



# To Study The Impact Of Creative Behaviour On Rumination

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**Abstract:** This research aimed to study significant relationship between engagement in creative behaviour and ruminative thinking. Creative behaviour is doing an activity which is creative in nature. Rumination is repetitive thoughts about the past and future, that interferes with other activities. Adolescents and young adults tend to have higher ruminative tendencies. Aesthetic enjoyment may have a good effect on one's emotional state, maybe resulting in an improvement in wellbeing. This research focused on finding out whether engaging in creative behaviour helped in reducing rumination. Purposive random sampling was used for sample selection in this study. The Creative Behavior Inventory (Short Form) and Rumination response scale were used to collect sample responses. The results indicated a significant positive correlation between creative behaviour and rumination. This suggests that individuals with higher creative behaviour tend to have higher rumination, and vice versa, although the correlation was not found to be extremely strong.

## 1. Introduction

The acts performed by a person to come up with, develop, and put into practice new and beneficial ideas or solutions are referred to as creative behaviour. Through processes including brainstorming, trying, improving, and implementing, it is turning imaginative thoughts into reality. Creative individuals are remarkable for their ability to adapt to different situations and to manage with whatever is needed to reach their goals.

Using artistic processes as a medium for venting and distracting oneself helps in improving mood. (Drake and Winner, 2012). Investing time in creative activity during the day is associated with more pleasant emotional states that same day. A state of heightened creativity may be attained when a person experiences a period of unpleasant emotions, which is subsequently followed by a decrease in negative emotions and an increase in good emotions, often known as "affective shift" (Bledow et al., 2013).

Various researches have revealed that Rumination has a number of detrimental effects, including:

- (a) making mental illness worse by extending and intensifying negative emotions, impairing the capacity for problem-solving and effective action, and decreasing sensitivity to changing circumstances;
- (b) acting as a cross-cutting mental health vulnerability that affects a variety of disorders, including anxiety, depression, psychosis, insomnia, and impulsive behaviours; and
- (c) impeding therapy and reducing the efficacy of psychologic interventions (Watkins and Roberts, 2020).

It is commonly acknowledged that ruminating, or repeatedly focusing on unfavourable ideas and feelings, increases the risk of developing significant depressive and anxiety symptoms in both adults and adolescents (Michl et al., 2014). When seen from the perspective of positive psychology, mental illnesses are significantly more likely when there is a lack of positive well-being, which includes happy emotions, engagement, purpose, positive relationships, and successes (Seligman, 2008). This implies that getting involved in creative activity will automatically lead to purposeful engagement and may result in decrement of the thoughts characterised by rumination.

## 1.1. Creative behaviour

Since creativity is one of the most exceptional human abilities, it is crucial to develop more efficient methods for training it. This is absolutely necessary for achieving excellence and standing out in any field (Onarheim and Olivarius, 2013).

According to APA (2022), creativity refers to capability to generate innovative ideas or produce novel, useful and meaningful work. A Creative individual classically presents expressions, uniqueness and thoughtfulness. Thinking, that involves the mental processes that result in an original innovation or key to a problem are referred to as creative thinking. Innovative ideas can result in new technologies, social theories, scientific discoveries, artistic creations, and more. Scholars have identified usefulness or utility and novelty or originality as two major components of creativity. Usefulness is connected to purposefulness.

It is natural to associate creativity with enhancing the meaning of life. The fundamental ideas of the meaning of life, such as coherence, significance, purpose, and symbolic immortality, can be achieved through creative activities (Kaufman C. J., 2018). Thus, creative or artistic activities can help in achieving such higher order aspect and add positive content in everyday life.

Whereas creative behaviour is an outcome of creativity and creative thinking in action and display. The capacity of the person or worker to eloquently and creatively employ a collection of thoughts and ideas in order to generate work is referred to as creative behaviour (Noruzy, et al., 2013).

In simple words, creative behaviour is seen as a collection of creative actions taken and expressed through behaviour. Creative behaviour includes actions that gives an output characterized by originality and usefulness. It is a way of acting that enables one to pursue self-expression, creativity, research, creation, and problem solving without being hindered by internal or external limits (Cabra et al., 2013).

