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Bipolar Disorder and Creativity: Discussing Relationship Between Mental Illness and Risk-Taking in an Evolutionary Perspective

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Abstract. Bipolar is a mental condition where individuals experience extreme mood swings, with manic episodes characterized by high energy and reckless behavior, as well as depressive episodes marked by very low energy and hopelessness. Our study will explore the relationship between bipolar disorder, risk-taking, and creativity. We will analyze the possibility of if the bipolar trait has a direct effect on creativity, or does it go through a mediator such as risk-taking. The study hypothesizes that higher levels of risk assessment in individuals with bipolar disorder led to increased creativity. Resource constraints hindered our experiment, but speculative outcomes were considered such as the differential creativity levels across domains and both potential negative correlations between risk-taking and creativity. A positive result can suggest that a person with such mental illnesses has the potential to excel in the art field, and our study could promote a more inclusive view of mental health conditions in creative pursuits.

Keywords: Bipolar disorder, creativity, risk taking

1. Introduction

Like everyone else, your emotions can vary from feeling down to elated in one typical day of your life. You wake up and spill that cup of coffee on your new white shirt, causing you to feel unnecessarily frustrated, ruining your entire morning. Thankfully, your teacher brushed off your tardiness because almost everyone was late as well due to an unexpected storm. At lunch, your crush complimented your hair, making you feel absolutely hysterical, fluttery, and possibly distracted. Later in the afternoon, however, you are disappointed when you found out you got an unsatisfying score for that math exam last Monday yet again. At night, you can't shake off that disappointment and find yourself contemplating and fretting about your overall grade and possibly your future,

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throwing you into an anxious fit before falling asleep. The next day, you wake up from your sleep and are ready to begin a new day anyway.

At some point in life, most people are guaranteed to get a handful of these days.

This isn't the case for everyone. Not for people with bipolar disorder. Bipolar disorder (BD) is a mental condition characterized by extreme mood swings. It's extreme to the extent that it could literally be described as an emotional rollercoaster, with highs called mania or hypomania, and lows the equivalent of major depression. Each episode can last from a few hours to many months. Specifically, during manic episodes, people show psychotic symptoms such as feeling abnormally elevated, high, grandiose: a false sense of invincibility; hallucinations, insomnia, and psychomotor agitation. They are very productive, and their thoughts and talking is sped up. Yet they experience "distractibility…poor decision making, excessive involvement in activities that have a high potential for painful consequences." This is because bipolar people tend to get attracted to goal-oriented activities that produce high benefits for themselves, such as impulsive spending, drug addiction, unsafe sex [1]. During depressive episodes, individuals feel severely low, heavy, hopeless, and sometimes suicidal, with "15–20 % of those diagnosed committing suicide, and one-third to half attempting suicide"[1]. It's like you're being stretched from place to place, from the bottom of the ocean straight into the sky and being blinded by the sun. The hardships one has to suffer from cannot be ignored, but while "bipolar is a challenge...it can set you up to be able to do almost anything.[1]"

It has been suspected that bipolar disorder may have a relation to creativity. To start off, during mania, individuals have racing thoughts, which is provoked by boundless energy and a wild manner of recklessness and the will to take risks. Since bipolar people in the manic phase are in a significantly relatively positive, productive, and bold mood, with a cognitive advantage that could make them wildly imaginative and a need for less sleep and bounds of energy, with neurons turned fiery notches higher, would this create sparks of creativity?

1.1. Present study

Based on the present studies, it is speculated on whether there is a direct correlation between bipolar disorder and creativity or there may be another factor that plays the role of mediator, connecting bipolar disorder and creativity, which is risk-taking.

Therefore, the purpose of this study is to find the relationship between bipolar disorder, risk taking and creativity, quoting on Wilke's evolutionary domain specific risk-taking scale [2] as the main consult of the given theory for explaining how risk assessment could be measured and different factors of it. They present a psychometric scale that assesses risk-taking in 10 evolutionary content domains. The study included 1326 participants and evaluated the scale's validity and consistency [2]. So this scale is adopted for the participants to test their risk-taking before they attend the experiment.

There are another two essential researches: Everyday creativity, eminent creativity and psychology [3] and Positive traits in the Bipolar Spectrum: The Space between Madness and Genius [4]. Richards discussed how certain features associated with bipolar disorder enhances creativity, indicating that these features have evolutionary advantages. And this article delves into the cognitive and motivational aspects of creativity in patients with bipolar disorder, laying the foundation for understanding the adaptive significance of creativity.

This article examines the complex relationship between BD and creativity, suggesting that there may be positive traits associated with the bipolar spectrum that could be advantages [4]. The exploration of this is provided by a comprehensive review of the genetic and phenotypic aspects that

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link bipolar disorder with enhanced creative abilities. Greenwood's theory would also be used in the final experiment.

According to Johnson's study [5], Creativity and bipolar disorder: Touched by fire or burning with questions? May provide evidence for which bipolar may represent a higher level of creativity, can be used to answer the second essential question: Is creativity presented in bipolar disordered people adaptation or a bias?

