

Investigating the relationship between Creativity and Mental health: A Systematic Review

Afshan Niknafs¹, Masoud Gholamali Lavasani², Shokooh-Sadat Banijamali³, Gholamali Afrooz⁴

1. Ph.D. student, Department of Psychology, University of Tehran, Tehran, Iran

2. Associate Professor, Department of Psychology, University of Tehran, Tehran, Iran

3. Associate Professor, Department of Psychology, University of Tehran, Tehran, Iran

4. Distinguished Professor, Department of Psychology, University of Tehran, Tehran, Iran

Corresponding Author: Afshan Niknafs afshan.niknafs@ut.ac.ir

Abstract

Background: Creativity is a mental procedure composed of the ability of inventiveness and flexibility. The concept of creativity can lead to realizing the goals and health of human society.

Aims: This systematic review aimed to investigate the relationship between creativity and mental health.

Method: Databases of PubMed, Google Scholar, Scopus, SID, and magiran were systematically searched for specialized keywords to identify studies published between December 1980 and January 2022. Collected articles were entered into the Endnote software, and duplicate articles were removed. The quality of the obtained articles was evaluated using the Prisma guideline checklist, and nine articles were selected.

Results: Eight articles (88.8%) reported a direct and positive relationship between mental health and creativity, and one article (11.2%) reported a negative relationship between mental health and creativity.

Conclusions: The results indicate that increasing creativity guarantees mental health, and there is a significant relationship between creativity and mental health.

Keywords: mental health, creativity, systematic review, Prisma guideline checklist

However, if we want to define it, we can say: Creativity is a mental process composed of the power of initiative and flexibility.

Creativity encompasses every sense: sight, smell, taste, and perhaps even beyond the senses, many of which are invisible, nonverbal, and unconscious (Richard, 1990).

There are different opinions in psychology about the relationship between creativity and mental health. Humanistic approaches to psychology see creative thinking and action as a means to self-fulfillment. One of the components that may affect students' mental health is creative behaviors. There are many perspectives and definitions for studying creativity. Creativity has been defined differently by each researcher. Some examples of definitions of creativity from the perspective of researchers are: considered as motivation (Chris, 1952), diversity (Campbell,

Introduction

The relationship between creativity and mental health has long been considered by researchers. In outstanding creativity, innovative products and ideas have an advantage for humanity and can improve the chances of survival and improve the environment. (Richard, 1990).

Many empirical studies have been conducted on the relationship between creativity and mental health. (Juda, 1949; Jamison, 1989; Kaya, 2015; Andison, 1987). Creativity is a vague word, and it is difficult to define it precisely. Researchers have often depicted the characteristics of creative people instead of defining them.

articles with the Latin keyword creativity, mental health in databases such as Google Scholar, Pubmed, Scopus, and Persian keywords including creativity, mental health in databases such as SID, magician which was published from 1980 to 2022. Then, purposive sampling was performed based on the input criteria and quality evaluation of articles and Prism guideline checklist, and nine final articles were selected.

Selection Criteria for Criteria:

1. The full text of the article should be in English or Persian.
2. The full text of the article should be available.(Open access)
3. The relationship between creativity and mental health should be measured.
4. The year of publication of the article should be between 1980 and 2022.

Evaluate the quality of articles

First, a systematic search was performed with the keywords named in Latin or Persian in the mentioned databases. The obtained articles were entered into the Endnote software, and duplicate articles were removed. The obtained particles were reviewed based on the Prisma guideline checklist. Articles without inclusion criteria in this systematic review study were deleted. The next step was to review the titles of the articles and abstracts. Irrelevant titles were removed. Then the abstracts were reviewed, and abstracts unrelated to the research objectives were removed. In the last step, information about the final articles, including the author's name, year of publication, sample size, and research result, were recorded in Table 2. (Figure 1 shows how the studies entered the research).

1960: Simonton, 2011), Divergent thinking (Torrance, 1972), and the ability to discover new problems (Sixthmach, 1988), a complex phenomenon as the journey from an idea to a product (Mumford & Gostafson, 1988), as a distinct cognitive capacity. (Ward, Smith, & Finke, 1999), and the emergence of new ideas through experimentation. (Jones, Sujenova, Pedersen, & Townley, 2016).

