain's metaphor circuitry: Metaphorical thought in everyday reason. *Frontiers in Human Neuroscience*, 8, 958.

Li, X., Chen, J., & Fu, H. (2024). The roles of empathy and motivation in creativity in design thinking. *International Journal of Technology and Design Education*, 34(4), 1305–1324.

Mason, J. H. (1995). Thinking about genius in the eighteenth century. *The Scriblerian and the Kit-Cats*, 27(2), 165.

McMahon, D. (2013). *Divine fury: A history of genius*. Constellation.

Morelli, Lieberman, M. D., & Zaki, J. (2015). The emerging study of positive empathy. *Social and Personality Psychology Compass*, 9(2), 57–68.

Nguyen, M., Strádalová, E., Sharma, A., & Castillo, E. (n.d.). Hyperconnectivity Patterns in Psychological Disorders: A Literature Review of Connectivity Patterns within Depression and Anxiety Compared to Other Psychiatric Disorders. *The Girls in Med Journal of Neuroscience*.

Peterson, J. B., & Carson, S. (2000). Latent inhibition and openness to experience in a high-achieving student population. *Personality and Individual Differences*, 28(2), 323–332.

Sampedro, A., Peña, J., Ibarretxe-Bilbao, N., Sánchez, P., Iriarte-Yoller, N., Ledesma-González, S., Tous-Espelosin, M., & Ojeda, N. (2020a). Mediating role of cognition and social cognition on creativity among patients with schizophrenia and healthy controls: Revisiting the shared vulnerability model. *Psychiatry and Clinical Neurosciences*, 74(2), 149–155.

Schumann, K., & Dragotta, A. (2021). Empathy as a predictor of high-quality interpersonal apologies. *European Journal of Social Psychology*, 51(6), 896–909.

Silvia, P. J., & Kaufman, J. C. (2010). Creativity and mental illness. *Cambridge Handbook of Creativity*, 381–394.

Stamm, J. L. (1971). Vincent van Gogh: Identity crisis and creativity. *American Imago*, 28(4), 363–372.

Taylor, C. L. (2017). Creativity and mood disorder: A systematic review and meta-analysis. *Perspectives on Psychological Science*, 12(6), 1040–1076.

Tie, B., Yang, W., Huo, T., Gao, Y., Yang, X., Tian, D., Pelowski, M., & Qiu, J. (2025). Empathy to creativity: The associations between empathy and everyday creativity. *Journal of Personality*, 93(6), 1212–1225.

Whitehead, J. (2017). *Madness and the romantic poet: A critical history*. Oxford University Press.

Young, J. G. (1985). What is creativity? *The Journal of Creative Behavior*.

Zafeirenia, B. (2024). Creativity in the ancient Greek philosophy: The politics of Demiourgein. *The Journal of Creative Behavior*, 58(2), 227–244.

Review of "Rethinking the Tortured Artist: The Role of Empathy in the Shared Vulnerability Model"

This paper tackles an enduring and culturally powerful question that I think is not only important, but outlines the relationship between creativity and psychopathology via the interdisciplinary lens. The central contribution, of inclusion of empathy as a social-cognitive protective factor into the Shared Vulnerability Model (SVM), is promising, but can be expanded upon. The manuscript demonstrates strong intellectual curiosity and a commendable effort to synthesize the arts and sciences perspectives. With developing a deeper engagement and substantial revision, this work has the potential to make a meaningful contribution to creativity and mental health discourse.

Strengths

One of the paper's greatest strengths is its clear conceptual ambition. Moving beyond seeing art as an accessory and engaging the SVM to include social-cognitive variables and highlighting the role of empathy has exceptional promise. The progression from Theory of Mind to empathy is logically structured and shows good engagement with existing literature. The historical section is also engaging and helps contextualize the persistence of the "tortured artist" stereotype, making the paper accessible and pedagogically strong.

Additionally, the paper demonstrates broad engagement with relevant sources, including both foundational (e.g., Carson, 2011) and contemporary research with most sources within the last 5 years. The applications section is particularly compelling, as it bridges theory with real-world implications in therapy and education; which is an important goal for creating impact and empowerment.

Major Concerns

Despite these strengths, there are several critical issues that must be addressed:

1. Lack of Methodological Rigor / Overreliance on Narrative Synthesis

The paper presents itself as extending a scientific model but does not employ a clear methodology (e.g., systematic review, meta-analysis, or empirical study). The argument relies heavily on selectively cited studies without clarifying inclusion criteria or evaluating study quality. This weakens the validity of the central claim

that empathy functions as a protective factor within the SVM. Perhaps you can narrow the methodological scope i.e. narrative analysis or temper the claims to reflect the more exploratory approach of the idea.

2. Causal Overreach and Conceptual Leap

The paper frequently implies causality (e.g., empathy “shifts individuals away from psychopathology”) based on correlational evidence. Perhaps incorporating real artists or case studies would support this leap from “empathy correlates with wellbeing and creativity” to “empathy is a protective factor in the SVM” is insufficiently justified. I recommend looking at artists like Lee Pric, Ally Zlatar or Félix González-Torres in proposing empathy as a hypothesized protective factor rather than a confirmed one.

3. Insufficient Critical Engagement with Contradictory Evidence

The review is notably one-sided. There is little discussion of literature that complicates or challenges the empathy–creativity or empathy–mental health relationships to reaffirm the strength in your position, including counterarguments and limitations to strengthen analytical depth and credibility.

4. Conceptual Ambiguity Around Empathy

While cognitive vs. affective empathy is introduced, the paper does not clearly specify which component is driving the proposed protective effect so elaborating on how they interact with empathy and SVM variables are key.

Minor Concerns

- There are occasional grammatical and stylistic issues (e.g., subject-verb agreement, repetition) that should be carefully edited.
- Some historical claims are oversimplified or lack nuance (e.g., interpretations of Greek philosophy).
- Citations such as “Nguyen et al., n.d.” should be clarified or replaced with complete references.

Final Recommendation: Revise and Resubmit

The manuscript could become a strong contribution in arts and social-sciences discourse and with these edits it builds a stronger claim and more impact so I encourage the author to continue to develop this work to be as academically engaged as possible.

BLIND REV

RECOMMENDED FOR PUBLICATION

Accept with minor revisions (acceptance conditional on satisfactory minor revisions)

Rethinking the Tortured Artist: The Role of Empathy in the Shared Vulnerability Model

Summary

The article expands Shelly Carson's Shared Vulnerability Model (SVM) by proposing empathy is an additional protective factor that helps explain why some individuals with vulnerability traits develop creativity rather than psychopathology. The author traces the historical roots of the "tortured artist" stereotype from ancient Greece to modern celebrity culture, showing that cultural narratives have long linked creativity with madness. They then synthesize literature across psychology, neuroscience, and social cognition to argue that empathy improves emotional regulation, social functioning, and perspective-taking mechanisms that may channel vulnerability toward creative output rather than mental illness. The paper highlights empirical evidence connecting empathy to well-being and creativity, contrasts cognitive vs. affective empathy, and proposes theoretical integration of empathy into the SVM. Applications include creative therapies, empathy-based interventions, and examples such as Yayoi Kusama. Limitations include the lack of empirical testing and the need to examine affective empathy and other social-cognitive factors. The article concludes that empathy offers a promising expansion of the SVM and a more nuanced understanding of creativity and psychopathology. The conclusion would be that the tortured artist could actually be the empathic person.

Positive points:

The integration of empathy into the SVM is both novel and well-argued, offering a fresh direction for future research.

The paper successfully weaves together history, psychology, neuroscience, and social cognition, demonstrating intellectual breadth.

Weaknesses:

Lack of empirical testing. The paper proposes empathy as a protective factor but cannot confirm this without experimental data.

Underdeveloped discussion of affective empathy: While cognitive empathy is well-supported, affective empathy's complex role could be explored more deeply.

Evaluation

1) Originality and Significance

The article makes a genuinely original contribution by integrating empathy, a social-cognitive construct, into a model previously dominated by genetic and neurological factors. This conceptual expansion is meaningful and timely, addressing gaps in the literature and offering practical implications for therapy and stigma reduction. The historical analysis adds depth and context.

2) Clarity and Structure

The paper is well-organized, moving logically from history, SVM, Theory of Mind, empathy, applications and limitations. Arguments are clear, transitions are smooth, and the reader can easily follow the conceptual progression. A few sections are lengthy and could benefit from tighter synthesis, but overall clarity is high.

3) Use of Evidence, Research Methods

The methodology is appropriate for a theoretical synthesis. Sources are real, relevant, and correctly cited. The article clearly explains inclusion/exclusion criteria and thematic grouping. However, because the work is conceptual rather than empirical, some claims rely heavily on correlational evidence and induction presuppositions.

4) Engagement with Literature

The dissertation demonstrates excellent engagement with historical, psychological, and neuroscientific literature. It acknowledges critiques (e.g., Dietrich, 2014) and integrates multiple perspectives. The discussion of cognitive vs. affective empathy is nuanced and well-supported.

5) Grammar

The writing is clear, professional, and academically appropriate. Minor stylistic redundancies appear in a few sections, but grammar is consistently strong.

Conclusion:

The dissertation is original, well-structured, and deeply engaged with literature. It makes a meaningful theoretical contribution by expanding the SVM and offers practical implications for therapy and stigma reduction. Its main limitation is the absence of empirical validation, which prevents stronger claims. Nonetheless, the work is academically rigorous, clearly written, and highly relevant to contemporary discussions of creativity and mental health.

Dr Monica Mastrantonio Martins

15/07/2026

1 Rethinking the Tortured Artist: The Role of 2 Empathy in the Shared Vulnerability Model

4 Abstract:

5 A long-standing stereotype, the “tortured artist” portrays artists as striving for creativity
6 through mental suffering. Although heavily romanticized, this stereotype presents a
7 fascinating question from a scientific viewpoint about the relationship between creativity
8 and psychopathology. If creativity improves mental health, why is it often associated with
9 mental illness? The shared vulnerability model explored this question through a genetic
10 lens, finding that creativity and psychopathology share many traits, with outcomes
11 determined by certain protective or risk factors. However, because research on this topic
12 has largely focused on genetics, key areas such as social cognition remain underexplored.
13 The current paper expands the shared vulnerability model to include the social-cognitive
14 factor of empathy. Using historical analysis, research on Theory of Mind, and an analysis of
15 empathy, this paper explores empathy’s conceptual contribution to mental health and
16 creativity and the shared vulnerability model as a potential protective factor that shifts an
17 individual more towards creativity and less towards psychopathology. These findings, when
18 integrated into therapies and treatments, suggest applications not only to artists but also
19 to a broader population of creative individuals or individuals who experience struggles with
20 mental health. It may also reduce the stigma associated with the tortured artist stereotype
21 by offering a more complex explanation.

23 Key terms: Creativity, empathy, shared vulnerability model, mental illness,
24 psychopathology, theory of mind

26 Introduction

27 The “tortured artist” stereotype has been around for centuries. From as early as
28 Sophocles’ Greek tragedy *Philoctetes* to modern-day Hollywood stars and artists, the
29 association between creativity and mental suffering has been present (Kaufman, 2014).
30 Countless famous artists, musicians, and writers, such as Van Gogh, Beethoven, and Ernest
31 Hemingway, are all assigned the vague yet unifying title of “tortured artist.” The tortured
32 artist is someone who performs negative identity work, a process of defining oneself with
33 characteristics opposed to societal norms, to achieve a positive artistic self (Alacovska &
34 Kärreman, 2023). Modern research has begun looking past simple anecdotes and case
35 studies, diving into the mechanisms with experiments, brain scans, and models for the
36 relationship between creativity and mental illness. However, proposed explanations, such

37 as Shelly H. Carson's shared vulnerability model, have only focused on neurological,
38 biological, or genetic approaches. Because creativity and mental illness are both extremely
39 complex in nature, it is important to consider alternate perspectives.

40 This paper will extend previous work on the shared vulnerability model (SVM) to
41 incorporate empathy, a social-cognitive function, into the model. Understanding the role of
42 empathy in the shared vulnerability model is important because of its role in creativity
43 (Alzayed et al., 2022). Although many social-cognitive functions may influence creativity
44 and psychopathology, this paper focuses on empathy because it includes both affective and
45 cognitive processes. Since having both socio-affective and socio-cognitive capabilities
46 leads to more successful social interaction (Preckel et al., 2018), empathy provides a useful
47 framework for understanding the role of social cognition in the relationship between
48 creativity and psychopathology.

49 Grounded in this model, social-cognitive functions, specifically empathy, may act as
50 a protective factor in determining the relationship between creativity and
51 psychopathology, meaning they potentially shift individuals more towards creativity and
52 put them less at risk for mental illness.

53 The importance of empathy in this discussion is that it has been overlooked due to
54 the romanticization of the concept (Becker, 2001). Further examining the relationship
55 between creativity and psychopathology can reduce stigma around "tortured artists."
56 Empathy specifically is important because of its role in emotional well-being. Using the
57 shared vulnerability model, empathy could prove crucial in explaining how protective
58 factors impact creative or at-risk individuals. In addition, empathy's role can be used to
59 improve therapy, interventions, and mental health education. Understanding the complex
60 relationship from empathy's perspective can help refine treatments for those struggling
61 with mental health by incorporating creativity to bring individuals away from pathology.
62 Overall, empathy has not been explored in past research and represents an important new
63 factor to consider.

64 In this paper, the history of the "tortured artist" stereotype will be explored,
65 emphasizing that there are more factors at play than genetics. Then, the shared
66 vulnerability model (SVM) will be discussed. The general idea is that genetically,
67 psychopathology and creativity share multiple vulnerabilities, such as low latent inhibition
68 and cognitive disinhibition. These traits are seen as heritable and polygenetic. Protective
69 and risk factors determine whether an individual is more prone to creativity or
70 psychopathology (Carson, 2011). However, the examined risk and protective factors have
71 only been genetic, rather than other perspectives important to psychology. One such
72 perspective is the social-cognitive perspective. Later research has examined Theory of
73 Mind and its role in the SVM, suggesting it is a key mediator and important protective
74 factor (Sampedro et al., 2020a). However, a step further from Theory of Mind is empathy.
75 Yet to be examined in the context of creativity and psychopathology, the role of empathy
76 will be discussed in this paper, along with applications to the real world.

78 Methodology

79 This paper utilizes a theoretical synthesis approach, which combines and interprets
80 theories and findings across disciplines to expand conceptual understanding and examine
81 the role of empathy in the SVM, with the use of case studies to understand the history of
82 the tortured artist. By selectively integrating literature from various fields—including
83 psychology, neuroscience, and history—the relationship between creativity and
84 psychopathology is conceptually expanded into the social-cognitive perspective by
85 including discussions on empathy's role.

86 First, with academic databases such as Google Scholar and PubMed, sources were
87 found with a combination of keywords, including “shared vulnerability model,” “creativity,”
88 “tortured artist,” and “empathy.” Papers were then selected based on keywords. The chosen
89 sources were either foundational theoretical works, meta-analyses, or empirical studies.
90 Next, the sources were evaluated. Although recency was considered in the evaluation
91 process, multiple older works for historical purposes are included, as well as foundational
92 works such as Carson's SVM, for conceptual and background relevance. If sources were not
93 relevant to 1) the tortured artist, 2) creativity and psychopathology, 3) the SVM, or 4)
94 empathy, then they were excluded. Additionally, if sources lacked sufficient empirical or
95 theoretical evidence, these studies were excluded to maintain the credibility of the
96 conceptual analysis. Finally, literature was sorted into themes and conceptual domains:
97 historical background, understanding the SVM, creativity, empathy, and mental health
98 outcomes. With these groups, sources were analyzed by identifying certain recurring
99 themes and relationships. How the literature fits together was also examined to identify
100 limitations and to address research gaps.

101 The theoretical synthesis approach offers new insights into the relationship
102 between creativity and psychopathology by integrating ideas from multiple domains and
103 perspectives, rather than relying on statistical evidence. This approach allows for theory
104 building by integrating new ideas into existing models.

105

106 1. History

107 The association of creativity with mental illness has long pre-dated neurological
108 attempts at explaining the relationship. The idea existed as early as ancient Greece in the
109 writings of famous philosophers such as Plato and Aristotle. Through their work, they
110 describe madness as something that could contribute to artistry and creativity. They
111 believed that it was madness that drove individuals to think imaginatively and to be in
112 uncontrolled states of mind, allowing for creativity. These Greek philosophers saw this type
113 of madness as a divine gift only given to a few (Zafeirenia, 2024). As the idea progressed,
114 many similar explanations for creative genius appeared. In the Renaissance Era,

115 philosopher Marsilio Ficino called it *furor divinus*, meaning “divine madness” in Latin
116 (McMahon, 2013). This idea, too, stated that creativity was a divine right that would cause
117 mad states of imagination.

118 It wasn’t until the Enlightenment Era, starting in the late 17th century, that creativity
119 and genius were understood to be natural human talents (Mason, 1995). The Enlightenment
120 is defined as a period of time where reason was emphasized over divine explanation. This
121 new rising value contributed to the shift of ideas about creativity, seeing it as an innate
122 characteristic rather than a divine intervention of madness.

123 However, beginning in the 19th century, as a response to the reason-oriented
124 perspective, the Romantic Era emerged as a turning point of the modern-day concept of
125 creativity. Unlike the Enlightenment, the Romantic Era was one of emotion and passion,
126 leading to more artistic approaches to creativity. Romantic poetry, for example, explored
127 human feelings, and it was believed that madness was emotion being pushed to its limit.
128 Because creativity produced poetry, poetry was emotion, and the peak of emotion was
129 madness, the artistic process became associated with madness in the minds of not only
130 consumers but also in the minds of artists themselves (Whitehead, 2017).

131 Historically, before the advancements made in mental health in later centuries, like
132 updates from the DSM-II to DSM-III in 1980, psychiatric conditions, such as
133 obsessive-compulsive disorder (OCD) or schizophrenia, lacked formal diagnoses and
134 definitions (Farreras, 2019). This left much room for misinterpretation when considering
135 the caricature of the “tortured artist.” For example, an obsessive painter labelled as a
136 tortured artist may be diagnosed with OCD by today’s standards. A sculptor staying awake
137 for multiple nights at a time could now be identified as a symptom of a manic episode. A
138 musician who claims to hear the music and voices in their head could be seen as
139 schizophrenic today. Even as definitions became formalized, artists continued performing
140 negative identity work, where they adopt self-destructive traits to fit a social norm, thereby
141 further making mental illness a hallmark of art (Alacovska & Kärreman, 2023).

142 One of the most notable examples that demonstrates our modern belief in the
143 “tortured artist” is the story of Vincent Van Gogh. As an unsuccessful artist who, though
144 debated to this day, as experts suspect, suffered from bipolar disorder, his story of pain and
145 suffering is seen as the epitome of a tortured artist whose mental health problems drove
146 his artistic ability (Stamm, 1971). Retellings of his story largely attribute his tragic journey
147 through life to his artistic process, each stage of his life representing one of his painting
148 eras, such as his famous *Starry Night* being painted in a mental asylum, further linking the
149 association of creative processes to mental illness. As modern art evolved, a multitude of
150 other examples rose that fit the tortured artist stereotype.

151 After World War I, a generation in the Western world known as the Lost Generation
152 gave birth to many writers who wrote books reflecting the disillusionment of a post-war
153 society as previous values of honor were destroyed and replaced by suffering. One of the
154 main writers in Lost Generation literature was Ernest Hemingway, yet another example of

155 an artist characterized by tremendous suffering (Durham, 2003). Hemingway suffered a
156 traumatizing childhood with his father committing suicide, and he led a life of depression,
157 alcoholism, and rash adventures until he ultimately took his own life. At the same time, he
158 produced many works considered masterpieces, such as *The Old Man and the Sea*.

159 However, after World War II and its atrocities and the resulting trauma, the world
160 began to focus more on mental health, leading to a revolution in mental health awareness.
161 Multiple mental health organizations were established during this time, as well as the NIH's
162 National Mental Health Act in 1946 in the United States (Brand, 1965). It was in this period
163 that new psychological research worked towards debunking the tortured artist stereotype,
164 as its role in defining artists became toxic (Taylor, 2017).