1.2. Hypothesis

For a person with bipolar disorder, the level of risk assessment determines the level of creativity. The higher one's level of risk is, the higher the creativity. In other words, risk-taking mediates the effect of being bipolar and having creativity.

2. Method

The plan of the experiment is to measure the relative connection between the risk assessment of people with bipolar disorder and their levels of creativity, compared to the likes of people without bipolar disorder. There will be three groups of people with bipolar disorder, and three groups of people who don't have it, which will be the control group we compare the bipolar disorder data to. We will first analyze the set of results that includes the risk assessment factor as we calculate their levels of creativity, and finally make a comparison and conclude our hypothesis.

2.1. Participants

There will be a range of people that will be given the risk assessment test and creation activity. The people selected are artists, aged from 18-30, and will be separated into 6 groups, as shown in the table 1 below.

Table 1: Participant groups

	Writing	Painting	Composing
Bipolar Disorder	BD-W	BD-P	BD-C
Non-BD	NBD-W	NBD-P	NBD-C

2.2. Materials

A risk assessment form will be given to the participants, a separate task from their creativity task. We will be referring to parts of Wilke's risk assessment procedure [2] as we make our own form. For the creativity task, the participants will be given a particular topic that we will choose for them, for example "The River" for writing, "Water" for painting, and "Flow" for music. They will be given a budget that funds them with materials needed.

2.3. Procedure

Once the participants are put into groups (as shown in table above), They will be given the task requirements. For the writing groups, they will be given a topic, a limited word count of 3000 words, and two working weeks to finish their work. Similar to the writers, painters and composers are given a week to complete their given task, with the painters limited to a 10x16 inch canvas and

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composers to a 1-minute piece. They are given a minimum requirement of 3 hours every day working on this task overseen by the administrators.

Separate from this task, all the participants will be given the risk assessment form before or after their creative process. It will take about less than 5 minutes to complete, as the participants will be responding to certain situations, if they will or will not take the risk.

The final pieces will be given to numerous anonymous people to then give a rating of creativity of 1-10 on factors of originality, topic relevance, style uniqueness. The anonymous people chosen will be made sure they have at least a bit of artistic knowledge or history, and have no personal relationships with the current participants. This will dismiss possible biases that may occur during the rating. Stronger Creativity in BD Individuals:

One possible outcome is that patients with bipolar disorder (BD) exhibit higher levels of creativity in various fields such as music, writing, and visual arts. If so, this result will partly support our alternative hypothesis, and will also show the direct relationship between the BD and creativity.

2.4. Data analysis

A mediation analysis will be used to test the relationship between bipolar disorder, creativity, and risk-taking, in particular if risk-taking mediates the relationship between bipolar disorder and creativity.

3. Discussion

Taking is a mediating factor between BD and creativity. The comparison between the BD with risk-taking the BD without risk-taking, and those without BD will show that the BD with risk-taking is the most creative ones or they are more creative. This would imply that the propensity for risk-taking inherent in BD could be a crucial component in the pathway to enhanced creativity.

Another speculated result may be the observation of different levels of creativity in different art fields. For example, people with BD may exhibit greater creativity in music or writing, but not in visual arts. This may indicate that the relationship between BD, adventure, and creativity is subtle, depending on the specific domain of creative expression.

Contrary to the alternative hypothesis, the experiment might have shown no significant difference in creativity levels between individuals with and without BD. This will support the null hypothesis, indicating that the relationship between BD and creativity is not as simple as initially theorized, or that other factors not considered in the experiment play a more important role.

An unexpected outcome could be a negative correlation between risk-taking and creativity, indicating that higher levels of risk-taking may actually hinder creative performance. This may suggest that the relationships between these variables are more complex and may involve a threshold beyond which risk-taking can be detrimental to the creative process.

A critical limitation of our proposed study is the lack of data due to resource constraints, which precluded the execution of experiments. This limitation highlights the need for sufficient resources in future research to test the proposed hypotheses. Future research should also consider a wider range of creative fields and control for potential confounding variables that may affect risk-taking and creative output. While our study was limited by practical constraints, the speculative exploration of potential outcomes provides a foundation for future research into the complex relationship between bipolar disorder, risk-taking, and creativity.

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4. Conclusion

To sum up, bipolar disorder, a kind of mental illness of intense mood swings, in fact has positive effects on the human mind. The wide range of examples has shown that bipolar disorder could be a gift for those who are willing to take risks to make advancements. In previous studies there were a lot of experiments and studies done by the researchers in the field that proved bipolar disorder may have some unique advantages and creativity is one of them. The researchers actually also discussed some differences between different bipolar symptoms, but our experiment did conclude these variables in our experiment due to our limited time, so the results probably vary if we consider those variables in. However, our main purpose is to prove that bipolar victims shouldn't become inferior. There are many cases in art history and literature history: Vincent van Gogh, Ernest Hemingway, Virginia Woolf etc. They have demonstrated to us that people with mental illness have the potential to do an excellent job in their field. In the future, it is hoped that there will be more studies that help patients utilize their gift instead of telling them they are not normal and sick. And we hope in future experiments and studies there will be more and more researchers willing to prove that bipolar disorder is not something that deserves discrimination, and we really hope that every person who suffers from bipolar can see the potential they may carry.

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