A creative individual or an individual exhibiting creative behaviour, inspires the creative behaviour in others by promoting the recommendations and novel thoughts suggested or given by them. Also, such an individual is capable of dealing with vague instances because they stimulate him/her to look and identify the adequate solutions (Alqaryouti, 2000).

Overall supported by many researches creative and artistic activities have led to betterment of health and wellbeing. For example, participating in artistic activities such as painting, writing, and music has been suggested to have positive effects on mental well-being according to studies on the subject (Wheatley and Bickerton, 2019; Fritz and Avsec, 2007). Creative and artistic activities have been utilized for various reasons across different cultures, that included promoting health, enhancing the environment's aesthetics, and creating memorials (Kiernan et al., 2021; de-Graft Aikins, 2020).

Being creative is a quality that has great significance in daily life that is, the capacity to employ a collection of thoughts and ideas in a meaningful and unique way to generate work (Runco, 2014). Divergent skills, which have been demonstrated to be a valid and accurate predictor of creativity, are necessary for such behaviour (Runco and Acar, 2012). Divergent thinking, a crucial cognitive process in creativity, produces a variety of solutions to a problem by connecting disparate thoughts and associations. Individuals have the capability to regulate creativity through cognitive control, but this ability is not constant and can be impacted by sudden changes in circumstances.

Divergent thinking is usually considered to entail coming up with a variety of occasionally unorthodox thoughts. Another viewpoint, however, holds that creative thought is deemed divergent not because it creates several ideas, but rather because it results in a vague or poorly defined notion that has to be further developed in order to be useful. While creativity is unquestionably necessary for the advancement of culture and technology, some people think it also has negatives. In addition to the research showing that people with high levels of creativity are prone to affective disorders, suicide, and abuse substances, there is also concern that too much creativity could result in recreating what has previously been done. Moreover, getting too absorbed in one's own creative ideas could impede the acceptance and dissemination of proven effective ideas (Gabora L., 2013).

Even though few researchers have found certain drawbacks of extreme creativity but overall, it is thought and observed that participating in creative endeavours like art, music, dance, and theatre has therapeutic effects that can be beneficial in both clinical and non-clinical settings. It is believed that the changes that take place throughout the creative process mirror a therapeutic feeling of inner growth and self-discovery. A state of flow is characterised as being completely engrossed in a creative work and is comparable to intensely spiritual or religious experiences (Csikszentmihalyi, 1997).

## 1.2. Rumination

Repeated negative thought is a well-known behaviour that has a negative emotional burden. As a result, several forms of repetitive negative thinking, such as too much worry and ruminating, have been connected to a greater propensity for and persistence of emotional disorders of various kinds. For example, according to Michl et al. (2014) rumination is known to increase the likelihood of developing major depressive disorder and anxiety symptoms in both adults and adolescents.

Rumination was initially defined as passive, repetitive thought on negative effects as well as potential causes and future occurrences (Nolen-Hoeksema, 1991). Rumination is described now by the APA (2020) as a pattern of obsessive thinking that involves recurring thoughts or themes that interfere with other types of mental activity. Rumination entails continually thinking about negative feelings, distress, and their origins and outcomes. Rumination can raise the likelihood of developing depression or anxiety as well as aggravate the pre-existing problems due to its repetitious and unpleasant character. It can also make it more difficult to solve problems since attention is diverted from the solution orientation and is fixated on the problem itself. Rumination can cause unpleasant feelings even in those who are neither depressed or anxious. This can create a vicious cycle where excessive ruminating amplifies unpleasant feelings, which in turn encourages further rumination.

An individual's tendency to indulge in rumination may be influenced by their experience of stress, which is defined as the psychological and physiological adjustment required of an organism in response to social and environmental situations. The simple explanation provided by control theories explains how stressful situations might cause rumination (Michl et al., 2014). An individual may engage in rumination to fill the gap and lessen the disparity when negative occurrences lead to a mismatch between their objectives or desired results and their existing condition (Michl et al., 2014). Rumination is more likely to occur when stresses are uncontrollable or persistent because they produce gaps between a person's current circumstances and their goals or preferred outcomes, such as happiness, that cannot be resolved (Watkins, 2008).