165 As the topic of mental health approaches the present, how we see creativity has
166 shifted into a healthier light, now defining it as a process of creating original works (Young,
167 1985). However, the link between creative individuals and mental illness continues.
168 Modern-day musicians, such as Michael Jackson, Amy Winehouse, and Britney Spears,
169 continue reinforcing the relationship between creativity and mental illness. Given all this
170 history, it is clear that there are more than just genetic factors influencing the stereotype
171 of the tortured artist.

172

173 2. The Shared Vulnerability Model

174 The relationship between creativity and psychopathology has been debated for
175 decades, as a multitude of historical anecdotes have demonstrated the positive association
176 between creativity and psychopathology. (Silvia & Kaufman, 2010). However, empirical
177 studies on this topic have resulted in contradictory evidence. These findings have pointed
178 to an explanation: the inverted-U model. This means that minor instances of
179 psychopathology can be associated with creativity, but severe cases cannot. For example,
180 while mild traits, such as cognitive disinhibition or overinclusive thinking, can promote
181 creativity, they hinder creativity when the traits are severe, such as thought disorder or
182 psychosis (Abraham, 2014). For example, one study found that while full schizophrenia is
183 negatively correlated with creativity, certain symptoms of schizophrenia are positively
184 correlated, such as psychoticism or positive schizotypy. This means that individuals with
185 schizophrenia are less likely to be creative, but specific psychopathological traits are

186 associated with creativity, supporting the inverted-U hypothesis (Acar et al., 2018).

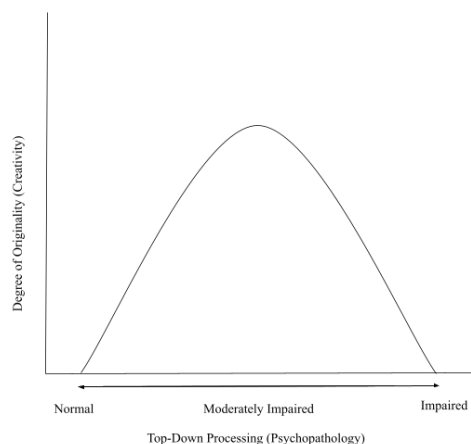


Figure 1. The inverted-U model demonstrates that minor occurrences of psychopathology can be associated with creativity, while severe cases cannot. Adapted from (Abraham, 2014)

187

188 Another example with bipolar disorder found that although they exhibit a small
189 correlation, those with mild bipolar traits generally tested higher in creativity, while those
190 with full bipolar disorders did not (Forthmann et al., 2023). These studies, and a multitude
191 more, conclude that although not directly correlated with illness, creativity predicts traits
192 of mental illness along the inverted-U. This finding suggests that there is a certain point on
193 the inverted-U at which creativity and psychopathology do not associate, leading to further
194 exploration of their relationship. Current and future research seek to expand the
195 knowledge on this topic beyond anecdotes and into mechanistic and empirical arenas. One
196 of the most popular models probing the relationship between the two variables is the
197 shared vulnerability model (SVM). While the inverted-U displays where individuals fall in
198 the relationship, the SVM looks into why they are there.

199

200 As a precursor to the SVM, the stress-vulnerability model, originally adapted in 1977,
201 explored the characteristics of those prone to schizophrenia. It describes that those with
202 higher levels of these characteristics, or vulnerabilities, are more likely to respond to stress
203 with a psychiatric episode. Essentially, it explained that vulnerabilities and stress
204 contribute to mental illness such as schizophrenia (Goh & Agius, 2010).

205 The stress-vulnerability model, influencing the structure and organization of the
206 shared vulnerability model, inspired the creation of the model that explains creativity and
207 psychopathology. Similar to the 1977 model and combined with the inverted-U model, the
208 SVM model proposed by Shelly H. Carson used three specific genetic vulnerabilities,
209 deficits in latent inhibition, novelty seeking, and neural hyperconnectivity, that are shared
210 between creative people and those at risk for psychopathology. These vulnerabilities are
211 referred to as genetic because the traits are heritable and polygenetic. This
212 characterization suggests that traits determining creativity or psychopathology run in

213 families. However, external factors can influence the expression of these traits. The shared
214 vulnerabilities include reduced latent inhibition, novelty seeking, and neural
215 hyperconnectivity (Carson, 2011).

216 Latent inhibition, as used by Carson, is defined as the capacity to screen from
217 conscious awareness stimuli previously experienced as irrelevant (Carson, 2011). Essentially,
218 it is the ability in classical conditioning to ignore a stimulus if it is not accompanied by a
219 consequence. This skill is important in brain functions to filter out irrelevant stimuli.
220 However, both creative people and those with psychopathological issues, such as
221 schizophrenia, have been found to have a deficit in latent inhibition (Carson et al., 2003).
222 For creativity, this means individuals can make unique connections, and those with
223 psychopathological issues have higher distractibility and are more likely to pay attention to
224 irrelevant stimuli than relevant ones. The reason the same characteristic can cause
225 different results is because of certain protective and risk factors, such as cognitive abilities.

226 Carson also explains that novelty seeking is present in both creativity and
227 psychopathology. Novelty seeking refers to the intrinsic motivation for new stimuli rather
228 than familiar patterns. For those who are creative, novelty seeking explains the desire to
229 create and explore, but for mental illness, it can mean recklessness and dangerous
230 behaviors (Carson, 2011). Similar to latent inhibition, the same process can yield different
231 results due to protective and risk factors.

232 Neural hyperconnectivity refers to an abnormally great amount of neural
233 connections between different brain regions. Multiple mental dysfunctions and other
234 neurological conditions have been found to exhibit hyperconnectivity between different
235 brain regions, such as schizophrenia, bipolar disorder, major depressive disorder, and
236 synesthesia (Nguyen et al., 2025). A multitude of studies have shown that hyperconnectivity
237 between brain circuits can serve as a neural sign that can predict traits of psychopathology,
238 such as through the default-mode network and cerebello-thalamo-cortical network (Cao et
239 al., 2018). In creative individuals, on the other hand, hyperconnectivity influences
240 metaphorical thinking (Carson, 2011). These hyperconnectivities occupy similar brain
241 circuits to those in psychosis (Lakoff, 2014).

242 These three factors make up the shared vulnerabilities of the model, but their
243 outcomes vary. According to the SVM, the outcome is determined by certain protective and
244 risk factors. The protective factors are high IQ, working memory, and cognitive flexibility,
245 while risk factors are low IQ, working memory deficits, and perseveration. Individuals who
246 have low latent inhibition but high IQ can create associations but also not be distracted,
247 and in one particular study, those with high IQ and low latent inhibition were found to
248 predict 30% of variance in creativity scores (Peterson & Carson, 2000). These protective
249 and risk factors influence the expression of the shared vulnerabilities by allowing them to
250 be expressed in a healthy or an unhealthy way.

251

Creativity - Protective Factors	Shared Vulnerability	Psychopathology - Risk Factors
High IQ Good Working Memory Cognitive Flexibility	Low Latent Inhibition Novelty Seeking Hyperconnectivity	Low IQ Working Memory Deficits Perseveration

Table 1: Summary of Carson’s Shared Vulnerability Model with all original protective, risk, and vulnerability factors. Adapted from (Carson, 2011).

The SVM highlights the relationship between creativity and psychopathology, their underlying similarities, and factors that pull individuals towards either side. However, its primary focus has been genetic, and many more factors could be examined, such as social-cognitive processes. These social-cognitive factors could play a crucial role in further understanding the shared vulnerability model and the relationships between creativity and psychopathology.

3. Theory of Mind

Understanding the role of social cognition is essential to further understanding creativity and psychopathology. Social cognition studies the psychological processes of how individuals understand, process, and respond to others. Examining social cognition is important and expands on current knowledge because, like many psychological issues, it is crucial to integrate environmental or interpersonal factors in addition to genetic factors.

Theory of Mind (ToM) refers to the ability to understand that others have their own individual thoughts, beliefs, and perceptions (Frith & Frith, 2005). It forms one of the pillars of social cognition processes that work with understanding intentions. Studies find that psychopathological individuals, particularly those with schizophrenia or bipolar disorder, exhibit deficits in ToM (Burghardt et al., 2023). On the other hand, creativity and ToM are positively associated, meaning those who are more creative often have higher levels of ToM (Beloysianni et al., 2024). In creative individuals, ToM is especially important in the ability to understand perspectives and create new, original thinking. For example, an actor with functioning ToM could accurately interpret how their character perceives the world, or a novelist would be able to understand the motivations of their characters. On the other hand, deficits in ToM can impair an individual’s ability to understand others’ perspectives or intentions.

One particular study published in 2020 explores the role of ToM in Carson’s model of shared vulnerability (Sampedro et al., 2020b). It explores how neurological and, more importantly, social-cognitive functions can determine the extent to which an individual will exhibit creativity and/or psychopathology. Researchers found that in their experimental groups, social cognition, specifically ToM, was positively correlated with creativity. In fact,

the study found that social cognition had a stronger correlation and was more important than many neurological functions. The study then went further to refer to the SVM, highlighting the importance of ToM as a protective factor that can channel vulnerabilities into creativity rather than psychopathology. This addition of a social-cognitive function in this study to the SVM brings in new possibilities for risk and protective factors.

To account for limitations, the study further explains that although ToM was examined, it is not enough to determine if social cognition is, as a whole, a protective factor in the shared vulnerability model. These limitations, with the fact that this study was the first to include ToM, open a new world of possible factors to the SVM: social cognition. Naturally, the next step from ToM is the importance of empathy, as empathy is one step further from understanding the existence of different beliefs and emotions, but is actually feeling those emotions. Empathy is also a key social-cognitive function, and learning its place in the shared vulnerability model would provide deeper connections and insights.

4. Empathy

The role of empathy is important as social cognition in the SVM continues to be explored. Empathy is the ability of an individual to not only understand that others may have different perceptions than they do, but also to share in the associated feelings. Unlike ToM, which is simply being able to know that others can have different thoughts, empathy is more complicated, referring to both the cognitive ability to understand those thoughts and an affective response. Modern psychology defines these two halves as cognitive empathy, which is understanding another perspective, and affective empathy, which is emotionally responding to others (Cuff et al., 2016). Because empathy operates both intellectually and emotionally, it is in a unique position to influence personal experiences in individuals and can provide insights into creativity and mental illness.

While both cognitive and affective empathy can play a role in creativity and mental well-being, their differences may cause different effects within the SVM.

Empathy and Mental Well-being

Research has shown that positive empathy plays a significant role in well-being and happiness, where higher levels of empathy predict higher levels of well-being and life satisfaction in individuals (Morelli et al., 2015). A mastery of empathy demonstrates high social functioning skills that are imperative to mental well-being. Not only does empathy enable an individual to identify emotions, but it also enables them to interpret and react to emotions effectively. In one study, it was shown that participants with higher empathy levels had higher-quality apologies, meaning their apologies contained more apology elements, such as remorse or responsibility (Schumann & Dragotta, 2021). Empathy also reduces emotional stress and promotes prosocial behavior, allowing an individual to both react emotionally in a healthy way and connect socially.

324 The role of empathy and its relationship with mental illness has also been explored.
325 Specifically, in schizophrenic individuals, it was found that they exhibit a deficit of empathy
326 both socially and neurally (Farrow & Woodruff, 2007). Additionally, several antisocial
327 mental health disorders also exhibit similar dysfunctions, such as psychopathy and
328 narcissism, where individuals were shown to have the most trouble identifying negative
329 emotions. In depressive disorders as well, dysfunctional empathy is associated with
330 depression, as empathy is replaced with guilt rather than emotional regulation. These
331 mental illnesses suggest that a lack of empathy may contribute to their development.

332 Considering the positive effects of empathy and the negative effects of a lack
333 thereof, it is suggested that empathy has a considerable impact on the mental health of an
334 individual. Its relationship with mental well-being demonstrates empathy's ability to
335 properly identify and regulate emotion on multiple levels, highlighting its potential role as a
336 factor that decreases risk of psychopathology.

337 However, many of these studies identify empathy as a whole rather than working
338 with cognitive and affective empathy separately. One study looked at differences in social
339 functioning between different age groups, and its results suggest that older adults, who
340 generally had decreased cognitive empathy but increased emotional empathy, had more
341 impaired social functioning (Khanjani et al., 2015). Another study evaluated empathy and
342 mental health in caregivers and found that higher affective empathy was associated with
343 worse mental health while higher cognitive empathy showed no effect (Hua et al., 2021).
344 These studies suggest that affective empathy may be more associated with
345 psychopathology while cognitive empathy may be more closely related to the social
346 functioning skills that support well-being.

347

348 **Empathy and Creativity**

349 Research has found that creativity and empathy are positively correlated, with more
350 expressions of creativity predicting higher levels of empathy (Li et al., 2024). Empathy
351 reflects an ability to use imagination to imagine how another feels, and the ability to do so
352 enhances creative imagination as well. Additionally, the ability to take in and understand
353 new perspectives allows for an open mind and increased idea generation (Tie et al., 2025).
354 In one study, empathy classes were taught at a school and creativity was measured. After
355 comparison with a control group, it was found that creativity increased in the school with
356 the empathy class (Demetriou & Nicholl, 2022). Overall, research suggests that empathy has
357 a positive effect on creativity.

358 However, studies that differentiate between cognitive and affective empathy show
359 that they may influence creativity differently. For example, in one study, it was shown that
360 individuals with high levels of cognitive empathy were more likely to recognize the value of
361 creativity in disadvantaged artists, while those with high levels of affective empathy did not
362 produce the same outcome, suggesting that emotional responses may influence creativity
363 differently than understanding perspective (Pei et al., 2022). This demonstrates that the

364 two processes can yield differing effects and can influence creativity differently as well.
365 From research, it is suggested that cognitive empathy has a more positive effect on
366 creativity than affective empathy.

367

368 **Empathy in the Shared Vulnerability Model**

369 To recap, Carson's SVM proposes a relationship between creativity and
370 psychopathology through shared genetic and neural traits between the two states, such as
371 latent inhibition, novelty seeking, and hyperconnectivity. Additionally, the model proposes
372 that there are protective and risk factors that pull an individual towards either creativity or
373 psychopathology. These include working memory, intelligence, and cognitive flexibility.
374 However, Carson's SVM focused solely on genetic factors and did not account for other
375 perspectives, such as social-cognitive functions (Carson, 2011).

376 Past research has considered empathy as a possible factor for further research, but
377 it has not yet been integrated into the model. With the findings outlined in this paper, I
378 propose empathy as a social-cognitive protective factor in the SVM. Empathy has been
379 associated with improved mental health conditions, and many issues of mental health can
380 be connected to deficits in empathy. Creativity is also shown to benefit from empathy,
381 further solidifying empathy's role as a protective factor. Similar to other protective factors
382 already in the SVM, empathy demonstrates an ability to utilize vulnerability with less risk of
383 psychopathology. As the vulnerability in the SVM represents heightened stimuli, empathy
384 seems to play a key role in mediating whether sensitivity is expressed through creativity or
385 through psychopathology.

386 However, in considering the distinction between cognitive and affective empathy,
387 research suggests that cognitive empathy may play a larger role as a protective factor in
388 the SVM than affective empathy. Cognitive empathy involves the abilities of
389 perspective-taking and the understanding of situations, which are more closely related to
390 the existing protective factors of the SVM, such as cognitive flexibility. On the other hand,
391 affective empathy primarily involves emotional responses and may influence both mental
392 wellbeing and creativity through different pathways. Affective empathy, like cognitive
393 empathy, is shown to contribute to wellbeing and creativity, but its results are less
394 consistent. Therefore, although empathy as a whole can be identified as a protective factor
395 in the SVM, cognitive empathy may represent the primary component driving protective
396 effects.

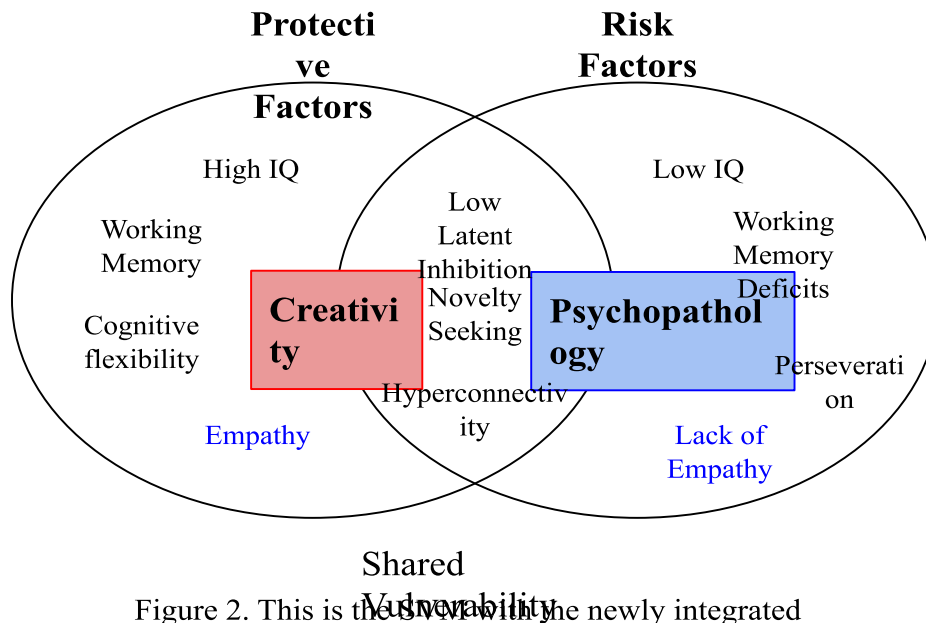


Figure 2. This is the SVM with the newly integrated empathy factor. Empathy acts as a protective factor, and on the opposite side, a lack of would represent a risk factor. *Adapted from (Carson, 2011)*

Furthermore, within the SVM, empathy is also closely related to the other protective factors. Empathy and working memory are closely associated (Gaesser, 2013). Similarly, empathy and social intelligence correlate positively, as do social intelligence and IQ (Kaukiainen et al., 1999). Empathy is positively associated with cognitive flexibility as well (Grattan et al., 1994).

The addition of empathy differs from the other protective factors because it extends the discussion beyond genetic factors and brings in the possibility of more personal influences, such as social cognition. While genetic factors provide insight on a more bio-deterministic level of understanding, social cognition applies factors of human interaction, such as social meaning and emotional salience. Studying the role of empathy can expand the possibilities and could make the SVM more applicable to real life.

Applications

Carson provided many applications for the SVM, noting the model suggests that chances of psychopathology can be reduced either through treating vulnerability factors, enhancing protective factors, or enhancing overall creativity (Carson, 2011). Carson notes that because directly trying to rid individuals of vulnerabilities for treatment could impact an individual's creativity, she suggests regulation rather than a removal of those shared vulnerabilities. This means individuals would most likely prefer treatment related to bolstering creativity. For example, she suggested implementing creative therapies, such as

419 art, music, writing, and theater, to enhance creativity (Carson, 2011). Creative art therapy is
420 often incorporated into mental health treatments. These therapies engage emotions,
421 cognition, and communication using creative expression, especially when it can be difficult
422 to express oneself (Shafir et al., 2020).

423 However, because Carson's SVM was based on genetic factors, it would be difficult
424 to provide treatment by enhancing protective factors. With empathy as a protective factor,
425 which is a skill that can be learned and improved, enhancing it would also be a possible
426 treatment method. Many empathy-based therapies, such as mentalization-based therapy
427 or psychoanalytic therapy, would be effective (Garrote-Caparrós et al., 2023). Additionally,
428 empathy can be applied to educational environments to improve creativity. By fostering
429 skills in emotional regulation and perspective-taking, the likelihood of shared
430 vulnerabilities leading to psychopathology could decrease while also supporting creative
431 growth (Demetriou & Nicholl, 2022).

432 One example of empathy's potential role in the SVM is contemporary artist Yayoi
433 Kusama, who, in her autobiography *Infinity Net*, openly discusses her struggles with mental
434 illness (Kusama, 2021). Kusama is not only famous for her unique art style in her sculptures
435 and installations, but her story is also inspiring and uplifting. In her book, she describes her
436 experience with hallucinations, OCD, and depersonalization disorder, and how she
437 channels these experiences into her art as a way to cope. In 1977, she admitted herself into
438 Seiwa Hospital for the Mentally Ill in Tokyo, and since then she has continued producing
439 art, often traveling back and forth from the hospital and her studio. By turning her internal,
440 psychological state into physical forms with art, she invites others to understand her world
441 and see her perspective, reflecting key processes of empathy. Her story illustrates how
442 psychopathology can be expressed through creativity and the potential role empathetic
443 processes play in the art-making process.

444

445 **Limitations and Future Direction**

446 There are many limitations to the proposed role of empathy in the SVM. One
447 limitation is that this paper utilizes a theoretical synthesis rather than an empirical study.
448 This means empathy's role as a possible protective factor is proposed rather than
449 confirmed. Further research could use experimental or testable frameworks to verify
450 empathy's role in the SVM. The literature used in the theoretical synthesis often provides
451 correlational evidence, so empathy's effects on mental well-being and creativity have not
452 been directly tested.

453 Additionally, the paper focuses on empathy, and specifically cognitive empathy, as
454 playing a larger role in the SVM. This may overlook the role of affective empathy and other
455 social-cognitive functions when understanding the relationship between creativity and
456 psychopathology. Future research could examine how affective empathy and other
457 cognitive functions may change the balance between creativity and psychopathology.

Several pieces of literature counter the existence of the “tortured artist” concept. (Dietrich, 2014) [suggest] that studies on the tortured artist often ignore baseline rates of creative individuals having psychopathological behavior, and they argue that because so many individuals worldwide experience mental illness, it is very likely that a high proportion of them will be creative. This suggests levels of confirmation bias and illusory correlations. However, modern research has tackled these concerns with empirical studies and has proposed complex explanations, such as the inverted-U or SVM. Dietrich’s critiques of research on the tortured artist phenomenon can contribute to a larger, more nuanced discussion of the relationship between creativity and psychopathology.

Furthermore, expanding on the role of affective empathy, some researchers argue that an excessive amount of affective empathy may lead to more harmful effects on mental wellbeing than beneficial, and that empathy itself, although crucial to social function, may not really be protective of one’s mental state nor creativity (Huang et al., 2025). Empathy’s impact on individuals is complex, and while it is true that affective empathy provides mixed results about mental wellbeing and creativity, the evidence reviewed in the paper suggests that the protective aspects of empathy are primarily driven by cognitive empathy. Empathy remains a useful protective factor due to cognitive empathy’s more consistent support of wellbeing and creativity.

Further research should test the role of empathy empirically in the SVM to confirm validity, using empathy tests such as the Empathy Quotient (EQ) test or the Questionnaire of Cognitive and Affective Empathy (QCAE). It is also important to consider information about differing populations, such as gender, culture, or ethnicity. Furthermore, other social-cognitive functions can be tested, such as neurological perspectives, emotional functions, and developmental factors. In the SVM, it is also important to consider the spectrum between creativity and psychopathology, and future research could examine this continuum.

Conclusion

The relationship between creativity and psychopathology has long been in discussion and romanticized throughout history. Modern research, however, has begun to examine this relationship further, such as through the shared vulnerability model, which provides a framework for understanding shared genetic traits between creativity and psychopathology, mediated by protective and risk factors. Because Carson’s SVM was focused on genetic factors, it did not account for other potential parts of the puzzle.

This paper extends the SVM’s discussion into the social-cognitive realm, proposing empathy as a protective factor in the SVM. By first setting up the scene by outlining the history of the tortured artist, the paper clarifies that the discussion of creativity and psychopathology extends well beyond simple genetic or biological explanations. Then, explaining the SVM, the paper introduces a model explaining the relationship and identifies

497 shortcomings. Finally, introducing social cognition through ToM led to the proposal of
498 another social-cognitive factor, fitting empathy into the picture. The paper also dives into
499 the different effects cognitive vs. affective empathy may bring and has concluded that
500 cognitive empathy may play the bigger role as a protective factor. The evidence reviewed
501 demonstrates empathy's positive associations with creativity and how deficits in empathy
502 can be associated with mental health issues, highlighting its role as a protective factor.
503

504 References

- 505 Abraham, A. (2014). Is there an inverted-U relationship between creativity and
506 psychopathology? *Frontiers in Psychology*, 5, 750.
507 <https://doi.org/10.3389/fpsyg.2014.00750>
- 508 Acar, S., Chen, X., & Cayirdag, N. (2018). Schizophrenia and creativity: A
509 meta-analytic review. *Schizophrenia Research*, 195, 23–31.
510 <https://doi.org/10.1016/j.schres.2017.08.036>
- 511 Alacovska, A., & Kärreman, D. (2023). Tormented selves: The social imaginary of the
512 tortured artist and the identity work of creative workers. *Organization Studies*,
513 44(6), 961–985. <https://doi.org/10.1177/01708406221089594>
- 514 Alzayed, M. A., Miller, S. R., & McComb, C. (2022). Does empathy beget creativity?
515 Investigating the role of trait empathy in idea generation and selection. In *Design*
516 *computing and cognition'20* (pp. 437–454). Springer.
517 <https://doi.org/10.1007/978-3-030-90625-2>
- 518 Becker, G. (2001). The association of creativity and psychopathology: Its
519 cultural-historical origins. *Creativity Research Journal*, 13(1), 45–53.
- 520 Beloyianni, V., Zbainos, D., & Karagianni, M. (2024). From mindreading to originality:
521 Exploring the relationship between Theory of Mind and Creativity across the
522 lifespan. *British Journal of Developmental Psychology*, 42(2), 215–233.

Brand, J. L. (1965). The national mental health act of 1946: A retrospect. *Bulletin of the History of Medicine*, 39(3), 231-245.

Burghardt, J., Gradl, S., Knopp, M., & Sprung, M. (2023). Psychopathology and theory of mind in patients with personality disorders. *Borderline Personality Disorder and Emotion Dysregulation*, 10(1), 18. <https://doi.org/10.1186/s40479-024-00260-5>

Cao, H., Chén, O. Y., Chung, Y., Forsyth, J. K., McEwen, S. C., Gee, D. G., Bearden, C. E., Addington, J., Goodyear, B., & Cadenhead, K. S. (2018). Cerebello-thalamo-cortical hyperconnectivity as a state-independent functional neural signature for psychosis prediction and characterization. *Nature Communications*, 9(1), 3836. <https://doi.org/10.1038/s41467-018-06350-7>

Carson, S. H. (2011). Creativity and psychopathology: A shared vulnerability model. *The Canadian Journal of Psychiatry*, 56(3), 144-153. <https://doi.org/10.1177/070674371105600304>

Carson, S. H., Peterson, J. B., & Higgins, D. M. (2003). Decreased latent inhibition is associated with increased creative achievement in high-functioning individuals. *Journal of Personality and Social Psychology*, 85(3), 499. <https://doi.org/10.1037/0022-3514.85.3.499>

Cuff, B. M., Brown, S. J., Taylor, L., & Howat, D. J. (2016). Empathy: A review of the concept. *Emotion Review*, 8(2), 144-153. <https://doi.org/10.1177/1754073914558466>

Demetriou, H., & Nicholl, B. (2022). Empathy is the mother of invention: Emotion and cognition for creativity in the classroom. *Improving Schools*, 25(1), 4-21. <https://doi.org/10.1177/1365480221989500>

Durham, C. A. (2003). Modernism and Mystery: The Curious Case of the Lost Generation. *Twentieth Century Literature*, 49(1), 82–102.

<https://doi.org/10.2307/3176009>

Farreras, I. G. (2019). History of mental illness. *General Psychology: Required Reading*, 244.

Farrow, T. F., & Woodruff, P. W. (2007). *Empathy in mental illness*. Cambridge University Press.

Forthmann, B., Kaczykowski, K., Benedek, M., & Holling, H. (2023). The Manic Idea Creator? A Review and Meta-Analysis of the Relationship between Bipolar Disorder and Creative Cognitive Potential. *International Journal of Environmental Research and Public Health*, 20(13), 6264. <https://doi.org/10.3390/ijerph20136264>

Frith, C., & Frith, U. (2005). Theory of mind. *Current Biology*, 15(17), R644–R645. <https://doi.org/10.1016/j.cub.2005.08.041>

Gaesser, B. (2013). Constructing memory, imagination, and empathy: A cognitive neuroscience perspective. *Frontiers in Psychology*, 3, 576.

Garrote-Caparrós, E., Lecuona, Ó., Bellosta-Batalla, M., Moya-Albiol, L., & Cebolla, A. (2023). Efficacy of a mindfulness and compassion-based intervention in psychotherapists and their patients: Empathy, symptomatology, and mechanisms of change in a randomized controlled trial. *Psychotherapy*, 60(2), 182.

<https://doi.org/10.1037/pst0000467>

Goh, C., & Agius, M. (2010). The stress-vulnerability model how does stress impact on mental illness at the level of the brain and what are the consequences?

Psychiatria Danubina, 22(2), 198–202.

Grattan, L. M., Bloomer, R. H., Archambault, F. X., & Eslinger, P. J. (1994). Cognitive flexibility and empathy after frontal lobe lesion. *Cognitive and Behavioral Neurology*, 7(4), 251–259.

Hua, A. Y., Wells, J. L., Brown, C. L., & Levenson, R. W. (2021). Emotional and cognitive empathy in caregivers of people with neurodegenerative disease: Relationships with caregiver mental health. *Clinical Psychological Science*, 9(3), 449–466.

Huang, C., Wu, Z., Sha, S., Liu, C., Yang, L., Jiang, P., Zhang, H., & Yang, C. (2025). The dark side of empathy: The role of excessive affective empathy in mental health disorders. *Biological Psychiatry*.

Kaufman, J. C. (2014). *Creativity and mental illness*. Cambridge University Press.

Kaukiainen, A., Björkqvist, K., Lagerspetz, K., Österman, K., Salmivalli, C., Rothberg, S., & Ahlbom, A. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 25(2), 81–89.

[https://doi.org/10.1002/\(SICI\)1098-2337\(1999\)25:2%3C81::AID-AB1%3E3.0.CO;2-M](https://doi.org/10.1002/(SICI)1098-2337(1999)25:2%3C81::AID-AB1%3E3.0.CO;2-M)

Khanjani, Z., Mosanezhad Jeddi, E., Hekmati, I., Khalilzade, S., Etemadi Nia, M., Andalib, M., & Ashrafian, P. (2015). Comparison of cognitive empathy, emotional empathy, and social functioning in different age groups. *Australian Psychologist*, 50(1), 80–85.

Kusama, Y. (2021). *Infinity net: The autobiography of Yayoi Kusama*. Tate Enterprises Ltd.

Lakoff, G. (2014). Mapping the brain's metaphor circuitry: Metaphorical thought in everyday reason. *Frontiers in Human Neuroscience*, 8, 958.

<https://doi.org/10.3389/fnhum.2014.00958>

Li, X., Chen, J., & Fu, H. (2024). The roles of empathy and motivation in creativity in design thinking. *International Journal of Technology and Design Education*, 34(4), 1305–1324. <https://doi.org/10.1007/s10798-023-09869-z>

Mason, J. H. (1995). Thinking about genius in the eighteenth century. *The Scriblerian and the Kit-Cats*, 27(2), 165.

McMahon, D. (2013). *Divine fury: A history of genius*. Constellation.

Morelli, S. A., Lieberman, M. D., & Zaki, J. (2015). The emerging study of positive empathy. *Social and Personality Psychology Compass*, 9(2), 57–68.

<https://doi.org/10.1111/spc3.12157>

Nguyen, M., Strádalová, E., Sharma, A., & Castillo, E. (n.d.). Hyperconnectivity Patterns in Psychological Disorders: A Literature Review of Connectivity Patterns within Depression and Anxiety Compared to Other Psychiatric Disorders. *The Girls in Med Journal of Neuroscience*.

Peterson, J. B., & Carson, S. (2000). Latent inhibition and openness to experience in a high-achieving student population. *Personality and Individual Differences*, 28(2), 323–332. [https://doi.org/10.1016/S0191-8869\(99\)00101-4](https://doi.org/10.1016/S0191-8869(99)00101-4)

Sampedro, A., Peña, J., Ibarretxe-Bilbao, N., Sánchez, P., Iriarte-Yoller, N.,

Ledesma-González, S., Tous-Espelosin, M., & Ojeda, N. (2020a). Mediating role of

cognition and social cognition on creativity among patients with schizophrenia and

611 healthy controls: Revisiting the shared vulnerability model. *Psychiatry and Clinical*
612 *Neurosciences*, 74(2), 149–155. <https://doi.org/10.1111/pcn.12954>

613 Sampedro, A., Peña, J., Ibarretxe-Bilbao, N., Sánchez, P., Iriarte-Yoller, N.,
614 Ledesma-González, S., Tous-Espelosin, M., & Ojeda, N. (2020b). Mediating role of
615 cognition and social cognition on creativity among patients with schizophrenia and
616 healthy controls: Revisiting the shared vulnerability model. *Psychiatry and Clinical*
617 *Neurosciences*, 74(2), 149–155.

618 Schumann, K., & Dragotta, A. (2021). Empathy as a predictor of high-quality
619 interpersonal apologies. *European Journal of Social Psychology*, 51(6), 896–909.
620 <https://doi.org/10.1002/ejsp.2786>

621 Shafir, T., Orkibi, H., Baker, F. A., Gussak, D., & Kaimal, G. (2020). The state of the art
622 in creative arts therapies. *Frontiers in Psychology*, 11, 68.

623 Silvia, P. J., & Kaufman, J. C. (2010). Creativity and mental illness. *Cambridge*
624 *Handbook of Creativity*, 381–394.

625 Stamm, J. L. (1971). Vincent van Gogh: Identity crisis and creativity. *American Imago*,
626 28(4), 363–372.

627 Taylor, C. L. (2017). Creativity and mood disorder: A systematic review and
628 meta-analysis. *Perspectives on Psychological Science*, 12(6), 1040–1076.
629 <https://doi.org/10.1177/1745691617699653>

630 Tie, B., Yang, W., Huo, T., Gao, Y., Yang, X., Tian, D., Pelowski, M., & Qiu, J. (2025).
631 Empathy to creativity: The associations between empathy and everyday creativity.
632 *Journal of Personality*, 93(6), 1212–1225. <https://doi.org/10.1111/jopy.13002>

- 633 Whitehead, J. (2017). *Madness and the romantic poet: A critical history*. Oxford
634 University Press.
- 635 Young, J. G. (1985). What is creativity? *The Journal of Creative Behavior*.
636 <https://doi.org/10.1002/j.2162-6057.1985.tb00640.x>
- 637 Zafeirenia, B. (2024). Creativity in the ancient Greek philosophy: The politics of
638 Demiourgein. *The Journal of Creative Behavior*, 58(2), 227–244.
639 <https://doi.org/10.1002/jocb.644>

1 Rethinking the Tortured Artist: The Role of 2 Empathy in the Shared Vulnerability Model

4 Abstract:

5 A long-standing stereotype, the “tortured artist” portrays artists as striving for creativity
6 through mental suffering. Although heavily romanticized, this stereotype presents a
7 fascinating question from a scientific viewpoint about the relationship between creativity
8 and psychopathology. If creativity improves mental health, why is it often associated with
9 mental illness? The shared vulnerability model explored this question through a genetic
10 lens, finding that creativity and psychopathology share many traits, with outcomes
11 determined by certain protective or risk factors. However, because research on this topic
12 has largely focused on genetics, key areas such as social cognition remain underexplored.
13 The current paper expands the shared vulnerability model to include the social-cognitive
14 factor of empathy. Using historical analysis, research on Theory of Mind, and an analysis of
15 empathy, this paper explores empathy’s conceptual contribution to mental health and
16 creativity and the shared vulnerability model as a potential protective factor that shifts an
17 individual more towards creativity and less towards psychopathology. These findings, when
18 integrated into therapies and treatments, suggest applications not only to artists but also
19 to a broader population of creative individuals or individuals who experience struggles with
20 mental health. It may also reduce the stigma associated with the tortured artist stereotype
21 by offering a more complex explanation.

23 Key terms: Creativity, empathy, shared vulnerability model, mental illness,
24 psychopathology, theory of mind

26 Introduction

27 The “tortured artist” stereotype has been around for centuries. From as early as
28 Sophocles’ Greek tragedy *Philoctetes* to modern-day Hollywood stars and artists, the
29 association between creativity and mental suffering has been present (Kaufman, 2014).
30 Countless famous artists, musicians, and writers, such as Van Gogh, Beethoven, and Ernest
31 Hemingway, are all assigned the vague yet unifying title of “tortured artist.” The tortured
32 artist is someone who performs negative identity work, a process of defining oneself with
33 characteristics opposed to societal norms, to achieve a positive artistic self (Alacovska &
34 Kärreman, 2023). Modern research has begun looking past simple anecdotes and case
35 studies, diving into the mechanisms with experiments, brain scans, and models for the
36 relationship between creativity and mental illness. However, proposed explanations, such

37 as Shelly H. Carson's shared vulnerability model, have only focused on neurological,
38 biological, or genetic approaches. Because creativity and mental illness are both extremely
39 complex in nature, it is important to consider alternate perspectives.

40 This paper will extend previous work on the shared vulnerability model (SVM) to
41 incorporate empathy, a social-cognitive function, into the model. Understanding the role of
42 empathy in the shared vulnerability model is important because of its role in creativity
43 (Alzayed et al., 2022). Although many social-cognitive functions may influence creativity
44 and psychopathology, this paper focuses on empathy because it includes both affective and
45 cognitive processes. Since having both socio-affective and socio-cognitive capabilities
46 leads to more successful social interaction (Preckel et al., 2018), empathy provides a useful
47 framework for understanding the role of social cognition in the relationship between
48 creativity and psychopathology.

49 Grounded in this model, social-cognitive functions, specifically empathy, may act as
50 a protective factor in determining the relationship between creativity and
51 psychopathology, meaning they potentially shift individuals more towards creativity and
52 put them less at risk for mental illness.

53 The importance of empathy in this discussion is that it has been overlooked due to
54 the romanticization of the concept (Becker, 2001). Further examining the relationship
55 between creativity and psychopathology can reduce stigma around "tortured artists."
56 Empathy specifically is important because of its role in emotional well-being. Using the
57 shared vulnerability model, empathy could prove crucial in explaining how protective
58 factors impact creative or at-risk individuals. In addition, empathy's role can be used to
59 improve therapy, interventions, and mental health education. Understanding the complex
60 relationship from empathy's perspective can help refine treatments for those struggling
61 with mental health by incorporating creativity to bring individuals away from pathology.
62 Overall, empathy has not been explored in past research and represents an important new
63 factor to consider.

64 In this paper, the history of the "tortured artist" stereotype will be explored,
65 emphasizing that there are more factors at play than genetics. Then, the shared
66 vulnerability model (SVM) will be discussed. The general idea is that genetically,
67 psychopathology and creativity share multiple vulnerabilities, such as low latent inhibition
68 and cognitive disinhibition. These traits are seen as heritable and polygenetic. Protective
69 and risk factors determine whether an individual is more prone to creativity or
70 psychopathology (Carson, 2011). However, the examined risk and protective factors have
71 only been genetic, rather than other perspectives important to psychology. One such
72 perspective is the social-cognitive perspective. Later research has examined Theory of
73 Mind and its role in the SVM, suggesting it is a key mediator and important protective
74 factor (Sampedro et al., 2020a). However, a step further from Theory of Mind is empathy.
75 Yet to be examined in the context of creativity and psychopathology, the role of empathy
76 will be discussed in this paper, along with applications to the real world.