Rumination is frequently regarded as unpleasant, however other experts contend that it may also be beneficial. Certain types of rumination, according to Martin and Tesser (1996), might be fruitful by allowing people to consider different solutions to their difficulties, whereas Maladaptive thinking involves the uncontrolled and recurrent recall of bad experiences without a contextual cue or the requirement for focused processing. The nature of impact of rumination depends on its type and functioning which differs from one individual to other because of different thought patterns. Like for example, self-reflective rumination entails continually concentrating one's thoughts on one's inner feelings and recollections (Yang and li, 2020). Rumination is a cognitive style rather than a representation of the precise substance of one's ideas, according to Nolen-Hoeksema (1991). This indicates that rumination does not always result in depression because healthy people may also use this type of thought without emphasising unfavourable feelings or traits about themselves. However, a large body of research has demonstrated that people with a ruminative thinking style are more prone to depression and retaining negativity when they repeatedly experience unpleasant moods or dwell on negative life experiences (Verhaeghen et al., 2023).

Also, Watkins (2016) put forth the idea that constructive repetitive thinking or concrete-experiential rumination, which focuses on a plan, a decision, and some kind of action to deal with a problem, is adaptive as opposed to maladaptive repetitive thinking or abstract analytic rumination. Similar to this, Cann et al. (2011) claimed that purposeful rumination, which involves voluntarily focusing on comprehending events and their consequences, is adaptive as opposed to intrusive rumination, which involves unwanted intrusions of thoughts about a bad occurrence.

Rumination can be divided into two subtypes: reflective and brooding, according to Treynor et al. (2003). While brooding rumination is characterised by unfavourable, self-reinforcing ideas, reflective rumination incorporates analytical and problem-solving type of thought pattern. Brooding rumination is linked to negative moods, low self-esteem, and it can even result in substance abuse and mental health issues including anxiety and depression (Treynor et al., 2003). The reflective form of rumination is generally viewed positively in that it provides a chance for the person to reflect on behaviors and consequences and not let past events ruin their day. Rumination, however, tends to have a more negative bent, often including thought patterns that involve pessimism and cognitive distortions and focusing mainly on the negative aspects of a situation (Scott E. 2022). Also, a large body of literature suggests that a ruminative thinking style increases one's vulnerability to depression and maintains negative affect when the focus is on negative life events or when the individual experiences frequent negative mood states (Verhaeghen et al., 2005).

According to Sun et al. (2014) academic, social, and career-related challenges are just a few of the unfavourable life occurrences that college students are exposed to. This might make them continually ponder why these things happened and make them feel sad. These unfavourable incidents may have a negative effect on their mental health and perhaps develop or exacerbate depression. Ruminators usually linger on detrimental thoughts, exaggerate the negative effects, complain a lot, and even impair their self-esteem, all of which can worsen depression (Sun et al., 2014).

Aesthetic enjoyment may have a good effect on one's emotional state, maybe resulting in an improvement in wellbeing. According to studies in neuroaesthetics, the combination of reward-related brain regions engaged in emotional processing and top-down mechanisms relating to the viewer's relationship with the cultural artefact produces aesthetic pleasure (Mastandrea, et al., 2019). As a result, aesthetic experience can be connected to fostering wellbeing in a variety of contexts. Arts and crafts activities encourage reflection as well as the development of several mental skills, including focus, observation, imagination, memory, and critical thinking. Additionally, it stimulates the right side of the brain and has a positive effect on a variety of mental traits including curiosity, emotions, willpower, and character (Ji and Liu 2022). This study will try to understand whether all these positive aspects of creative or artistic activities and creative behaviour can help in reducing the negative impact of rumination.

## 2. Methodology

### 2.1. Aim-

To study the Impact of creative behavior on rumination.

### 2.2. Objective-

To study the significant relationship between engagement in creative behaviour and ruminative thinking.

### 2.3. Hypothesis-

The engagement in creative behaviour will lead to reduction in ruminative thinking.

### 2.4. Sample-

165 participants of age ranging from 16 to 26 years.