78 Methodology

79 This paper utilizes a theoretical synthesis approach, which combines and interprets
80 theories and findings across disciplines to expand conceptual understanding and examine
81 the role of empathy in the SVM, with the use of case studies to understand the history of
82 the tortured artist. By selectively integrating literature from various fields—including
83 psychology, neuroscience, and history—the relationship between creativity and
84 psychopathology is conceptually expanded into the social-cognitive perspective by
85 including discussions on empathy's role.

86 First, with academic databases such as Google Scholar and PubMed, sources were
87 found with a combination of keywords, including “shared vulnerability model,” “creativity,”
88 “tortured artist,” and “empathy.” Papers were then selected based on keywords. The chosen
89 sources were either foundational theoretical works, meta-analyses, or empirical studies.
90 Next, the sources were evaluated. Although recency was considered in the evaluation
91 process, multiple older works for historical purposes are included, as well as foundational
92 works such as Carson's SVM, for conceptual and background relevance. If sources were not
93 relevant to 1) the tortured artist, 2) creativity and psychopathology, 3) the SVM, or 4)
94 empathy, then they were excluded. Additionally, if sources lacked sufficient empirical or
95 theoretical evidence, these studies were excluded to maintain the credibility of the
96 conceptual analysis. Finally, literature was sorted into themes and conceptual domains:
97 historical background, understanding the SVM, creativity, empathy, and mental health
98 outcomes. With these groups, sources were analyzed by identifying certain recurring
99 themes and relationships. How the literature fits together was also examined to identify
100 limitations and to address research gaps.

101 The theoretical synthesis approach offers new insights into the relationship
102 between creativity and psychopathology by integrating ideas from multiple domains and
103 perspectives, rather than relying on statistical evidence. This approach allows for theory
104 building by integrating new ideas into existing models.

105

106 1. History

107 The association of creativity with mental illness has long pre-dated neurological
108 attempts at explaining the relationship. The idea existed as early as ancient Greece in the
109 writings of famous philosophers such as Plato and Aristotle. Through their work, they
110 describe madness as something that could contribute to artistry and creativity. They
111 believed that it was madness that drove individuals to think imaginatively and to be in
112 uncontrolled states of mind, allowing for creativity. These Greek philosophers saw this type
113 of madness as a divine gift only given to a few (Zafeirenia, 2024). As the idea progressed,
114 many similar explanations for creative genius appeared. In the Renaissance Era,

115 philosopher Marsilio Ficino called it *furor divinus*, meaning “divine madness” in Latin
116 (McMahon, 2013). This idea, too, stated that creativity was a divine right that would cause
117 mad states of imagination.

118 It wasn’t until the Enlightenment Era, starting in the late 17th century, that creativity
119 and genius were understood to be natural human talents (Mason, 1995). The Enlightenment
120 is defined as a period of time where reason was emphasized over divine explanation. This
121 new rising value contributed to the shift of ideas about creativity, seeing it as an innate
122 characteristic rather than a divine intervention of madness.

123 However, beginning in the 19th century, as a response to the reason-oriented
124 perspective, the Romantic Era emerged as a turning point of the modern-day concept of
125 creativity. Unlike the Enlightenment, the Romantic Era was one of emotion and passion,
126 leading to more artistic approaches to creativity. Romantic poetry, for example, explored
127 human feelings, and it was believed that madness was emotion being pushed to its limit.
128 Because creativity produced poetry, poetry was emotion, and the peak of emotion was
129 madness, the artistic process became associated with madness in the minds of not only
130 consumers but also in the minds of artists themselves (Whitehead, 2017).

131 Historically, before the advancements made in mental health in later centuries, like
132 updates from the DSM-II to DSM-III in 1980, psychiatric conditions, such as
133 obsessive-compulsive disorder (OCD) or schizophrenia, lacked formal diagnoses and
134 definitions (Farreras, 2019). This left much room for misinterpretation when considering
135 the caricature of the “tortured artist.” For example, an obsessive painter labelled as a
136 tortured artist may be diagnosed with OCD by today’s standards. A sculptor staying awake
137 for multiple nights at a time could now be identified as a symptom of a manic episode. A
138 musician who claims to hear the music and voices in their head could be seen as
139 schizophrenic today. Even as definitions became formalized, artists continued performing
140 negative identity work, where they adopt self-destructive traits to fit a social norm, thereby
141 further making mental illness a hallmark of art (Alacovska & Kärreman, 2023).

142 One of the most notable examples that demonstrates our modern belief in the
143 “tortured artist” is the story of Vincent Van Gogh. As an unsuccessful artist who, though
144 debated to this day, as experts suspect, suffered from bipolar disorder, his story of pain and
145 suffering is seen as the epitome of a tortured artist whose mental health problems drove
146 his artistic ability (Stamm, 1971). Retellings of his story largely attribute his tragic journey
147 through life to his artistic process, each stage of his life representing one of his painting
148 eras, such as his famous *Starry Night* being painted in a mental asylum, further linking the
149 association of creative processes to mental illness. As modern art evolved, a multitude of
150 other examples rose that fit the tortured artist stereotype.

151 After World War I, a generation in the Western world known as the Lost Generation
152 gave birth to many writers who wrote books reflecting the disillusionment of a post-war
153 society as previous values of honor were destroyed and replaced by suffering. One of the
154 main writers in Lost Generation literature was Ernest Hemingway, yet another example of

155 an artist characterized by tremendous suffering (Durham, 2003). Hemingway suffered a
156 traumatizing childhood with his father committing suicide, and he led a life of depression,
157 alcoholism, and rash adventures until he ultimately took his own life. At the same time, he
158 produced many works considered masterpieces, such as *The Old Man and the Sea*.

159 However, after World War II and its atrocities and the resulting trauma, the world
160 began to focus more on mental health, leading to a revolution in mental health awareness.
161 Multiple mental health organizations were established during this time, as well as the NIH's
162 National Mental Health Act in 1946 in the United States (Brand, 1965). It was in this period
163 that new psychological research worked towards debunking the tortured artist stereotype,
164 as its role in defining artists became toxic (Taylor, 2017).

165 As the topic of mental health approaches the present, how we see creativity has
166 shifted into a healthier light, now defining it as a process of creating original works (Young,
167 1985). However, the link between creative individuals and mental illness continues.
168 Modern-day musicians, such as Michael Jackson, Amy Winehouse, and Britney Spears,
169 continue reinforcing the relationship between creativity and mental illness. Given all this
170 history, it is clear that there are more than just genetic factors influencing the stereotype
171 of the tortured artist.

172

173 2. The Shared Vulnerability Model

174 The relationship between creativity and psychopathology has been debated for
175 decades, as a multitude of historical anecdotes have demonstrated the positive association
176 between creativity and psychopathology. (Silvia & Kaufman, 2010). However, empirical
177 studies on this topic have resulted in contradictory evidence. These findings have pointed
178 to an explanation: the inverted-U model. This means that minor instances of
179 psychopathology can be associated with creativity, but severe cases cannot. For example,
180 while mild traits, such as cognitive disinhibition or overinclusive thinking, can promote
181 creativity, they hinder creativity when the traits are severe, such as thought disorder or
182 psychosis (Abraham, 2014). For example, one study found that while full schizophrenia is
183 negatively correlated with creativity, certain symptoms of schizophrenia are positively
184 correlated, such as psychoticism or positive schizotypy. This means that individuals with
185 schizophrenia are less likely to be creative, but specific psychopathological traits are

186 associated with creativity, supporting the inverted-U hypothesis (Acar et al., 2018).

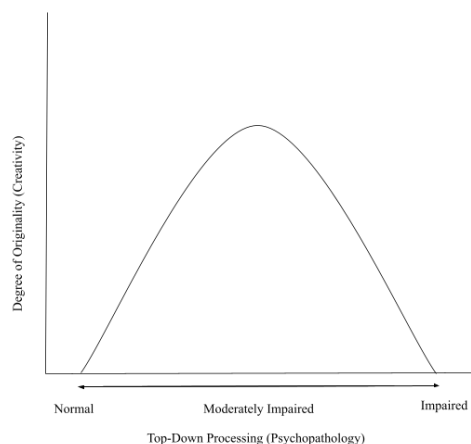


Figure 1. The inverted-U model demonstrates that minor occurrences of psychopathology can be associated with creativity, while severe cases cannot. Adapted from (Abraham, 2014)

187

188 Another example with bipolar disorder found that although they exhibit a small
189 correlation, those with mild bipolar traits generally tested higher in creativity, while those
190 with full bipolar disorders did not (Forthmann et al., 2023). These studies, and a multitude
191 more, conclude that although not directly correlated with illness, creativity predicts traits
192 of mental illness along the inverted-U. This finding suggests that there is a certain point on
193 the inverted-U at which creativity and psychopathology do not associate, leading to further
194 exploration of their relationship. Current and future research seek to expand the
195 knowledge on this topic beyond anecdotes and into mechanistic and empirical arenas. One
196 of the most popular models probing the relationship between the two variables is the
197 shared vulnerability model (SVM). While the inverted-U displays where individuals fall in
198 the relationship, the SVM looks into why they are there.

199

200 As a precursor to the SVM, the stress-vulnerability model, originally adapted in 1977,
201 explored the characteristics of those prone to schizophrenia. It describes that those with
202 higher levels of these characteristics, or vulnerabilities, are more likely to respond to stress
203 with a psychiatric episode. Essentially, it explained that vulnerabilities and stress
204 contribute to mental illness such as schizophrenia (Goh & Agius, 2010).

205 The stress-vulnerability model, influencing the structure and organization of the
206 shared vulnerability model, inspired the creation of the model that explains creativity and
207 psychopathology. Similar to the 1977 model and combined with the inverted-U model, the
208 SVM model proposed by Shelly H. Carson used three specific genetic vulnerabilities,
209 deficits in latent inhibition, novelty seeking, and neural hyperconnectivity, that are shared
210 between creative people and those at risk for psychopathology. These vulnerabilities are
211 referred to as genetic because the traits are heritable and polygenetic. This
212 characterization suggests that traits determining creativity or psychopathology run in

families. However, external factors can influence the expression of these traits. The shared vulnerabilities include reduced latent inhibition, novelty seeking, and neural hyperconnectivity (Carson, 2011).

Latent inhibition, as used by Carson, is defined as the capacity to screen from conscious awareness stimuli previously experienced as irrelevant (Carson, 2011). Essentially, it is the ability in classical conditioning to ignore a stimulus if it is not accompanied by a consequence. This skill is important in brain functions to filter out irrelevant stimuli. However, both creative people and those with psychopathological issues, such as schizophrenia, have been found to have a deficit in latent inhibition (Carson et al., 2003). For creativity, this means individuals can make unique connections, and those with psychopathological issues have higher distractibility and are more likely to pay attention to irrelevant stimuli than relevant ones. The reason the same characteristic can cause different results is because of certain protective and risk factors, such as cognitive abilities.

Carson also explains that novelty seeking is present in both creativity and psychopathology. Novelty seeking refers to the intrinsic motivation for new stimuli rather than familiar patterns. For those who are creative, novelty seeking explains the desire to create and explore, but for mental illness, it can mean recklessness and dangerous behaviors (Carson, 2011). Similar to latent inhibition, the same process can yield different results due to protective and risk factors.

Neural hyperconnectivity refers to an abnormally great amount of neural connections between different brain regions. Multiple mental dysfunctions and other neurological conditions have been found to exhibit hyperconnectivity between different brain regions, such as schizophrenia, bipolar disorder, major depressive disorder, and synesthesia (Nguyen et al., 2025). A multitude of studies have shown that hyperconnectivity between brain circuits can serve as a neural sign that can predict traits of psychopathology, such as through the default-mode network and cerebello-thalamo-cortical network (Cao et al., 2018). In creative individuals, on the other hand, hyperconnectivity influences metaphorical thinking (Carson, 2011). These hyperconnectivities occupy similar brain circuits to those in psychosis (Lakoff, 2014).

These three factors make up the shared vulnerabilities of the model, but their outcomes vary. According to the SVM, the outcome is determined by certain protective and risk factors. The protective factors are high IQ, working memory, and cognitive flexibility, while risk factors are low IQ, working memory deficits, and perseveration. Individuals who have low latent inhibition but high IQ can create associations but also not be distracted, and in one particular study, those with high IQ and low latent inhibition were found to predict 30% of variance in creativity scores (Peterson & Carson, 2000). These protective and risk factors influence the expression of the shared vulnerabilities by allowing them to be expressed in a healthy or an unhealthy way.

251

Creativity - Protective Factors	Shared Vulnerability	Psychopathology - Risk Factors
High IQ Good Working Memory Cognitive Flexibility	Low Latent Inhibition Novelty Seeking Hyperconnectivity	Low IQ Working Memory Deficits Perseveration

Table 1: Summary of Carson’s Shared Vulnerability Model with all original protective, risk, and vulnerability factors. Adapted from (Carson, 2011).

The SVM highlights the relationship between creativity and psychopathology, their underlying similarities, and factors that pull individuals towards either side. However, its primary focus has been genetic, and many more factors could be examined, such as social-cognitive processes. These social-cognitive factors could play a crucial role in further understanding the shared vulnerability model and the relationships between creativity and psychopathology.

3. Theory of Mind

Understanding the role of social cognition is essential to further understanding creativity and psychopathology. Social cognition studies the psychological processes of how individuals understand, process, and respond to others. Examining social cognition is important and expands on current knowledge because, like many psychological issues, it is crucial to integrate environmental or interpersonal factors in addition to genetic factors.

Theory of Mind (ToM) refers to the ability to understand that others have their own individual thoughts, beliefs, and perceptions (Frith & Frith, 2005). It forms one of the pillars of social cognition processes that work with understanding intentions. Studies find that psychopathological individuals, particularly those with schizophrenia or bipolar disorder, exhibit deficits in ToM (Burghardt et al., 2023). On the other hand, creativity and ToM are positively associated, meaning those who are more creative often have higher levels of ToM (Beloysianni et al., 2024). In creative individuals, ToM is especially important in the ability to understand perspectives and create new, original thinking. For example, an actor with functioning ToM could accurately interpret how their character perceives the world, or a novelist would be able to understand the motivations of their characters. On the other hand, deficits in ToM can impair an individual’s ability to understand others’ perspectives or intentions.

One particular study published in 2020 explores the role of ToM in Carson’s model of shared vulnerability (Sampedro et al., 2020b). It explores how neurological and, more importantly, social-cognitive functions can determine the extent to which an individual will exhibit creativity and/or psychopathology. Researchers found that in their experimental groups, social cognition, specifically ToM, was positively correlated with creativity. In fact,

the study found that social cognition had a stronger correlation and was more important than many neurological functions. The study then went further to refer to the SVM, highlighting the importance of ToM as a protective factor that can channel vulnerabilities into creativity rather than psychopathology. This addition of a social-cognitive function in this study to the SVM brings in new possibilities for risk and protective factors.

To account for limitations, the study further explains that although ToM was examined, it is not enough to determine if social cognition is, as a whole, a protective factor in the shared vulnerability model. These limitations, with the fact that this study was the first to include ToM, open a new world of possible factors to the SVM: social cognition. Naturally, the next step from ToM is the importance of empathy, as empathy is one step further from understanding the existence of different beliefs and emotions, but is actually feeling those emotions. Empathy is also a key social-cognitive function, and learning its place in the shared vulnerability model would provide deeper connections and insights.

4. Empathy

The role of empathy is important as social cognition in the SVM continues to be explored. Empathy is the ability of an individual to not only understand that others may have different perceptions than they do, but also to share in the associated feelings. Unlike ToM, which is simply being able to know that others can have different thoughts, empathy is more complicated, referring to both the cognitive ability to understand those thoughts and an affective response. Modern psychology defines these two halves as cognitive empathy, which is understanding another perspective, and affective empathy, which is emotionally responding to others (Cuff et al., 2016). Because empathy operates both intellectually and emotionally, it is in a unique position to influence personal experiences in individuals and can provide insights into creativity and mental illness.

While both cognitive and affective empathy can play a role in creativity and mental well-being, their differences may cause different effects within the SVM.

Empathy and Mental Well-being

Research has shown that positive empathy plays a significant role in well-being and happiness, where higher levels of empathy predict higher levels of well-being and life satisfaction in individuals (Morelli et al., 2015). A mastery of empathy demonstrates high social functioning skills that are imperative to mental well-being. Not only does empathy enable an individual to identify emotions, but it also enables them to interpret and react to emotions effectively. In one study, it was shown that participants with higher empathy levels had higher-quality apologies, meaning their apologies contained more apology elements, such as remorse or responsibility (Schumann & Dragotta, 2021). Empathy also reduces emotional stress and promotes prosocial behavior, allowing an individual to both react emotionally in a healthy way and connect socially.

324 The role of empathy and its relationship with mental illness has also been explored.
325 Specifically, in schizophrenic individuals, it was found that they exhibit a deficit of empathy
326 both socially and neurally (Farrow & Woodruff, 2007). Additionally, several antisocial
327 mental health disorders also exhibit similar dysfunctions, such as psychopathy and
328 narcissism, where individuals were shown to have the most trouble identifying negative
329 emotions. In depressive disorders as well, dysfunctional empathy is associated with
330 depression, as empathy is replaced with guilt rather than emotional regulation. These
331 mental illnesses suggest that a lack of empathy may contribute to their development.

332 Considering the positive effects of empathy and the negative effects of a lack
333 thereof, it is suggested that empathy has a considerable impact on the mental health of an
334 individual. Its relationship with mental well-being demonstrates empathy's ability to
335 properly identify and regulate emotion on multiple levels, highlighting its potential role as a
336 factor that decreases risk of psychopathology.

337 However, many of these studies identify empathy as a whole rather than working
338 with cognitive and affective empathy separately. One study looked at differences in social
339 functioning between different age groups, and its results suggest that older adults, who
340 generally had decreased cognitive empathy but increased emotional empathy, had more
341 impaired social functioning (Khanjani et al., 2015). Another study evaluated empathy and
342 mental health in caregivers and found that higher affective empathy was associated with
343 worse mental health while higher cognitive empathy showed no effect (Hua et al., 2021).
344 These studies suggest that affective empathy may be more associated with
345 psychopathology while cognitive empathy may be more closely related to the social
346 functioning skills that support well-being.

347

348 **Empathy and Creativity**

349 Research has found that creativity and empathy are positively correlated, with more
350 expressions of creativity predicting higher levels of empathy (Li et al., 2024). Empathy
351 reflects an ability to use imagination to imagine how another feels, and the ability to do so
352 enhances creative imagination as well. Additionally, the ability to take in and understand
353 new perspectives allows for an open mind and increased idea generation (Tie et al., 2025).
354 In one study, empathy classes were taught at a school and creativity was measured. After
355 comparison with a control group, it was found that creativity increased in the school with
356 the empathy class (Demetriou & Nicholl, 2022). Overall, research suggests that empathy has
357 a positive effect on creativity.

358 However, studies that differentiate between cognitive and affective empathy show
359 that they may influence creativity differently. For example, in one study, it was shown that
360 individuals with high levels of cognitive empathy were more likely to recognize the value of
361 creativity in disadvantaged artists, while those with high levels of affective empathy did not
362 produce the same outcome, suggesting that emotional responses may influence creativity
363 differently than understanding perspective (Pei et al., 2022). This demonstrates that the

364 two processes can yield differing effects and can influence creativity differently as well.
365 From research, it is suggested that cognitive empathy has a more positive effect on
366 creativity than affective empathy.

367

368 **Empathy in the Shared Vulnerability Model**

369 To recap, Carson's SVM proposes a relationship between creativity and
370 psychopathology through shared genetic and neural traits between the two states, such as
371 latent inhibition, novelty seeking, and hyperconnectivity. Additionally, the model proposes
372 that there are protective and risk factors that pull an individual towards either creativity or
373 psychopathology. These include working memory, intelligence, and cognitive flexibility.
374 However, Carson's SVM focused solely on genetic factors and did not account for other
375 perspectives, such as social-cognitive functions (Carson, 2011).

376 Past research has considered empathy as a possible factor for further research, but
377 it has not yet been integrated into the model. With the findings outlined in this paper, I
378 propose empathy as a social-cognitive protective factor in the SVM. Empathy has been
379 associated with improved mental health conditions, and many issues of mental health can
380 be connected to deficits in empathy. Creativity is also shown to benefit from empathy,
381 further solidifying empathy's role as a protective factor. Similar to other protective factors
382 already in the SVM, empathy demonstrates an ability to utilize vulnerability with less risk of
383 psychopathology. As the vulnerability in the SVM represents heightened stimuli, empathy
384 seems to play a key role in mediating whether sensitivity is expressed through creativity or
385 through psychopathology.

386 However, in considering the distinction between cognitive and affective empathy,
387 research suggests that cognitive empathy may play a larger role as a protective factor in
388 the SVM than affective empathy. Cognitive empathy involves the abilities of
389 perspective-taking and the understanding of situations, which are more closely related to
390 the existing protective factors of the SVM, such as cognitive flexibility. On the other hand,
391 affective empathy primarily involves emotional responses and may influence both mental
392 wellbeing and creativity through different pathways. Affective empathy, like cognitive
393 empathy, is shown to contribute to wellbeing and creativity, but its results are less
394 consistent. Therefore, although empathy as a whole can be identified as a protective factor
395 in the SVM, cognitive empathy may represent the primary component driving protective
396 effects.

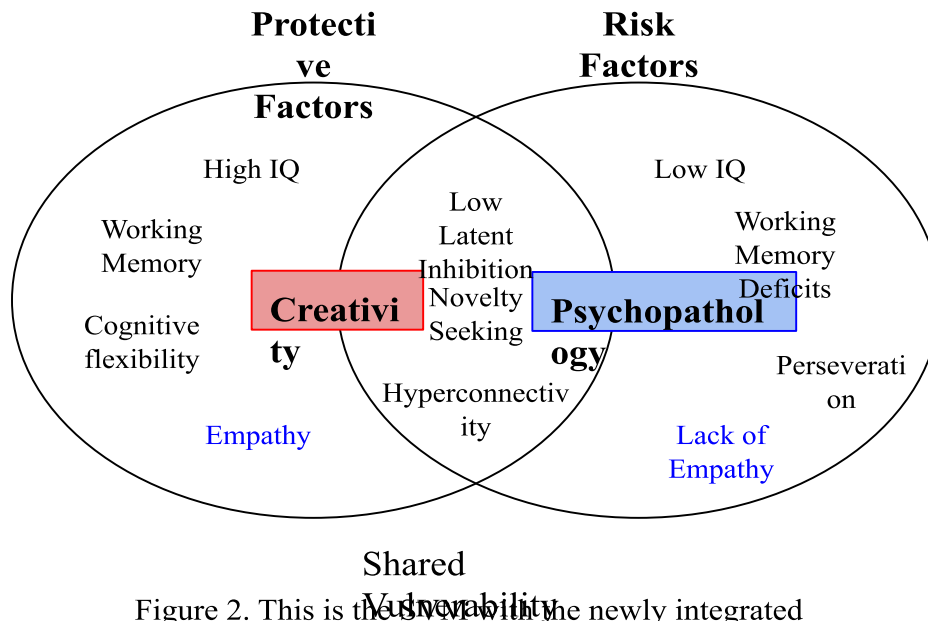


Figure 2. This is the SVM with the newly integrated empathy factor. Empathy acts as a protective factor, and on the opposite side, a lack of would represent a risk factor. *Adapted from (Carson, 2011)*

Furthermore, within the SVM, empathy is also closely related to the other protective factors. Empathy and working memory are closely associated (Gaesser, 2013). Similarly, empathy and social intelligence correlate positively, as do social intelligence and IQ (Kaukiainen et al., 1999). Empathy is positively associated with cognitive flexibility as well (Grattan et al., 1994).

The addition of empathy differs from the other protective factors because it extends the discussion beyond genetic factors and brings in the possibility of more personal influences, such as social cognition. While genetic factors provide insight on a more bio-deterministic level of understanding, social cognition applies factors of human interaction, such as social meaning and emotional salience. Studying the role of empathy can expand the possibilities and could make the SVM more applicable to real life.

Applications

Carson provided many applications for the SVM, noting the model suggests that chances of psychopathology can be reduced either through treating vulnerability factors, enhancing protective factors, or enhancing overall creativity (Carson, 2011). Carson notes that because directly trying to rid individuals of vulnerabilities for treatment could impact an individual's creativity, she suggests regulation rather than a removal of those shared vulnerabilities. This means individuals would most likely prefer treatment related to bolstering creativity. For example, she suggested implementing creative therapies, such as

419 art, music, writing, and theater, to enhance creativity (Carson, 2011). Creative art therapy is
420 often incorporated into mental health treatments. These therapies engage emotions,
421 cognition, and communication using creative expression, especially when it can be difficult
422 to express oneself (Shafir et al., 2020).

423 However, because Carson's SVM was based on genetic factors, it would be difficult
424 to provide treatment by enhancing protective factors. With empathy as a protective factor,
425 which is a skill that can be learned and improved, enhancing it would also be a possible
426 treatment method. Many empathy-based therapies, such as mentalization-based therapy
427 or psychoanalytic therapy, would be effective (Garrote-Caparrós et al., 2023). Additionally,
428 empathy can be applied to educational environments to improve creativity. By fostering
429 skills in emotional regulation and perspective-taking, the likelihood of shared
430 vulnerabilities leading to psychopathology could decrease while also supporting creative
431 growth (Demetriou & Nicholl, 2022).

432 One example of empathy's potential role in the SVM is contemporary artist Yayoi
433 Kusama, who, in her autobiography *Infinity Net*, openly discusses her struggles with mental
434 illness (Kusama, 2021). Kusama is not only famous for her unique art style in her sculptures
435 and installations, but her story is also inspiring and uplifting. In her book, she describes her
436 experience with hallucinations, OCD, and depersonalization disorder, and how she
437 channels these experiences into her art as a way to cope. In 1977, she admitted herself into
438 Seiwa Hospital for the Mentally Ill in Tokyo, and since then she has continued producing
439 art, often traveling back and forth from the hospital and her studio. By turning her internal,
440 psychological state into physical forms with art, she invites others to understand her world
441 and see her perspective, reflecting key processes of empathy. Her story illustrates how
442 psychopathology can be expressed through creativity and the potential role empathetic
443 processes play in the art-making process.

444

445 **Limitations and Future Direction**

446 There are many limitations to the proposed role of empathy in the SVM. One
447 limitation is that this paper utilizes a theoretical synthesis rather than an empirical study.
448 This means empathy's role as a possible protective factor is proposed rather than
449 confirmed. Further research could use experimental or testable frameworks to verify
450 empathy's role in the SVM. The literature used in the theoretical synthesis often provides
451 correlational evidence, so empathy's effects on mental well-being and creativity have not
452 been directly tested.

453 Additionally, the paper focuses on empathy, and specifically cognitive empathy, as
454 playing a larger role in the SVM. This may overlook the role of affective empathy and other
455 social-cognitive functions when understanding the relationship between creativity and
456 psychopathology. Future research could examine how affective empathy and other
457 cognitive functions may change the balance between creativity and psychopathology.

458 Several pieces of literature counter the existence of the “tortured artist” concept.
459 (Dietrich, 2014) [suggest] that studies on the tortured artist often ignore baseline rates of
460 creative individuals having psychopathological behavior, and they argue that because so
461 many individuals worldwide experience mental illness, it is very likely that a high
462 proportion of them will be creative. This suggests levels of confirmation bias and illusory
463 correlations. However, modern research has tackled these concerns with empirical studies
464 and has proposed complex explanations, such as the inverted-U or SVM. Dietrich’s
465 critiques of research on the tortured artist phenomenon can contribute to a larger, more
466 nuanced discussion of the relationship between creativity and psychopathology.

467 Furthermore, expanding on the role of affective empathy, some researchers argue
468 that an excessive amount of affective empathy may lead to more harmful effects on mental
469 wellbeing than beneficial, and that empathy itself, although crucial to social function, may
470 not really be protective of one’s mental state nor creativity (Huang et al., 2025). Empathy’s
471 impact on individuals is complex, and while it is true that affective empathy provides mixed
472 results about mental wellbeing and creativity, the evidence reviewed in the paper suggests
473 that the protective aspects of empathy are primarily driven by cognitive empathy. Empathy
474 remains a useful protective factor due to cognitive empathy’s more consistent support of
475 wellbeing and creativity.

476 Further research should test the role of empathy empirically in the SVM to confirm
477 validity, using empathy tests such as the Empathy Quotient (EQ) test or the Questionnaire
478 of Cognitive and Affective Empathy (QCAE). It is also important to consider information
479 about differing populations, such as gender, culture, or ethnicity. Furthermore, other
480 social-cognitive functions can be tested, such as neurological perspectives, emotional
481 functions, and developmental factors. In the SVM, it is also important to consider the
482 spectrum between creativity and psychopathology, and future research could examine this
483 continuum.

484

485 Conclusion

486 The relationship between creativity and psychopathology has long been in
487 discussion and romanticized throughout history. Modern research, however, has begun to
488 examine this relationship further, such as through the shared vulnerability model, which
489 provides a framework for understanding shared genetic traits between creativity and
490 psychopathology, mediated by protective and risk factors. Because Carson’s SVM was
491 focused on genetic factors, it did not account for other potential parts of the puzzle.

492 This paper extends the SVM’s discussion into the social-cognitive realm, proposing
493 empathy as a protective factor in the SVM. By first setting up the scene by outlining the
494 history of the tortured artist, the paper clarifies that the discussion of creativity and
495 psychopathology extends well beyond simple genetic or biological explanations. Then,
496 explaining the SVM, the paper introduces a model explaining the relationship and identifies

shortcomings. Finally, introducing social cognition through ToM led to the proposal of another social-cognitive factor, fitting empathy into the picture. The paper also dives into the different effects cognitive vs. affective empathy may bring and has concluded that cognitive empathy may play the bigger role as a protective factor. The evidence reviewed demonstrates empathy's positive associations with creativity and how deficits in empathy can be associated with mental health issues, highlighting its role as a protective factor.

References

- Abraham, A. (2014). Is there an inverted-U relationship between creativity and psychopathology? *Frontiers in Psychology*, 5, 750.
<https://doi.org/10.3389/fpsyg.2014.00750>
- Acar, S., Chen, X., & Cayirdag, N. (2018). Schizophrenia and creativity: A meta-analytic review. *Schizophrenia Research*, 195, 23–31.
<https://doi.org/10.1016/j.schres.2017.08.036>
- Alacovska, A., & Kärreman, D. (2023). Tormented selves: The social imaginary of the tortured artist and the identity work of creative workers. *Organization Studies*, 44(6), 961–985. <https://doi.org/10.1177/01708406221089594>
- Alzayed, M. A., Miller, S. R., & McComb, C. (2022). Does empathy beget creativity? Investigating the role of trait empathy in idea generation and selection. In *Design computing and cognition'20* (pp. 437–454). Springer.
<https://doi.org/10.1007/978-3-030-90625-2>
- Becker, G. (2001). The association of creativity and psychopathology: Its cultural-historical origins. *Creativity Research Journal*, 13(1), 45–53.
- Beloyianni, V., Zbainos, D., & Karagianni, M. (2024). From mindreading to originality: Exploring the relationship between Theory of Mind and Creativity across the lifespan. *British Journal of Developmental Psychology*, 42(2), 215–233.

Brand, J. L. (1965). The national mental health act of 1946: A retrospect. *Bulletin of the History of Medicine*, 39(3), 231-245.

Burghardt, J., Gradl, S., Knopp, M., & Sprung, M. (2023). Psychopathology and theory of mind in patients with personality disorders. *Borderline Personality Disorder and Emotion Dysregulation*, 10(1), 18. <https://doi.org/10.1186/s40479-024-00260-5>

Cao, H., Chén, O. Y., Chung, Y., Forsyth, J. K., McEwen, S. C., Gee, D. G., Bearden, C. E., Addington, J., Goodyear, B., & Cadenhead, K. S. (2018). Cerebello-thalamo-cortical hyperconnectivity as a state-independent functional neural signature for psychosis prediction and characterization. *Nature Communications*, 9(1), 3836. <https://doi.org/10.1038/s41467-018-06350-7>

Carson, S. H. (2011). Creativity and psychopathology: A shared vulnerability model. *The Canadian Journal of Psychiatry*, 56(3), 144-153. <https://doi.org/10.1177/070674371105600304>

Carson, S. H., Peterson, J. B., & Higgins, D. M. (2003). Decreased latent inhibition is associated with increased creative achievement in high-functioning individuals. *Journal of Personality and Social Psychology*, 85(3), 499. <https://doi.org/10.1037/0022-3514.85.3.499>

Cuff, B. M., Brown, S. J., Taylor, L., & Howat, D. J. (2016). Empathy: A review of the concept. *Emotion Review*, 8(2), 144-153. <https://doi.org/10.1177/1754073914558466>

Demetriou, H., & Nicholl, B. (2022). Empathy is the mother of invention: Emotion and cognition for creativity in the classroom. *Improving Schools*, 25(1), 4-21. <https://doi.org/10.1177/1365480221989500>

Durham, C. A. (2003). Modernism and Mystery: The Curious Case of the Lost Generation. *Twentieth Century Literature*, 49(1), 82–102.

<https://doi.org/10.2307/3176009>

Farreras, I. G. (2019). History of mental illness. *General Psychology: Required Reading*, 244.

Farrow, T. F., & Woodruff, P. W. (2007). *Empathy in mental illness*. Cambridge University Press.

Forthmann, B., Kaczykowski, K., Benedek, M., & Holling, H. (2023). The Manic Idea Creator? A Review and Meta-Analysis of the Relationship between Bipolar Disorder and Creative Cognitive Potential. *International Journal of Environmental Research and Public Health*, 20(13), 6264. <https://doi.org/10.3390/ijerph20136264>

Frith, C., & Frith, U. (2005). Theory of mind. *Current Biology*, 15(17), R644–R645. <https://doi.org/10.1016/j.cub.2005.08.041>

Gaesser, B. (2013). Constructing memory, imagination, and empathy: A cognitive neuroscience perspective. *Frontiers in Psychology*, 3, 576.

Garrote-Caparrós, E., Lecuona, Ó., Bellosta-Batalla, M., Moya-Albiol, L., & Cebolla, A. (2023). Efficacy of a mindfulness and compassion-based intervention in psychotherapists and their patients: Empathy, symptomatology, and mechanisms of change in a randomized controlled trial. *Psychotherapy*, 60(2), 182.

<https://doi.org/10.1037/pst0000467>

Goh, C., & Agius, M. (2010). The stress-vulnerability model how does stress impact on mental illness at the level of the brain and what are the consequences?

Psychiatria Danubina, 22(2), 198–202.

Grattan, L. M., Bloomer, R. H., Archambault, F. X., & Eslinger, P. J. (1994). Cognitive flexibility and empathy after frontal lobe lesion. *Cognitive and Behavioral Neurology*, 7(4), 251–259.

Hua, A. Y., Wells, J. L., Brown, C. L., & Levenson, R. W. (2021). Emotional and cognitive empathy in caregivers of people with neurodegenerative disease: Relationships with caregiver mental health. *Clinical Psychological Science*, 9(3), 449–466.

Huang, C., Wu, Z., Sha, S., Liu, C., Yang, L., Jiang, P., Zhang, H., & Yang, C. (2025). The dark side of empathy: The role of excessive affective empathy in mental health disorders. *Biological Psychiatry*.

Kaufman, J. C. (2014). *Creativity and mental illness*. Cambridge University Press.

Kaukiainen, A., Björkqvist, K., Lagerspetz, K., Österman, K., Salmivalli, C., Rothberg, S., & Ahlbom, A. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 25(2), 81–89.

[https://doi.org/10.1002/\(SICI\)1098-2337\(1999\)25:2%3C81::AID-AB1%3E3.0.CO;2-M](https://doi.org/10.1002/(SICI)1098-2337(1999)25:2%3C81::AID-AB1%3E3.0.CO;2-M)

Khanjani, Z., Mosanezhad Jeddi, E., Hekmati, I., Khalilzade, S., Etemadi Nia, M., Andalib, M., & Ashrafian, P. (2015). Comparison of cognitive empathy, emotional empathy, and social functioning in different age groups. *Australian Psychologist*, 50(1), 80–85.

Kusama, Y. (2021). *Infinity net: The autobiography of Yayoi Kusama*. Tate Enterprises Ltd.

Lakoff, G. (2014). Mapping the brain's metaphor circuitry: Metaphorical thought in everyday reason. *Frontiers in Human Neuroscience*, 8, 958.

<https://doi.org/10.3389/fnhum.2014.00958>

Li, X., Chen, J., & Fu, H. (2024). The roles of empathy and motivation in creativity in design thinking. *International Journal of Technology and Design Education*, 34(4), 1305–1324. <https://doi.org/10.1007/s10798-023-09869-z>

Mason, J. H. (1995). Thinking about genius in the eighteenth century. *The Scriblerian and the Kit-Cats*, 27(2), 165.

McMahon, D. (2013). *Divine fury: A history of genius*. Constellation.

Morelli, S. A., Lieberman, M. D., & Zaki, J. (2015). The emerging study of positive empathy. *Social and Personality Psychology Compass*, 9(2), 57–68.

<https://doi.org/10.1111/spc3.12157>

Nguyen, M., Strádalová, E., Sharma, A., & Castillo, E. (n.d.). Hyperconnectivity Patterns in Psychological Disorders: A Literature Review of Connectivity Patterns within Depression and Anxiety Compared to Other Psychiatric Disorders. *The Girls in Med Journal of Neuroscience*.

Peterson, J. B., & Carson, S. (2000). Latent inhibition and openness to experience in a high-achieving student population. *Personality and Individual Differences*, 28(2), 323–332. [https://doi.org/10.1016/S0191-8869\(99\)00101-4](https://doi.org/10.1016/S0191-8869(99)00101-4)

Sampedro, A., Peña, J., Ibarretxe-Bilbao, N., Sánchez, P., Iriarte-Yoller, N.,

Ledesma-González, S., Tous-Espelosin, M., & Ojeda, N. (2020a). Mediating role of

cognition and social cognition on creativity among patients with schizophrenia and

611 healthy controls: Revisiting the shared vulnerability model. *Psychiatry and Clinical*
612 *Neurosciences*, 74(2), 149–155. <https://doi.org/10.1111/pcn.12954>

613 Sampedro, A., Peña, J., Ibarretxe-Bilbao, N., Sánchez, P., Iriarte-Yoller, N.,
614 Ledesma-González, S., Tous-Espelosin, M., & Ojeda, N. (2020b). Mediating role of
615 cognition and social cognition on creativity among patients with schizophrenia and
616 healthy controls: Revisiting the shared vulnerability model. *Psychiatry and Clinical*
617 *Neurosciences*, 74(2), 149–155.

618 Schumann, K., & Dragotta, A. (2021). Empathy as a predictor of high-quality
619 interpersonal apologies. *European Journal of Social Psychology*, 51(6), 896–909.
620 <https://doi.org/10.1002/ejsp.2786>

621 Shafir, T., Orkibi, H., Baker, F. A., Gussak, D., & Kaimal, G. (2020). The state of the art
622 in creative arts therapies. *Frontiers in Psychology*, 11, 68.

623 Silvia, P. J., & Kaufman, J. C. (2010). Creativity and mental illness. *Cambridge*
624 *Handbook of Creativity*, 381–394.