### 2.5. Sampling method-

Purposive random sampling was used for sample selection in this study.

2.5.1. Inclusion criteria – people falling under 16-26 age range

2.5.2. Exclusion criteria- people not falling under 16-26 age range

### 2.6. Variables-

2.6.1. Independent variable- creative behaviors and activities

2.6.2. Dependent variable- rumination

### 2.7. Description of the tools employed-

2.7.1. **Creative behavior inventory (short)-** The Creative Behavior Inventory--Short Form (Dollinger, 2003) was developed from Hocevar's (1979) Creative Behavior Inventory. It consists of 28 items. The inventory is simply a list of activities and accomplishments that are commonly considered to be creative. It is a self-reported checklist of creative behaviors and/or activities that the respondent has previously engaged or participated in.

2.7.2. **Rumination response scale-** The RRS is a self-administered rumination questionnaire of 22 items describing two dimensions: brooding and reflection. For each item, each subject indicates the frequency of each event on a 4-point scale ranging from 1 ("almost never") to 4 ("almost always").

### 2.8. Procedure-

Random selection was done of students, 165 participants were selected for this process, a rapport was built with them and they were told about the research work being done, it was made sure that they well understood and they have given the consent by reading the consent form carefully, gave them an assurance that their answers will stay confidential and there is no right or wrong answer. The responses were collected through google form. All their doubts were cleared on time, if they had any.

## 3. Analysis of Results

### 3.1. Table- 1

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
creative behaviour	165	0	75	24.79	15.176
Rumination	165	22	86	51.01	11.740
Valid N (listwise)	165				

The given information presents descriptive statistics for two variables: creative behavior and rumination. The sample size for both variables is 165.

For the variable "creative behaviour," the minimum score observed is 0, while the maximum score is 75. On average, the participants in the study scored 24.79 on creative behaviour, with a standard deviation of 15.176. The valid sample size for this variable is 165, indicating that there were no missing values or incomplete data for this variable.

For the variable "rumination," the minimum score observed is 22, and the maximum score is 86. The average score for rumination is 51.01, with a standard deviation of 11.740. Similarly, the valid sample size for this variable is 165, indicating no missing or incomplete data.

These descriptive statistics provide an overview of the distribution of scores for both variables within the sample. They give information about the range, central tendency (mean), and dispersion (standard deviation) of the scores. However, they do not reveal any information about the specific patterns or relationships between the two variables.

**3.2. Table- 2**

<b>Correlations</b>			
		creative behaviour scores	rumination scores
creative behaviour scores	Pearson Correlation	1	.441**
	Sig. (2-tailed)		.000
	N	165	165
rumination scores	Pearson Correlation	.441**	1
	Sig. (2-tailed)	.000	
	N	165	165

\*\* . Correlation is significant at the 0.01 level (2-tailed).

The table shows the correlations between creative behavior scores and rumination scores. The correlation coefficient between creative behavior scores and rumination scores is 0.441. This indicates a moderately positive correlation between the two variables.

The significance level (Sig.) is reported as 0.000, which means the correlation is statistically significant. This suggests that there is a low probability of observing such a strong correlation by chance alone.

The sample size (N) for both variables is 165, indicating that the correlation is calculated based on these 165 data points.

In summary, the table indicates that there is a significant positive correlation between creative behaviour scores and rumination scores. This suggests that individuals with higher creative behaviour scores tend to have higher rumination scores, and vice versa, although the correlation is not extremely strong.

#### **4. Discussion**

The aim of this study was to find the impact of creative behaviour on rumination. Rumination is more likely to occur in adolescents and young adults because they frequently have higher degrees of self-consciousness and self-reflection. Individuals may have significant struggles and transitions during these developmental periods, including identity formation, academic stress, and interpersonal problems. Additionally, at this time, hormonal changes and brain growth may affect how emotions are processed and how thoughts are organised, possibly leading to an increase in rumination tendencies. Earlier studies have emphasised the possible health advantages connected to creative behaviour. The improvement of health, the enhancement of general wellbeing, and the enhancement of life quality have all been associated with creative hobbies.