625 Stamm, J. L. (1971). Vincent van Gogh: Identity crisis and creativity. *American Imago*,
626 28(4), 363–372.

627 Taylor, C. L. (2017). Creativity and mood disorder: A systematic review and
628 meta-analysis. *Perspectives on Psychological Science*, 12(6), 1040–1076.
629 <https://doi.org/10.1177/1745691617699653>

630 Tie, B., Yang, W., Huo, T., Gao, Y., Yang, X., Tian, D., Pelowski, M., & Qiu, J. (2025).
631 Empathy to creativity: The associations between empathy and everyday creativity.
632 *Journal of Personality*, 93(6), 1212–1225. <https://doi.org/10.1111/jopy.13002>

- 633 Whitehead, J. (2017). *Madness and the romantic poet: A critical history*. Oxford
634 University Press.
- 635 Young, J. G. (1985). What is creativity? *The Journal of Creative Behavior*.
636 <https://doi.org/10.1002/j.2162-6057.1985.tb00640.x>
- 637 Zafeirenia, B. (2024). Creativity in the ancient Greek philosophy: The politics of
638 Demiourgein. *The Journal of Creative Behavior*, 58(2), 227–244.
639 <https://doi.org/10.1002/jocb.644>

1 Rethinking the Tortured Artist: The Role of 2 Empathy in the Shared Vulnerability Model

4 Abstract:

5 A ~~long-standing~~ long-standing stereotype, the “tortured artist” portrays artists as striving
6 for creativity through mental suffering. Although heavily romanticized, this stereotype
7 presents a fascinating question from a scientific viewpoint about the relationship between
8 creativity and psychopathology. If creativity improves mental health, why is it often
9 associated with mental illness? ~~The One such model, the shared vulnerability model,~~
10 explored this question through a genetic lens, finding that creativity and psychopathology
11 share many traits, ~~with whose outcomes are determined by certain~~ protective ~~protectant~~ or
12 risk factors. However, because research ~~on this topic has largely focused on genetics, key~~
13 ~~areas such as social cognition remain done on this topic has been largely genetic, it leaves~~
14 ~~key areas, such as social cognition~~ social cognition, underexplored ~~under-explored~~. The
15 current paper expands the shared vulnerability model to include the social-cognitive factor
16 of empathy. Using historical analysis, research on Theory of Mind, and an ~~analysis~~
17 ~~exploration~~ of empathy, this paper ~~explores links~~ empathy’s ~~conceptual contribution to~~
18 ~~impact to~~ mental health and creativity ~~and to~~ the shared vulnerability model as a
19 ~~potential protective~~ ~~protectant~~ factor that shifts an individual more towards creativity and
20 less towards psychopathology. These findings, when integrated into therapies and
21 treatments, ~~suggest applications apply to~~ not only ~~to~~ artists, but ~~also~~ to a broader
22 population of creative individuals or individuals who experience struggles with mental
23 health. It ~~may~~ also reduces the stigma ~~associated with the tortured artist stereotype by~~
24 ~~offering around the tortured artist~~ artists stereotype by providing a more complex
25 explanation.

26
27 Key terms: Creativity, empathy, shared vulnerability model, mental illness,
28 psychopathology, theory of mind

30 Introduction

31 The “tortured artist” stereotype has been around for centuries. From as early as
32 Sophocles’ Greek tragedy Philoctetes to ~~modern-day~~ modern-day Hollywood stars and
33 artists, the association between creativity and mental suffering has been present (Kaufman,
34 2014). Countless famous artists, musicians, and writers, such as Van Gogh, Beethoven, ~~and~~
35 Ernest Hemingway, are all ~~assigned labeled~~ the vague yet unifying title of “tortured artist.”
36 The tortured artist is someone who performs negative identity work, a process of defining

oneself with characteristics opposed to societal ~~norms~~^{norm}, ~~in order to~~ achieve a positive artistic self (Alacovska & Kärreman, 2023). Modern research has begun looking past simple anecdotes and case studies, diving into the mechanisms with experiments, brain scans, and models for the relationship between creativity and mental illness. However, proposed explanations, such as Shelly H. Carson's shared vulnerability model, have **only** focused on neurological, biological, or genetic approaches. Because creativity and mental illness are both extremely complex in nature, it is important to consider alternate perspectives.

This paper will extend previous work on the shared vulnerability model (SVM) to incorporate empathy, a social-cognitive function, into the model. Understanding the role of empathy in the shared vulnerability model is important because of its role in creativity (Alzayed et al., 2022). **Although many social-cognitive functions may influence creativity and psychopathology, this paper focuses on empathy because it includes both affective and cognitive processes. Since having both socio-affective and socio-cognitive capabilities leads to more successful social interaction (Preckel et al., 2018), empathy provides a useful framework for understanding the role of social cognition in the relationship between creativity and psychopathology.**

Grounded in this model, social-cognitive functions, specifically empathy, **may** act as a **protective** ~~protectant~~ factor in determining the relationship between creativity and psychopathology, meaning **they it** ~~potentially~~ shifts individuals more towards creativity and **puts** ~~put~~ them less at risk for mental illness.

The importance of empathy in this discussion is that it has been overlooked due to the romanticization of the concept (Becker, 2001). Further examining the relationship between creativity and psychopathology can reduce stigma around "tortured artists." Empathy specifically is important because **of its** ~~it plays an important~~ role in emotional **well-being** ~~wellbeing~~. Using the shared vulnerability model, empathy could prove crucial in explaining how **protective** ~~protectant~~ factors impact creative or at-risk individuals. In addition, empathy's role can be used to improve therapy, interventions, and mental health education. Understanding the complex relationship from empathy's perspective can help refine treatments for those struggling with mental health by incorporating creativity to bring individuals away from pathology. Overall, empathy has not been explored in past research and represents an important new factor to consider.

In this paper, the history of the "tortured artist" stereotype will be explored, emphasizing that there are more factors at play than genetics. Then, the shared vulnerability model (SVM) will be discussed. The general idea is that genetically, psychopathology and creativity share multiple vulnerabilities, such as low latent inhibition and cognitive disinhibition. These traits are seen as heritable and polygenetic. **Protective** ~~Protectant~~ and risk factors determine whether an individual is more prone to creativity or psychopathology (Carson, 2011). However, the examined risk and **protective** ~~protectant~~ factors have only been genetic, rather than other perspectives important to psychology.

77 One such perspective is the social-cognitive perspective. Later research has examined
78 Theory of Mind and its role in the SVM, suggesting it is a key mediator and important
79 ~~protective~~ ~~protectant~~ factor (Sampedro et al., 2020a). However, a step further from Theory
80 of Mind is empathy. Yet to be examined in the context of creativity and psychopathology,
81 the role of empathy will be discussed in this paper, along with applications to the real
82 world.

83

84 Methodology

85 This paper utilizes a theoretical synthesis approach, which combines and interprets
86 theories and findings across disciplines to expand conceptual understanding and examine
87 the role of empathy in the SVM, with the use of case studies to understand the history of
88 the tortured artist. By selectively integrating literature from various fields—including
89 psychology, neuroscience, and history—the relationship between creativity and
90 psychopathology is conceptually expanded into the social-cognitive perspective by
91 including discussions on empathy’s role.

92 First, with academic databases such as Google Scholar and PubMed, sources were
93 found with a combination of keywords, including “shared vulnerability model,” “creativity,”
94 “tortured artist,” and “empathy.” Papers were then selected based on keywords. The chosen
95 sources were either foundational theoretical works, meta-analyses, or empirical studies.
96 Next, the sources were evaluated. Although recency was considered in the evaluation
97 process, multiple older works for historical purposes are included, as well as foundational
98 works such as Carson’s SVM, for conceptual and background relevance. If sources were not
99 relevant to 1) the tortured artist, 2) creativity and psychopathology, 3) the SVM, or 4)
100 empathy, then they were excluded. Additionally, if sources lacked sufficient empirical or
101 theoretical evidence, these studies were excluded to maintain the credibility of the
102 conceptual analysis. Finally, literature was sorted into themes and conceptual domains:
103 historical background, understanding the SVM, creativity, empathy, and mental health
104 outcomes. With these groups, sources were analyzed by identifying certain recurring
105 themes and relationships. How the literature fits together was also examined to identify
106 limitations and to address research gaps.

107 The theoretical synthesis approach offers new insights into the relationship
108 between creativity and psychopathology by integrating ideas from multiple domains and
109 perspectives, rather than relying on statistical evidence. This approach allows for theory
110 building by integrating new ideas into existing models.

111

112 1. History

113 The association of creativity with mental illness has long pre-dated neurological
114 attempts at explaining the relationship. The idea existed as early as ancient Greece in the

writings of famous philosophers such as Plato and Aristotle. Through their work, they describe madness as something that ~~could contribute to artistry and creativity~~~~can guarantee creativity~~. They believed that it was madness that drove individuals to think imaginatively and to be in uncontrolled states of mind, allowing for creativity. These Greek philosophers saw this type of madness as a divine gift only given to a few (Zafeirenia, 2024). As the idea progressed, many similar explanations for creative genius appeared. In the Renaissance Era, philosopher Marsilio Ficino called it furor divinus, meaning “divine madness” in Latin (McMahon, 2013). This idea, too, stated that creativity was a divine right that would cause mad states of imagination.

It wasn't until the Enlightenment Era, starting in the late 17th century, that creativity and genius were understood to be natural human talents (Mason, 1995). The Enlightenment ~~is was~~ defined as a period of time where reason was emphasized over divine explanation, ~~and~~ ~~T~~his new rising value contributed to the shift of ideas about creativity, seeing it as an innate characteristic rather than a divine intervention of madness.

However, beginning in the 19th century, as a response to the reason-oriented perspective, the Romantic Era emerged as a turning point of the modern-day concept of creativity. Unlike the Enlightenment, the Romantic Era was one of emotion and passion, leading to more artistic approaches to creativity. Romantic poetry, for example, explored human feelings, and it was believed that madness was emotion being pushed to its limit. Because creativity produced poetry, poetry was emotion, and the peak of emotion was madness, the artistic process became associated with madness in the minds of not only consumers, but also in the minds of artists themselves (Whitehead, 2017).

Historically, ~~before the advancements made in mental health in later centuries, like updates from the DSM-II to DSM-III in 1980, psychiatric conditions, such as obsessive-compulsive disorder (OCD) or schizophrenia, lacked formal diagnoses and definitions (Farreras, 2019). This left much room for misinterpretation when considering the caricature of the “tortured artist.” For example, an obsessive painter labelled as a tortured artist may be diagnosed with OCD by today’s standards. A sculptor staying awake for multiple nights at a time could now be identified as a symptom of a manic episode. A musician who claims to hear the music and voices in their head could be seen as schizophrenic today. Even as definitions became formalized, artists continued performing negative identity work, where they adopt self-destructive traits to fit a social norm, thereby further making mental illness a hallmark of art (Alacovska & Kärreman, 2023).~~

One of the most notable examples that demonstrates our modern belief ~~in~~ of the “tortured artist” is the story of Vincent Van Gogh. As an unsuccessful artist who, ~~though debated to this day~~, as experts ~~suspected~~~~deduce~~, suffered from bipolar disorder, his story of pain and suffering is seen as the epitome of a tortured artist whose mental health problems drove his artistic ability (Stamm, 1971). Retellings of his story largely attribute his ~~tragic journey through life, full of tragedies~~ to his artistic process, each stage of his life representing one of his painting eras, such as his famous *Starry Night* being painted in a

155 mental asylum, further linking the association of creative processes to mental illness. As
156 modern art evolved, a multitude of other examples rose that fit the tortured artist
157 stereotype.

158 After World War I, a generation in the Western world known as the Lost
159 Generation gave birth to many writers who wrote books reflecting the disillusionment of a
160 post-war society as previous values of honor were destroyed and replaced by suffering.
161 One of the main writers in Lost Generation literature was Ernest Hemingway, yet another
162 example of an artist characterized by tremendous suffering (Durham, 2003). Hemingway
163 suffered a traumatizing childhood with his father committing suicide, and he led a life of
164 depression, alcoholism, and rash adventures until he ultimately took his own life. At the
165 same time, he produced many works considered masterpieces, such as *The Old Man and*
166 *the Sea*.

167 However, after World War II and its atrocities and the resulting trauma, the world
168 began to focus more on mental health, leading to a revolution in mental health
169 awareness. Multiple mental health organizations were established during this time, as well
170 as the NIH's National Mental Health Act in 1946 in the United States (Brand, 1965). It was in
171 this period that new psychological research worked towards debunking the tortured artist
172 stereotype, as its role in defining artists became toxic (Taylor, 2017).

173 As the topic of mental health approaches the present, how we see creativity has
174 shifted into a healthier light, now defining it as a process of creating original works (Young,
175 1985). However, the link between creative individuals and mental illness continues.
176 ~~Modern-day~~ Modern-day musicians, such as Michael Jackson, Amy Winehouse, and Britney
177 Spears, continue reinforcing the relationship between creativity and mental illness. Given
178 all this history, it is clear that there are more than just genetic factors influencing the
179 stereotype of the tortured artist.

180

181 2. The Shared Vulnerability Model

182 The relationship between creativity and psychopathology has been debated for
183 decades, as a multitude of historical anecdotes have demonstrated the positive association
184 between creativity and psychopathology. (Silvia & Kaufman, 2010). However, empirical
185 studies on this topic have resulted in contradictory evidence. These findings have pointed
186 to an explanation: the inverted-U model. This means that minor instances of
187 psychopathology can be associated with creativity, but severe cases cannot. For example,
188 while mild traits, such as cognitive disinhibition or overinclusive thinking, can promote
189 creativity, they hinder creativity when the traits are severe, such as thought disorder or
190 psychosis (Abraham, 2014). For example, one study found that while full schizophrenia is
191 negatively correlated with creativity, certain symptoms of schizophrenia are positively
192 correlated, such as psychoticism or positive schizotypy. This means that individuals with
193 schizophrenia are less likely to be creative, but specific psychopathological traits are

194 associated with creativity, supporting the inverted-U hypothesis (Acar et al., 2018).



195
196 Another example with bipolar disorder found that although they exhibit a small
197 correlation, those with mild bipolar traits generally tested higher in creativity, while those
198 with full bipolar disorders did not (Forthmann et al., 2023). These studies, and a multitude
199 more, conclude that although not directly correlated with illness, creativity predicts traits
200 of mental illness along the inverted-U. This finding suggests that there is a certain point on
201 the inverted-U at which creativity and psychopathology do not associate, leading to further
202 exploration of their relationship. ¶

203 Current and future research seek to expand the knowledge on this topic beyond
204 anecdotes and into mechanistic and empirical arenas. One of the most popular models
205 probing the relationship between the two variables is the shared vulnerability model (SVM).
206 While the inverted-U displays where individuals fall in the relationship, the SVM looks into
207 why they are there.

208 ¶

209

210 As a precursor to the SVM, the stress-vulnerability model, originally adapted in 1977,
211 explored the characteristics of those prone to schizophrenia. It describes that those with
212 higher levels of these characteristics, or vulnerabilities, are more likely to respond to stress
213 with a psychiatric episode. Essentially, it explained that vulnerabilities and stress
214 contribute to mental illness such as schizophrenia (Goh & Agius, 2010).

215 The stress-vulnerability model, influencing the structure and organization of the
216 shared vulnerability model, inspired the creation of the model that explains creativity and
217 psychopathology. Similar to the 1977 model and combined with the inverted-U model, the
218 SVM model proposed by Shelly H. Carson used three specific genetic vulnerabilities,
219 deficits in latent inhibition, novelty seeking, and neural hyperconnectivity, that are shared
220 between creative people and those at risk for psychopathology. These vulnerabilities are

referred to as genetic because the traits are heritable and polygenetic. This characterization suggests that traits determining creativity or psychopathology run in families. However, external factors can influence the expression of these traits. The shared vulnerabilities include reduced latent inhibition, novelty seeking, and neural hyperconnectivity (Carson, 2011).

Latent inhibition, as used by Carson, is defined as the capacity to screen from conscious awareness stimuli previously experienced as irrelevant (Carson, 2011). Essentially, it is the ability in classical conditioning to ignore a stimulus if it is not accompanied by a consequence. This skill is important in brain functions to filter out irrelevant stimuli. However, both creative people and those with psychopathological issues, such as schizophrenia, have been found to have a deficit in latent inhibition (Carson et al., 2003). For creativity, this means individuals can make unique connections, and those with psychopathological issues have higher distractibility and are more likely to pay attention to irrelevant stimuli than relevant ones. The reason the same characteristic can cause different results is because of certain protective protectant and risk factors, such as cognitive abilities.

Carson also explains that novelty seeking is also present in both creativity and psychopathology. Novelty seeking refers to the intrinsic motivation for new stimuli rather than familiar patterns. For those who are creative, novelty seeking explains the desire to create and explore, but for mental illness, it can mean recklessness and dangerous behaviors (Carson, 2011). Similar to latent inhibition, the same process can yield different results due to protective protectant and risk factors.

Neural hyperconnectivity refers to an abnormally great amount of neural connections between different brain regions. Multiple mental dysfunctions and other neurological conditions have been found to exhibit hyperconnectivity between different brain regions, such as schizophrenia, bipolar disorder, major depressive disorder, and synesthesia (Nguyen et al., 2025n.d.). A multitude of studies have shown that hyperconnectivity between brain circuits can serve as a neural sign that can predict traits of psychopathology, such as through the default-mode network default-mode network and cerebello-thalamo-cortical network (Cao et al., 2018). In creative individuals, on the other hand, hyperconnectivity influences metaphorical thinking (Carson, 2011). These hyperconnectivities occupy similar brain circuits to those in psychosis (Lakoff, 2014).

These three factors make up the shared vulnerabilities of the model, but their outcomes vary. According to the SVM, the outcome is determined by with certain protective protectant and risk factors. The protective protectant factors are high IQ, working memory, and cognitive flexibility, while risk factors are low IQ, working memory deficits, and perseveration. Individuals who have low latent inhibition but high IQ can are able to create associations but also not be distracted, and in one particular study, those with high IQ and low latent inhibition were found to predict 30% of variance in creativity scores (Peterson & Carson, 2000). These protective protectant and risk factors influence

the expression of the shared vulnerabilities by allowing them to be expressed in a healthy or an unhealthy way.

263

Creativity - Protectant Protective Factors	Shared Vulnerability	Psychopathology - Risk Factors
High IQ Good Working Memory Cognitive Flexibility	Low Latent Inhibition Novelty Seeking Hyperconnectivity	Low IQ Working Memory Deficits Perseveration

Table 1: Summary of Carson's Shared Vulnerability Model with all original ~~protective~~~~protectant~~, risk, and vulnerability factors. Adapted from (Carson, 2011)

266

The SVM highlights the relationship between creativity and psychopathology, their underlying similarities, and factors that pull individuals towards either side. However, its primary focus has been genetic, and many more factors could be examined, such as social-cognitive processes. These social-cognitive factors could play a crucial role in further understanding the shared vulnerability model and the relationships between creativity and psychopathology.

273

3. Theory of Mind

Understanding the role of social cognition is essential to further understanding creativity and psychopathology. Social cognition studies the psychological processes of how individuals understand, process, and respond to others. Examining social cognition is important and expands on current knowledge because, like many psychological issues, it is crucial to integrate environmental or interpersonal factors in addition to genetic factors.

Theory of Mind (ToM) refers to the ability to understand that others have their own individual thoughts, beliefs, and perceptions (Frith & Frith, 2005). It forms one of the pillars of social cognition processes that ~~work~~~~works~~ with understanding intentions. Studies find that psychopathological individuals, particularly those with schizophrenia or bipolar disorder, exhibit deficits in ToM (Burghardt et al., 2023). On the other hand, creativity and ToM are positively associated, meaning those who are more creative often have higher levels of ToM (Beloyianni et al., 2024). In creative individuals, ToM is especially important in the ability to understand perspectives and create new, original thinking. **For example, an actor with functioning ToM could accurately interpret how their character perceives the world, or a novelist would be able to understand the motivations of their characters.** On the other hand, deficits in ToM can impair an individual's ability to understand others' perspectives or intentions.

One particular study published in 2020 explores the role of ToM in Carson's model of shared vulnerability (Sampedro et al., 2020b). It explores how neurological and, more

importantly, social-cognitive functions can determine the extent to which an individual will exhibit creativity and/or psychopathology. Researchers found that in their experimental groups, social cognition, specifically ToM, was positively correlated with creativity. In fact, the study found that social cognition had a stronger correlation and was more important than many neurological functions. The study then went further to refer to the SVM, highlighting the importance of ToM as a ~~protective~~protectant factor that can channel vulnerabilities into creativity rather than psychopathology. This addition of a social-cognitive function in this study to the SVM brings in new possibilities for risk and ~~protective~~protectant factors.

To account for limitations, the study further explains that although ToM was examined, it is not enough to determine if social cognition is, as a whole, a ~~protective~~protectant factor in the shared vulnerability model. These limitations, with the fact that this study was the first to include ToM, open a new world of possible factors to the SVM: social cognition. Naturally, the next step from ToM is the importance of empathy, as empathy is one step further from understanding the existence of different beliefs and emotions, but is actually feeling those emotions. Empathy is also a key social-cognitive function, and learning its place in the shared vulnerability model would provide deeper connections and insights.

312

313 4. Empathy

The role of empathy is important as social cognition in the SVM continues to be explored. Empathy is the ability of an individual to not only understand that others may have different perceptions than they do, but ~~also to~~~~also~~ share in the associated feelings. Unlike ToM, which is simply being able to know that others can have different thoughts, empathy is more complicated, referring to both the cognitive ability to understand those thoughts and an affective response. Modern psychology defines these two halves as cognitive empathy, which is understanding another perspective, and affective empathy, which is emotionally responding to others (Cuff et al., 2016). Because empathy operates both intellectually and emotionally, it is in a unique position to influence personal experiences in individuals and can provide insights ~~into~~~~on~~ creativity and mental illness.

While both cognitive and affective empathy can play a role in creativity and mental well-being, their differences may cause different effects within the SVM.

326

327 Empathy and Mental Well-being

Research has shown that positive empathy plays a significant role in well-being and happiness, where higher levels of empathy predict higher levels of well-being and life satisfaction in individuals (Morelli et al., 2015). A mastery of empathy demonstrates high social functioning skills that are imperative to mental well-being. Not only does empathy enable an individual to identify emotions, but it also enables them to interpret and react to

emotions effectively. In one study, it was shown that participants with higher empathy levels had higher-quality apologies, meaning their apologies contained more apology elements, such as remorse or responsibility (Schumann & Dragotta, 2021). Empathy also reduces emotional stress and promotes prosocial behavior, allowing an individual to both react emotionally in a healthy way and connect socially.

The role of empathy and its relationship with mental illness has also been explored. Specifically, in schizophrenic individuals, it was found that they exhibit a deficit of empathy both socially and neurally (Farrow & Woodruff, 2007). Additionally, ~~several a number of~~ antisocial mental health disorders also exhibit similar dysfunctions, such as psychopathy and narcissism, where individuals were shown to have the most trouble identifying negative emotions. In depressive disorders as well, dysfunctional empathy ~~is has been shown to be~~ associated with depression, as empathy is replaced with guilt rather than emotional regulation. ~~These mental illnesses suggest t-In these mental illnesses, it is clear~~ that a lack of empathy ~~may~~ contributes to their development.

Considering the positive effects of empathy and the negative effects of a lack thereof, it is ~~suggested shown~~ that empathy has a considerable impact on the mental health of an individual. Its relationship with mental ~~well-being~~ demonstrates empathy's ability to properly identify and regulate emotion on multiple levels, highlighting its potential role as a factor that decreases risk of psychopathology.

However, many of these studies identify empathy as a whole rather than working with cognitive and affective empathy separately. One study looked at differences in social functioning between different age groups, and its results suggest that older adults, who generally had decreased cognitive empathy but increased emotional empathy, had more impaired social functioning (Khanjani et al., 2015). Another study evaluated empathy and mental health in caregivers and found that higher affective empathy was associated with worse mental health while higher cognitive empathy showed no effect (Hua et al., 2021). These studies suggest that affective empathy may be more associated with psychopathology while cognitive empathy may be more closely related to the social functioning skills that support well-being.

362

363 Empathy and Creativity

Research has found that creativity and empathy are positively correlated, with more expressions of creativity predicting higher levels of empathy (Li et al., 2024). Empathy reflects an ability to use imagination to imagine how another feels, and the ability to do so enhances creative imagination as well. Additionally, the ability to take in and understand new perspectives allows for an open mind and increased idea generation (Tie et al., 2025). In one study, empathy classes were taught at a school and creativity was measured. After comparison with a control group, it was found that creativity increased in the school with the empathy class (Demetriou & Nicholl, 2022). Overall, ~~research suggests that~~ empathy ~~has has been proven to have~~ a positive effect on creativity.

373 However, studies that differentiate between cognitive and affective empathy show
374 that they may influence creativity differently. For example, in one study, it was shown that
375 individuals with high levels of cognitive empathy were more likely to recognize the value of
376 creativity in disadvantaged artists, while those with high levels of affective empathy did not
377 produce the same outcome, suggesting that emotional responses may influence creativity
378 differently than understanding perspective (Pei et al., 2022). This demonstrates that the
379 two processes can yield differing effects and can influence creativity differently as well.
380 From research, it is suggested that cognitive empathy has a more positive effect on
381 creativity than affective empathy.

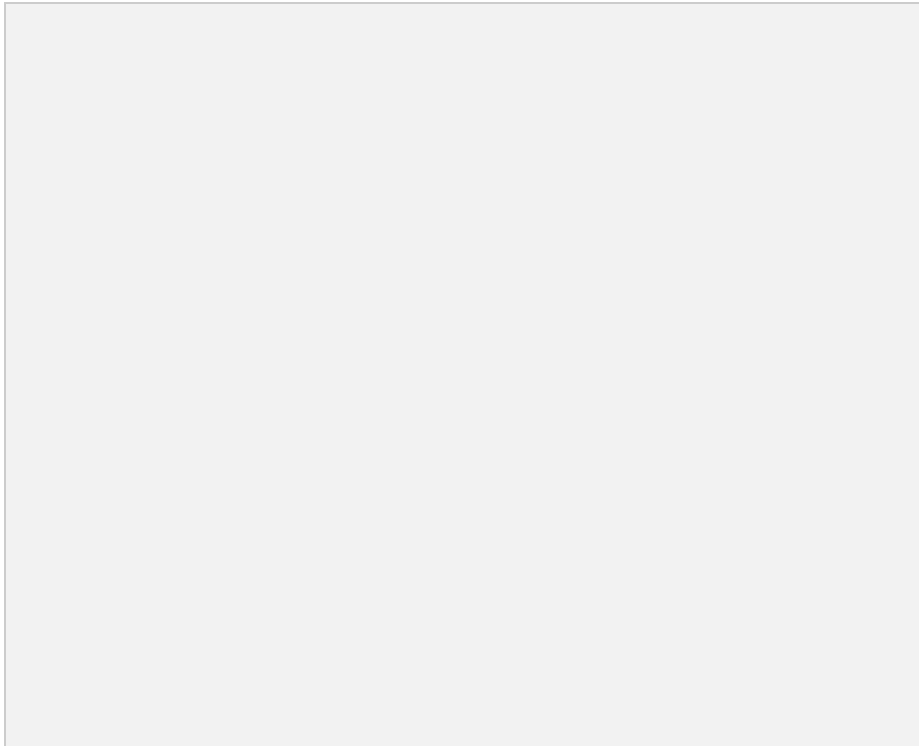
382

383 **Empathy in the Shared Vulnerability Model**

384 To recap, Carson's SVM proposes a relationship between creativity and
385 psychopathology through shared genetic and neural traits between the two states, such as
386 latent inhibition, novelty seeking, and hyperconnectivity. Additionally, the model proposes
387 that there are ~~protective~~protectant and risk factors that pull an individual towards either
388 creativity or psychopathology. These include working memory, intelligence, and cognitive
389 flexibility. However, Carson's SVM focused solely on genetic factors and did not account for
390 other perspectives, such as social-cognitive functions (Carson, 2011).

391 Past research has considered empathy as a possible factor for further research, but
392 it ~~has~~had not yet been integrated into the model. With the findings outlined in this paper, I
393 propose empathy as a social-cognitive ~~protective~~protectant factor in the SVM. Empathy
394 has been ~~associated with~~shown to significantly improved mental health conditions, and
395 many issues of mental health can be connected to deficits in empathy. Creativity is also
396 shown to benefit from empathy, further solidifying empathy's role as a ~~protective~~protectant
397 factor. Similar to other ~~protective~~protectant factors already in the SVM, empathy
398 demonstrates an ability to utilize vulnerability with less risk of psychopathology. As the
399 vulnerability in the SVM represents heightened stimuli, empathy seems to play a key role in
400 mediating whether sensitivity is expressed through creativity or through psychopathology.

401 However, in considering the distinction between cognitive and affective empathy,
402 research suggests that cognitive empathy may play a larger role as a protective factor in
403 the SVM than affective empathy. Cognitive empathy involves the abilities of
404 perspective-taking and the understanding of situations, which are more closely related to
405 the existing protective factors of the SVM, such as cognitive flexibility. On the other hand,
406 affective empathy primarily involves emotional responses and may influence both mental
407 wellbeing and creativity through different pathways. Affective empathy, like cognitive
408 empathy, is shown to contribute to wellbeing and creativity, but its results are less
409 consistent. Therefore, although empathy as a whole can be identified as a protective factor
410 in the SVM, cognitive empathy may represent the primary component driving protective
411 effects.



412

413 Furthermore, within the SVM, empathy is also closely related to the other
414 ~~protective~~protectant factors. Empathy and working memory ~~are~~have been found to be
415 closely associated (Gaesser, 2013). Similarly, empathy and social intelligence correlate
416 positively, as do social intelligence and IQ (Kaukiainen et al., 1999). Empathy is positively
417 associated with cognitive flexibility as well (Grattan et al., 1994).

418

419 The addition of empathy differs from the other ~~protective~~protectant factors because
420 it extends the discussion beyond genetic factors and brings in the possibility of more
421 personal influences, such as ~~social cognitions~~social cognition. While genetic factors provide
422 insight on a more bio-deterministic level of understanding, ~~social~~
423 ~~cognitions~~social cognition applies factors of human interaction, such as social meaning and
424 emotional salience. Studying the role of empathy ~~can expand~~expands the possibilities and
425 ~~could make~~makes the SVM more applicable to real life.

426

427 Applications

428 Carson provided many applications for the SVM, noting the model suggests that
429 chances of psychopathology can be reduced either through treating vulnerability factors,
430 enhancing protective factors, or enhancing overall creativity (Carson, 2011). Carson notes
431 that because directly trying to rid individuals of vulnerabilities for treatment could impact
432 an individual's creativity, she suggests regulation rather than a removal of those shared
433 vulnerabilities. This means individuals would most likely prefer treatment related to

bolstering creativity. For example, she suggested implementing creative therapies, such as art, music, writing, and theater, to enhance creativity (Carson, 2011). Creative art therapy is often incorporated into mental health treatments. These therapies engage emotions, cognition, and communication using creative expression, especially when it can be difficult to express oneself (Shafir et al., 2020).

However, because Carson's SVM was based on genetic factors, it would be difficult to provide treatment by enhancing protective factors. With empathy as a protective factor, which is a skill that can be learned and improved, enhancing it would also be a possible treatment method. Many empathy-based therapies, such as mentalization-based therapy or psychoanalytic therapy, would be effective (Garrote-Caparrós et al., 2023). Additionally, empathy can be applied to educational environments to improve creativity. By fostering skills in emotional regulation and perspective-taking, the likelihood of shared vulnerabilities leading to psychopathology would decrease while also supporting creative growth (Demetriou & Nicholl, 2022).

One example of empathy's potential role in the SVM is contemporary artist Yayoi Kusama, who, in her autobiography *Infinity Net*, openly discusses her struggles with mental illness (Kusama, 2021). Kusama is not only famous for her unique art style in her sculptures and installations, but her story is also inspiring and uplifting. In her book, she describes her experience with hallucinations, OCD, and depersonalization disorder, and how she channels these experiences into her art as a way to cope. In 1977, she admitted herself into Seiwa Hospital for the Mentally Ill in Tokyo, and since then she has continued producing art, often traveling back and forth from the hospital and her studio. By turning her internal, psychological state into physical forms with art, she invites others to understand her world and see her perspective, reflecting key processes of empathy. Her story illustrates how psychopathology can be expressed through creativity and the potential role empathetic processes play in the art-making process.

460

461 Limitations and Future Direction

There are many limitations to the proposed role of empathy in the SVM. One limitation is that this paper utilizes a theoretical synthesis rather than an empirical study. This means empathy's role as a possible protective factor is proposed rather than confirmed. Further research could use experimental or testable frameworks to verify empathy's role in the SVM. The literature used in the theoretical synthesis often provides correlational evidence, so empathy's effects on mental well-being and creativity have not been directly tested.

Additionally, the paper focuses on empathy, and specifically cognitive empathy, as playing a larger role in the SVM. This may overlook the role of affective empathy and other social-cognitive functions when understanding the relationship between creativity and

psychopathology. Future research could examine how affective empathy and other cognitive functions may change the balance between creativity and psychopathology.

Several pieces of literature counter the existence of the “tortured artist” concept. (Dietrich, 2014) [suggest] that studies on the tortured artist often ignore baseline rates of creative individuals having psychopathological behavior, and they argue that because so many individuals worldwide experience mental illness, it is very likely that a high proportion of them will be creative. This suggests levels of confirmation bias and illusory correlations. However, modern research has tackled these concerns with empirical studies and has proposed complex explanations, such as the inverted-U or SVM. Dietrich’s critiques of research on the tortured artist phenomenon can contribute to a larger, more nuanced discussion of the relationship between creativity and psychopathology.

Furthermore, expanding on the role of affective empathy, some researchers argue that an excessive amount of affective empathy may lead to more harmful effects on mental wellbeing than beneficial, and that empathy itself, although crucial to social function, may not really be protective of one’s mental state nor creativity (Huang et al., 2025). Empathy’s impact on individuals is complex, and while it is true that affective empathy provides mixed results about mental wellbeing and creativity, the evidence reviewed in the paper suggests that the protective aspects of empathy are primarily driven by cognitive empathy. Empathy remains a useful protective factor due to cognitive empathy’s more consistent support of wellbeing and creativity.

Further research should test the role of empathy empirically in the SVM to confirm validity, using empathy tests such as the Empathy Quotient (EQ) test or the Questionnaire of Cognitive and Affective Empathy (QCAE). It is also important to consider information about differing populations, such as gender, culture, or ethnicity. Furthermore, other social-cognitive functions can be tested, such as neurological perspectives, emotional functions, and developmental factors. In the SVM, it is also important to consider the spectrum between creativity and psychopathology, and future research could examine this continuum.

Conclusion

The relationship between creativity and psychopathology has long been in discussion and romanticized throughout history. Modern research, however, has begun to examine this relationship further, such as through the shared vulnerability model, which provides a framework for understanding shared genetic traits between creativity and psychopathology, mediated by protective and risk factors. Because Carson’s SVM was focused on genetic factors, it did not account for other potential parts of the puzzle.

This paper extends the SVM’s discussion into the social-cognitive realm, proposing empathy as a protective factor in the SVM. By first setting up the scene by outlining the history of the tortured artist, the paper clarifies that the discussion of

creativity and psychopathology extends well beyond simple genetic or biological explanations. Then, explaining the SVM, the paper introduces a model explaining the relationship and identifies shortcomings. Finally, introducing social cognition through ToM led to the proposal of another social-cognitive factor, fitting empathy into the picture. The paper also dives into the different effects cognitive vs. affective empathy may bring and has concluded that cognitive empathy may play the bigger role as a protective factor. The evidence reviewed demonstrates empathy's positive associations with creativity and how deficits in empathy can be associated with lead to mental health issues, highlighting its role as a protective factor.

~~Further research should test the role of empathy empirically in the SVM to confirm validity, using empathy tests such as the Empathy Quotient (EQ) test or the Questionnaire of Cognitive and Affective Empathy (QCAE). It is also important to consider information about differing populations, such as gender, culture, or ethnicity. Furthermore, other social cognitive functions can be tested, such as neurological perspectives, emotional functions, and developmental factors. In the SVM, it is also important to consider the spectrum between creativity and psychopathology, and future research could examine this continuum.~~

528

References

- Abraham, A. (2014). Is there an inverted-U relationship between creativity and psychopathology? *Frontiers in Psychology*, 5, 750.
<https://doi.org/10.3389/fpsyg.2014.00750>
- Acar, S., Chen, X., & Cayirdag, N. (2018). Schizophrenia and creativity: A meta-analytic review. *Schizophrenia Research*, 195, 23–31.
<https://doi.org/10.1016/j.schres.2017.08.036>
- Alacovska, A., & Kärreman, D. (2023). Tormented selves: The social imaginary of the tortured artist and the identity work of creative workers. *Organization Studies*, 44(6), 961–985. <https://doi.org/10.1177/01708406221089594>
- Alzayed, M. A., Miller, S. R., & McComb, C. (2022). Does empathy beget creativity? Investigating the role of trait empathy in idea generation and selection. In *Design*

541 *computing and cognition*'20 (pp. 437–454). Springer.

542 <https://doi.org/10.1007/978-3-030-90625-2>

543 Becker, G. (2001). The association of creativity and psychopathology: Its
544 cultural-historical origins. *Creativity Research Journal*, 13(1), 45–53.

545 Beloyianni, V., Zbainos, D., & Karagianni, M. (2024). From mindreading to originality:
546 Exploring the relationship between Theory of Mind and Creativity across the
547 lifespan. *British Journal of Developmental Psychology*, 42(2), 215–233.

548 Brand, J. L. (1965). The national mental health act of 1946: A retrospect. *Bulletin of the*
549 *History of Medicine*, 39(3), 231–245.

550 Burghardt, J., Gradl, S., Knopp, M., & Sprung, M. (2023). Psychopathology and theory
551 of mind in patients with personality disorders. *Borderline Personality Disorder and*
552 *Emotion Dysregulation*, 10(1), 18. <https://doi.org/10.1186/s40479-024-00260-5>

553 Cao, H., Chén, O. Y., Chung, Y., Forsyth, J. K., McEwen, S. C., Gee, D. G., Bearden, C.
554 E., Addington, J., Goodyear, B., & Cadenhead, K. S. (2018). Cerebello-thalamo-cortical
555 hyperconnectivity as a state-independent functional neural signature for psychosis
556 prediction and characterization. *Nature Communications*, 9(1), 3836.

557 <https://doi.org/10.1038/s41467-018-06350-7>

558 Carson, S. H. (2011). Creativity and psychopathology: A shared vulnerability model.
559 *The Canadian Journal of Psychiatry*, 56(3), 144–153.

560 <https://doi.org/10.1177/070674371105600304>

561 Carson, S. H., Peterson, J. B., & Higgins, D. M. (2003). Decreased latent inhibition is
562 associated with increased creative achievement in high-functioning individuals.

563 *Journal of Personality and Social Psychology*, 85(3), 499.

564 <https://doi.org/10.1037/0022-3514.85.3.499>

565 Cuff, B. M., Brown, S. J., Taylor, L., & Howat, D. J. (2016). Empathy: A review of the
566 concept. *Emotion Review*, 8(2), 144–153. <https://doi.org/10.1177/1754073914558466>

567 Demetriou, H., & Nicholl, B. (2022). Empathy is the mother of invention: Emotion and
568 cognition for creativity in the classroom. *Improving Schools*, 25(1), 4–21.

569 <https://doi.org/10.1177/1365480221989500>

570 Durham, C. A. (2003). Modernism and Mystery: The Curious Case of the Lost
571 Generation. *Twentieth Century Literature*, 49(1), 82–102.