So, this study was conducted to draw out the relationship between both. To analyse the aim of this study, creative behaviour scale (CBS) and Ruminative Responses Scale (RRS) were used. Descriptive statistics and correlation formulas were used, it was found that there is a moderate significant relationship between creative behaviour and rumination.

The hypothesis was to find out that engagement in creative behaviour will lead to reduction in ruminative thinking. A total of 165 participants were selected through random selection, after which their raw scores were calculated of creative behaviour inventory and ruminative responses scale through the given manuals. Evaluation was done using Pearson's correlation, mean and SD analysis

which can be seen in Table 1 and also Table 2 which is showing that there is a positive significant correlation between both as mean scores for creative behaviour was and mean scores for rumination was. So, it was concluded that hypothesis was incorrect.

## 5. Summary and Conclusion

Performing creative activities help in reducing stress, expressing emotions and in betterment of overall wellbeing. Rumination on the other hand involves excessive thinking characterised by intrusive thoughts pertaining to the negative emotions, experiences or problems. Adolescents and young adults tend to have higher ruminative tendencies. Therefore, this research aimed to find out whether engaging in creative behaviour helped in reducing rumination. The results indicated a significant positive correlation between creative behaviour and rumination. This suggests that individuals with higher creative behaviour tend to have higher rumination, and vice versa, although the correlation is not extremely strong. Few prior researches have indicated that engaging in creative activity involves cognitive flexibility which may facilitate rumination. Further researches are required to draw out a strong relationship and factors involved in it.

## References

1. *APA Dictionary of Psychology*. (n.d.). <https://dictionary.apa.org/rumination>
2. Bledow, R., Rosing, K., & Frese, M. (2013). A Dynamic Perspective on Affect and Creativity. *Academy of Management Journal*, 56(2), 432–450. <https://doi.org/10.5465/amj.2010.0894>
3. Cabra, J.F., Uribe-Larach, D. (2013). Creative Behavior. In: Carayannis, E.G. (eds) *Encyclopedia of Creativity, Invention, Innovation and Entrepreneurship*. Springer, New York, NY. [https://doi.org/10.1007/978-1-4614-3858-8\\_](https://doi.org/10.1007/978-1-4614-3858-8_)
4. Collier, A. C., & Wayment, H. A. (2021). Enhancing and explaining art-making for mood-repair: The benefits of positive growth-oriented instructions and quiet ego contemplation. *Psychology of Aesthetics, Creativity, and the Arts*, 15(2), 363–376. <https://doi.org/10.1037/aca0000286>
5. Conner, T. S., DeYoung, C. G., & Silvia, P. J. (2018). Everyday creative activity as a path to flourishing. *The Journal of Positive Psychology*, 13(2), 181–189. <https://doi.org/10.1080/17439760.2016.1257049>
6. Drake, J., & Winner, E. (2012). Confronting sadness through art-making: Distraction is more beneficial than venting. *Psychology of Aesthetics, Creativity, and the Arts*, 6(3), 255–261. <https://doi.org/10.1037/a0026909>
7. Du, Y., Yang, Y., Wang, X., Xie, C., Liu, C., Hu, W., & Li, Y. (2021). A Positive Role of Negative Mood on Creativity: The Opportunity in the Crisis of the COVID-19 Epidemic. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.600837>
8. Gabora, L. (2013c). Research on Creativity. In *Springer eBooks* (pp. 1548–1558). [https://doi.org/10.1007/978-1-4614-3858-8\\_387](https://doi.org/10.1007/978-1-4614-3858-8_387)
9. Hamroev, R. A. (2019). Modeling Activities of Teachers When Designing Creative Activities of Students. *Education in Uzbekistan*, 7(10), 2056-5852.
10. Ivcevic, Z. (2007). Artistic and Everyday Creativity: An Act-Frequency Approach. *Journal of Creative Behavior*, 41(4), 271–290. <https://doi.org/10.1002/j.2162-6057.2007.tb01074.x>
11. Karwowski, M. (2014). Creative mindsets: Measurement, correlates, consequences. *Psychology of Aesthetics, Creativity, and the Arts*, 8(1), 62–70. <https://doi.org/10.1037/a0034898>
12. Kaufman, S. B., Quilty, L. C., Grazioplene, R. G., Hirsh, J. B., Gray, J., Peterson, J. B., & DeYoung, C. G. (2016). Openness to Experience and Intellect Differentially Predict Creative Achievement in the Arts and Sciences. *Journal of Personality*, 84(2), 248–258. <https://doi.org/10.1111/jopy.12156>
13. Kaufman, J. C. (2018). Finding Meaning With Creativity in the Past, Present, and Future. *Perspectives on Psychological Science*, 13(6), 734–749. <https://doi.org/10.1177/1745691618771981>
14. Kiernan, F., Chmiel, A., Garrido, S., Hickey, M., & Davidson, J. H. (2021). The Role of Artistic Creative Activities in Navigating the COVID-19 Pandemic in Australia. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.696202>
15. Kong, F., Zhang, H., Xia, H., Huang, B., Qin, J., Zhang, Y., Sun, X., & Zhou, Z. (2020). Why Do People With Self-Control Forgive Others Easily? The Role of Rumination and Anger. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.00129>

16. Kumar, V. K., Kemmler, D., & Holman, E. R. (1997). The Creativity Styles Questionnaire--Revised. *Creativity Research Journal*, 10(1), 51–58. [https://doi.org/10.1207/s15326934crj1001\\_6](https://doi.org/10.1207/s15326934crj1001_6)
17. Kyaga, S., Landén, M., Boman, M., Hultman, C. M., Långström, N., & Lichtenstein, P. (2013b). Mental illness, suicide and creativity: 40-Year prospective total population study. *Journal of Psychiatric Research*, 47(1), 83–90. <https://doi.org/10.1016/j.jpsychires.2012.09.010>
18. Lebedeva, N., Schwartz, S. H., Van De Vijver, F. J. R., Plucker, J. A., & Bushina, E. (2019). Domains of Everyday Creativity and Personal Values. *Frontiers in Psychology*, 9. <https://doi.org/10.3389/fpsyg.2018.02681>
19. Liang, L., & Lee, Y. (2019). Factor Structure of the Ruminative Response Scale and Measurement Invariance across Gender and Age among Chinese Adolescents. *Advances in Applied Sociology*, 09(06), 193–207. <https://doi.org/10.4236/aasoci.2019.96016>
20. Mastandrea, S., Fagioli, S., & Biasi, V. (2019). Art and Psychological Well-Being: Linking the Brain to the Aesthetic Emotion. *Frontiers in Psychology*, 10. <https://doi.org/10.3389/fpsyg.2019.00739>
21. McEvoy, P. M., Thibodeau, M. A., & Asmundson, G. J. (2014). Trait Repetitive Negative Thinking: A Brief Transdiagnostic Assessment. *Journal of Experimental Psychopathology*, 5(3), 1–17. <https://doi.org/10.5127/jep.037813>
22. Michl, L. C., McLaughlin, K. A., Shepherd, K. A., & Nolen-Hoeksema, S. (2013). Rumination as a mechanism linking stressful life events to symptoms of depression and anxiety: Longitudinal evidence in early adolescents and adults. *Journal of Abnormal Psychology*, 122(2), 339–352. <https://doi.org/10.1037/a0031994>
23. Morse, K. F., Fine, P. R., & Friedlander, K. J. (2021). Creativity and Leisure During COVID-19: Examining the Relationship Between Leisure Activities, Motivations, and Psychological Well-Being. *Frontiers in Psychology*, 12. <https://doi.org/10.3389/fpsyg.2021.609967>
24. Onarheim, B., & Friis-Olivarius, M. (2013). Applying the neuroscience of creativity to creativity training. *Frontiers in Human Neuroscience*, 7. <https://doi.org/10.3389/fnhum.2013.00656>
25. *Rumination: A Cycle of Negative Thinking*. (n.d.). <https://www.psychiatry.org/News-room/APA-Blogs/Rumination-A-Cycle-of-Negative-Thinking>
26. Santos, S. C. M. D., Memmert, D., Sampaio, J., & Leite, N. (2016). The Spawns of Creative Behavior in Team Sports: A Creativity Developmental Framework. *Frontiers in Psychology*, 7. <https://doi.org/10.3389/fpsyg.2016.01282>
27. Sansone, R. A. (n.d.-b). *Rumination: Relationships with Physical Health*. PubMed Central (PMC). <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3312901/>
28. Scott, E., PhD. (2022). What Is Rumination? *Verywell Mind*. <https://www.verywellmind.com/repetitive-thoughts-emotional-processing-or-rumination-3144936>
29. Sun, H., Tan, Q., Fan, G., & Tsui, Q. (2014). Different effects of rumination on depression: key role of hope. *International Journal of Mental Health Systems*, 8(1). <https://doi.org/10.1186/1752-4458-8-53>
30. Silvia, P. J., Rodriguez, R. M., Beaty, R. E., Frith, E., Kaufman, J. C., Loprinzi, P. D., & Reiter-Palmon, R. (2021). Measuring everyday creativity: A Rasch model analysis of the Biographical Inventory of Creative Behaviors (BICB) scale. *Thinking Skills and Creativity*, 39, 100797. <https://doi.org/10.1016/j.tsc.2021.100797>
31. Taylor, C. L. (2017). Creativity and Mood Disorder: A Systematic Review and Meta-Analysis. *Perspectives on Psychological Science*, 12(6), 1040–1076. <https://doi.org/10.1177/1745691617699653>
32. Treynor, W., Gonzalez, R., & Nolen-Hoeksema, S. (2003). Rumination Reconsidered: A Psychometric Analysis. *Cognitive Therapy and Research*, 27(3), 247–259. <https://doi.org/10.1023/a:1023910315561>
33. Utah State University. (2021, November 30). *How Hobbies Improve Mental Health*. USU. <https://extension.usu.edu/mentalhealth/articles/how-hobbies-improve-mental-health>
34. Verhaeghen, P., Joorman, J., & Khan, R. (2005). Why We Sing the Blues: The Relation Between Self-Reflective Rumination, Mood, and Creativity. *Emotion*, 5(2), 226–232. <https://doi.org/10.1037/1528-3542.5.2.226>
35. Wang, Q., Zhao, X., Yuan, Y., & Shi, B. (2021). The Relationship Between Creativity and Intrusive Rumination Among Chinese Teenagers During the COVID-19 Pandemic: Emotional Resilience as a Moderator. *Frontiers in Psychology*, 11. <https://doi.org/10.3389/fpsyg.2020.601104>