572 <https://doi.org/10.2307/3176009>

573 Farreras, I. G. (2019). History of mental illness. *General Psychology: Required Reading*,
574 244.

575 Farrow, T. F., & Woodruff, P. W. (2007). *Empathy in mental illness*. Cambridge
576 University Press.

577 Forthmann, B., Kaczykowski, K., Benedek, M., & Holling, H. (2023). The Manic Idea
578 Creator? A Review and Meta-Analysis of the Relationship between Bipolar Disorder
579 and Creative Cognitive Potential. *International Journal of Environmental Research*

580 *and Public Health*, 20(13), 6264. <https://doi.org/10.3390/ijerph20136264>

581 Frith, C., & Frith, U. (2005). Theory of mind. *Current Biology*, 15(17), R644–R645.

582 <https://doi.org/10.1016/j.cub.2005.08.041>

583 Gaesser, B. (2013). Constructing memory, imagination, and empathy: A cognitive
584 neuroscience perspective. *Frontiers in Psychology*, 3, 576.

Garrote-Caparrós, E., Lecuona, Ó., Bellosta-Batalla, M., Moya-Albiol, L., & Cebolla, A. (2023). Efficacy of a mindfulness and compassion-based intervention in psychotherapists and their patients: Empathy, symptomatology, and mechanisms of change in a randomized controlled trial. *Psychotherapy*, 60(2), 182. <https://doi.org/10.1037/pst0000467>

Goh, C., & Agius, M. (2010). The stress-vulnerability model how does stress impact on mental illness at the level of the brain and what are the consequences? *Psychiatria Danubina*, 22(2), 198–202.

Grattan, L. M., Bloomer, R. H., Archambault, F. X., & Eslinger, P. J. (1994). Cognitive flexibility and empathy after frontal lobe lesion. *Cognitive and Behavioral Neurology*, 7(4), 251–259.

Hua, A. Y., Wells, J. L., Brown, C. L., & Levenson, R. W. (2021). Emotional and cognitive empathy in caregivers of people with neurodegenerative disease: Relationships with caregiver mental health. *Clinical Psychological Science*, 9(3), 449–466.

Huang, C., Wu, Z., Sha, S., Liu, C., Yang, L., Jiang, P., Zhang, H., & Yang, C. (2025). The dark side of empathy: The role of excessive affective empathy in mental health disorders. *Biological Psychiatry*.

Kaufman, J. C. (2014). *Creativity and mental illness*. Cambridge University Press.

Kaukiainen, A., Björkqvist, K., Lagerspetz, K., Österman, K., Salmivalli, C., Rothberg, S., & Ahlbom, A. (1999). The relationships between social intelligence, empathy, and three types of aggression. *Aggressive Behavior: Official Journal of the International Society for Research on Aggression*, 25(2), 81–89. [https://doi.org/10.1002/\(SICI\)1098-2337\(1999\)25:2%3C81::AID-AB1%3E3.0.CO;2-M](https://doi.org/10.1002/(SICI)1098-2337(1999)25:2%3C81::AID-AB1%3E3.0.CO;2-M)

Khanjani, Z., Mosanezhad Jeddi, E., Hekmati, I., Khalilzade, S., Etemadi Nia, M., Andalib, M., & Ashrafian, P. (2015). Comparison of cognitive empathy, emotional empathy, and social functioning in different age groups. *Australian Psychologist*, 50(1), 80–85.

Kusama, Y. (2021). *Infinity net: The autobiography of Yayoi Kusama*. Tate Enterprises Ltd.

Lakoff, G. (2014). Mapping the brain's metaphor circuitry: Metaphorical thought in everyday reason. *Frontiers in Human Neuroscience*, 8, 958.
<https://doi.org/10.3389/fnhum.2014.00958>

Li, X., Chen, J., & Fu, H. (2024). The roles of empathy and motivation in creativity in design thinking. *International Journal of Technology and Design Education*, 34(4), 1305–1324. <https://doi.org/10.1007/s10798-023-09869-z>

Mason, J. H. (1995). Thinking about genius in the eighteenth century. *The Scriblerian and the Kit-Cats*, 27(2), 165.

McMahon, D. (2013). *Divine fury: A history of genius*. Constellation.

Morelli, S. A., Lieberman, M. D., & Zaki, J. (2015). The emerging study of positive empathy. *Social and Personality Psychology Compass*, 9(2), 57–68.
<https://doi.org/10.1111/spc3.12157>

Nguyen, M., Strádalová, E., Sharma, A., & Castillo, E. (n.d.). Hyperconnectivity Patterns in Psychological Disorders: A Literature Review of Connectivity Patterns within Depression and Anxiety Compared to Other Psychiatric Disorders. *The Girls in Med Journal of Neuroscience*.

Peterson, J. B., & Carson, S. (2000). Latent inhibition and openness to experience in a high-achieving student population. *Personality and Individual Differences*, 28(2), 323–332. [https://doi.org/10.1016/S0191-8869\(99\)00101-4](https://doi.org/10.1016/S0191-8869(99)00101-4)

Sampedro, A., Peña, J., Ibarretxe-Bilbao, N., Sánchez, P., Iriarte-Yoller, N., Ledesma-González, S., Tous-Espelosin, M., & Ojeda, N. (2020a). Mediating role of cognition and social cognition on creativity among patients with schizophrenia and healthy controls: Revisiting the shared vulnerability model. *Psychiatry and Clinical Neurosciences*, 74(2), 149–155. <https://doi.org/10.1111/pcn.12954>

Sampedro, A., Peña, J., Ibarretxe-Bilbao, N., Sánchez, P., Iriarte-Yoller, N., Ledesma-González, S., Tous-Espelosin, M., & Ojeda, N. (2020b). Mediating role of cognition and social cognition on creativity among patients with schizophrenia and healthy controls: Revisiting the shared vulnerability model. *Psychiatry and Clinical Neurosciences*, 74(2), 149–155.

Schumann, K., & Dragotta, A. (2021). Empathy as a predictor of high-quality interpersonal apologies. *European Journal of Social Psychology*, 51(6), 896–909. <https://doi.org/10.1002/ejsp.2786>

Shafir, T., Orkibi, H., Baker, F. A., Gussak, D., & Kaimal, G. (2020). The state of the art in creative arts therapies. *Frontiers in Psychology*, 11, 68.

Silvia, P. J., & Kaufman, J. C. (2010). Creativity and mental illness. *Cambridge Handbook of Creativity*, 381–394.

Stamm, J. L. (1971). Vincent van Gogh: Identity crisis and creativity. *American Imago*, 28(4), 363–372.

- 652 Taylor, C. L. (2017). Creativity and mood disorder: A systematic review and
653 meta-analysis. *Perspectives on Psychological Science*, 12(6), 1040–1076.
654 <https://doi.org/10.1177/1745691617699653>
- 655 Tie, B., Yang, W., Huo, T., Gao, Y., Yang, X., Tian, D., Pelowski, M., & Qiu, J. (2025).
656 Empathy to creativity: The associations between empathy and everyday creativity.
657 *Journal of Personality*, 93(6), 1212–1225. <https://doi.org/10.1111/jopy.13002>
- 658 Whitehead, J. (2017). *Madness and the romantic poet: A critical history*. Oxford
659 University Press.
- 660 Young, J. G. (1985). What is creativity? *The Journal of Creative Behavior*.
661 <https://doi.org/10.1002/j.2162-6057.1985.tb00640.x>
- 662 Zafeirenia, B. (2024). Creativity in the ancient Greek philosophy: The politics of
663 Demiourgein. *The Journal of Creative Behavior*, 58(2), 227–244.
664 <https://doi.org/10.1002/jocb.644>

Rethinking the Tortured Artist: The Role of Empathy in the Shared Vulnerability Model

I'd like to thank both reviewers and the Convergence Journal Editorial Board for the time taken to review and provide feedback for my paper. I have carefully considered each comment and revised the paper accordingly. I provide here a thorough overview and outline of how I addressed the comments from reviewers:

Responses to Reviewer 1:

"In your Abstract, lines 14 & 15 frame the theory and methods of the paper. The sentence is structured as if it is listing 3 types of methods, or 3 theoretical frameworks. I suggest describing this paper as an analytic discussion, or an examination of schools of thought, rather than a research paper."

I thank the reviewer for this comment on specifying and clarifying the methods used. Similar to Review 2's comment, I have addressed this with a methods section (lines 78-104) to emphasize the use of theoretical synthesis rather than an empirical or systematic review. Additionally, wording has been changed throughout, such as in the abstract, as suggested.

"I also suggest rephrasing Lines 18 - 20 of the Abstract, where it says the findings of this paper "will reduce stigma," as there is no guarantee stigma will be reduced. Instead, when listing the findings, state what is suggested by the findings, describe the significance, the goals, the implications for the field of mental health, etc."

I thank the reviewer for highlighting the importance of not overstating claims. In response, I have tempered the wording in the abstract as well as in the rest of the paper to emphasize proposals rather than definite claims.

"Why choose empathy over another social-cognitive function, such as social perception or attribution? One might argue that any social-cognitive function has the potential to impact creativity. The author explains why empathy is important, but not why empathy is more important than other social cognitive functions."

I thank the reviewer for pointing out that the paper does not address the "why empathy" question. In response, I have included an explanation and justification in my introduction (lines 43-48) that explains how empathy's framework of both cognitive and affective aspects contribute to a more complete understanding, and I have suggested future research to look into other social-cognitive functions in my limitations section.

"...There is plenty here about how society views the artist, but not a lot about the artists themselves, besides the 2 examples: Van Gogh and Hemingway. I would add another paragraph that defines and describes the caricature of the tortured artist, and mention that before

advancements in medicine, there was no name for conditions like schizophrenia, depression, anxiety, borderline personality, histrionic personality disorder, and self-medication through illicit substances. So behaviors such as staying awake for days on end to complete a painting would now be a symptom of a manic episode. Or the obsessive and superstitious sculptor who needs his studio to be in perfect order, nowadays would be OCD. This does not need to be a long section, just a paragraph that describes what behaviors are "negative identity work" (as you described in your intro), and now those behaviors are symptoms of mental illness, and then how mental illness has become the hallmark of artistry."

I thank the reviewer for the suggestion of adding a paragraph that specifies the meaning of the "tortured artist." To address this, I have included a paragraph in my "History" section (lines 131-141) that captures the traits and characteristics of a tortured artist while further clarifying "negative identity work."

"In the first paragraph of the Shared Vulnerability Model section, I suggest adding a visual/figure of the Inverted U Model, for more clarity for your reader. On Line 132, where you start to describe how you explain the Inverted U model, perhaps give a few specific examples."

I thank the reviewer for the suggestion to add a figure of the Inverted-U model for clarity, and I have added one. Additionally, I have explained a few examples of the model for further clarification (lines 179-182).

"In general, you might want to mention somewhere in this paper how music therapy, art therapy, and other creative pursuits have specifically been incorporated into mental health treatment plans. What does that mean? Is the tortured artist already inundated with creative options, therefore these therapies don't work on them? etc Just a thought to consider, but not a requirement to write at length on music/art therapy in this paper, I did see that there is a sentence about it later in the paper."

I thank the reviewer for this suggestion, and to address it, I've expanded my mention of creative arts therapy with a few concise sentences (lines 419-422).

"On Line 158, where you introduce Carson's 3 vulnerabilities, list all 3 vulnerabilities here in that sentence: deficits in latent inhibition, novelty seeking, and neural hyperconnectivity."

I thank the reviewer for the suggestion of clarifying earlier what the 3 vulnerabilities are and have applied it.

"Lines 240 - 245 do a great job of helping to explain why empathy has been chosen for this paper; it is the logical next step after Theory of Mind. But it is not quite clear how TOM has a positive association with creativity. Provide a few specific examples of what this looks like in social interactions, what deficits in TOM look like, and why/how that leads to more creativity."

I thank the reviewer for acknowledging the lack of connection between ToM and creativity. I already mentioned this briefly in lines 285-286, but I have added some

additional information on what ToM would look like in creativity and what deficits would look like to address this comment.

“On Line 104, split into a new paragraph with the sentence “After World War I...””

I thank the reviewer for this suggestion and have created a new paragraph for this section.

“On Line 138, split into a new paragraph with the sentence “Another example with bipolar disorder...””

I thank the reviewer for this suggestion and have created a new paragraph for this section.

“On line 146, move those couple of sentences up and add them to the previous paragraph. Starting with the words “Current and future research seek...””

I thank the reviewer for this suggestion and have combined the paragraphs for this section.

“Also, throughout your paper, I believe you may want to replace the word “protectant” with “protective.””

I thank the reviewer for this suggestion and have applied it throughout.

“Clean up the figure with the Venn diagram; it is difficult to read at the moment.”

I thank the reviewer for this comment. It seemed that when it downloaded onto Word, the formatting was messed up, so I have adjusted it to download correctly.

Responses to Review 2:

“The paper presents itself as extending a scientific model but does not employ a clear methodology (e.g., systematic review, meta-analysis, or empirical study). The argument relies heavily on selectively cited studies without clarifying inclusion criteria or evaluating study quality. This weakens the validity of the central claim that empathy functions as a protective factor within the SVM. Perhaps you can narrow the methodological scope i.e. narrative analysis or temper the claims to reflect the more exploratory approach of the idea.”

I thank the reviewer for highlighting the need for a strong methodology. In response, I have updated the paper to clarify its approach: a theoretical synthesis and narrative analysis rather than an empirical or systematic review. A new methodology section has been added after the introduction (lines 78-104) to clarify the analysis's theoretical and conceptual nature, and to identify specific criteria for choosing sources and their limitations. Additionally, I have refined the language throughout the paper to temper claims and conclusions, emphasizing a proposed role of empathy in the SVM.

“The paper frequently implies causality (e.g., empathy “shifts individuals away from psychopathology”) based on correlational evidence. Perhaps incorporating real artists or case

studies would support this leap from “empathy correlates with wellbeing and creativity” to “empathy is a protective factor in the SVM” is insufficiently justified. I recommend looking at artists like Lee Pric, Ally Zlatar or Félix González-Torres in proposing empathy as a hypothesized protective factor rather than a confirmed one.”

I thank the reviewer for pointing out the implied causality despite only correlating. In response, I’ve tempered my claims throughout the paper. I have also added in my application section a brief case example of artist Yayoi Kusama (lines 432-443) and how she demonstrates empathy as a hypothesized protective factor.

“The review is notably one-sided. There is little discussion of literature that complicates or challenges the empathy–creativity or empathy–mental health relationships to reaffirm the strength in your position, including counterarguments and limitations to strengthen analytical depth and credibility.”

I thank the reviewer for clarifying the need for a counterargument and limitations section. To address this, I have included this section after the applications section to examine the limitations of the methodology, counterarguments to the central claim, and research gaps (lines 445-483).

“While cognitive vs. affective empathy is introduced, the paper does not clearly specify which component is driving the proposed protective effect so elaborating on how they interact with empathy and SVM variables are key.”

I thank the reviewer for pointing out the importance of clarifying the distinction I made between cognitive and affective empathy. In response, I have included the distinction and their respective roles in my subsections of the empathy section. I’ve clarified that it is cognitive empathy that plays the larger role, and I’ve also examined where affective empathy fits into the argument.

“There are occasional grammatical and stylistic issues (e.g., subject-verb agreement, repetition) that should be carefully edited.”

I thank the reviewer for this comment and have cleared up grammatical and stylistic issues.

“Some historical claims are oversimplified or lack nuance (e.g., interpretations of Greek philosophy).”

I thank the reviewer for pointing out the oversimplification of some interpretations. In response, I have tempered some claims in the history section to reflect and leave room for other interpretations.

“Citations such as “Nguyen et al., n.d.” should be clarified or replaced with complete references.”

I thank the reviewer for pointing out some incorrectly formatted citations, and I have edited them to be complete.

I thank the review team and editorial board, and I hope that you find the revised paper worthy of further consideration for publication in Convergence Journal. Again, I thank the review team very much for their time, effort, and constructive suggestions.



A handwritten signature in cursive script, appearing to read "J. J. J." or similar.

Zlatar Reviewer - **Post Critical Review on: Submission 100165, "Rethinking the Tortured Artist: The Role of Empathy in the Shared Vulnerability Model"**

Based on reading the revisions and with the revisions made to the responses from the reviewers feedback substantially improved the overall clarity and structure there is a further need to enhance the rigor and conceptual argument to be considered for publication.

One key point is that, revisions seemed to be AI generated or atleast highly structured in a non-innovative way. Especially within the methodological framing; citing Google Scholar is not a "theoretical synthesis," the paper would benefit from a more explicit articulation of how synthesis decisions were made beyond keyword selection; perhaps cultural, thematic or even situated knowledge. What I mean by this is that the inclusion criteria remain relatively broad, which may unintentionally introduce selection bias and this can risk over-inclusiveness. A more rigorous approach would involve specifying tiers of evidence (perhaps citing key theorists or frameworks on how they weight differently from case reports). This could be also improved by explicitly stating how competing findings were synthesized. Did they reaffirm eachother or did they have contradictory outcomes, how were these resolved or interpreted within the thesis argument.

Secondly, the counterevidence section needs more depth as, particularly evident in the empathy section. While affective and cognitive empathy are distinguished, why is the paper still broadly arguing for the protective role for empathy without sufficiently addressing scenarios where empathy may increase vulnerability; such as in clinical psychology where psychiatrists can over-exhaust and experience burnout or distress for trauma-exposed artists. Incorporating such nuance would strengthen the Shared Vulnerability Model (SVM) and maybe do more research on the bidirectional factors rather than just protection. Furthermore, sometimes the casual language use sometimes over-extends the casualty like "empathy shifts individuals toward creativity" so focus on using conditional phrasing such as "may be linked to" "is hypothesized to," or "could potentially contribute...." This is particularly important in sections discussing real-world applications as your research is making claims and these will be sourced by academics and real-world users so this needs to be focused as testable hypotheses supported by preliminary evidence rather than an established conclusion since you are only sourcing secondary data and can not make these claims yet.

Additionally your historical examples (e.g., Van Gogh, Hemingway, Romanticism) function more as illustrative support. Maybe looking for more theoretically integrated evidence and artists can give more key support such as "divine madness" in Romanticism ; look at Lord Byron or an article here for example (<https://www.folger.edu/blogs/collation/when-the-body-is-ill-the-mind-suffers/#:~:text=When%20the%20Body%20is%20Ill%2C,August%209%2C%202022>). What the paper is missing the most is a strong and clear differentiation between conceptual expansion and empirical support, while some sections imply a stronger evidential base than currently exists and we need to see a tight core research and the cases complement the theoretical argument building throughout.

Small Keynotes:

- Keep all ideas on one argument in one paragraph; there is some weird spacing i.e. 'Grounded in this model...'
- This section is too broad and links to the points above. '...By selectively integrating literature from various fields—including psychology, neuroscience, and history—the relationship between creativity and psychopathology is conceptually expanded into the social-cognitive perspective by including discussions on empathy's role.'
- More sources needed for direct links to history i.e. Plato and Aristotle, same with Romanticism, there is only one source for the whole paragraph.
- History is still feeling story telling without the rationale on why history(reframe this as a literature review to be more effective)
- Especially in the The Shared Vulnerability Model section. Remember that every external idea that is not your own needs an intext citation and several sections i.e. with the IQ needs in-texts throughout.
- Your limitations sections and arguments are mainly on your methods and not the premise
- Conclusion is too broad; think of direct benefits of your insights i.e. into further research, application of your findings in society etc.

Paper Decision Statement

This paper does need revision (suggesting structural and in-depth revision for reconsideration). As it stands, the manuscript presents a thoughtful and well-motivated theoretical exploration and does include the Shared Vulnerability Model that edifies why we should be incorporating empathy. However, at present it needs to demonstrate clearer engagement with interdisciplinary literature and data to reinforce this position within the health and arts research. This will aid in clarifying methodology, stronger evidence and argument engagement. The paper needs to iterate the counterarguments on its viability and then reaffirm its validity to improve conceptual structure and research significance. The paper still relies heavily on speculative integration without sufficiently edifying the claims to lead to grounded theoretical conclusions. The research is a promising conceptual contribution to academia and with these improvements it can be considered for publication.