36. Watkins, E. R., & Roberts, H. (2020). Reflecting on rumination: Consequences, causes, mechanisms and treatment of rumination. *Behaviour Research and Therapy*, *127*, 103573. <https://doi.org/10.1016/j.brat.2020.103573>
37. Wisco, B. E., & Harp, D. R. (2021). Rumination as a mechanism of the association between interpretation bias and depression symptoms: A longitudinal investigation. *Journal of Experimental Psychopathology*, *12*(2), 204380872110152. <https://doi.org/10.1177/20438087211015233>
38. Yang, H., & Li, H. (2020). Training Positive Rumination in Expressive Writing to Enhance Psychological Adjustment and Working Memory Updating for Maladaptive Ruminators. *Frontiers in Psychology*, *11*. <https://doi.org/10.3389/fpsyg.2020.00789>
39. Yun, R. C., Fardghassemi, S., & Joffe, H. (2022). Thinking too much: How young people experience rumination in the context of loneliness. *Journal of Community and Applied Social Psychology*, *33*(1), 102–122. <https://doi.org/10.1002/casp.2635>
40. Zaeske, L. M., Harris, T. M., De C Williams, A. C., Long, H., Kerr, B. A., & Birdnow, M. (2022). Adolescent technology-use and creative activities during COVID-19: A qualitative study. *Thinking Skills and Creativity*, *46*, 101190. <https://doi.org/10.1016/j.tsc.2022.101190>
41. Zareian, B., Wilson, J., & LeMoult, J. (2021). Cognitive Control and Ruminative Responses to Stress: Understanding the Different Facets of Cognitive Control. *Frontiers in Psychology*, *12*. <https://doi.org/10.3389/fpsyg.2021.660062>