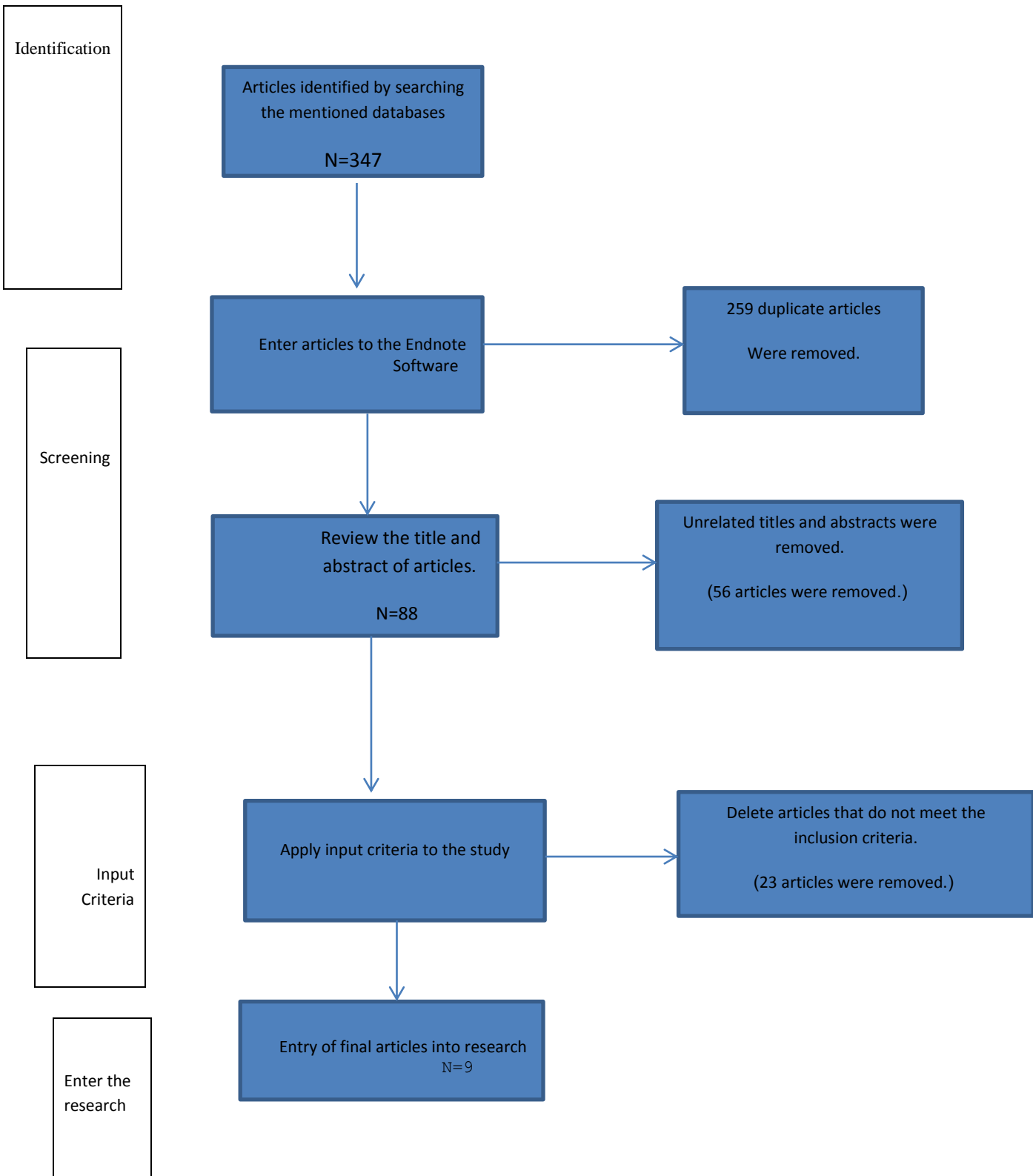
According to Plosnik (2018), mental health is one of the most critical issues in today's society that has been considered by researchers. Rogers defines creativity as follows: It seems the concept of creative power and health, being human, and self-realized Being is connected. Moreover, they can all become one concept. This means that creative power leads to realizing the goals and health of society and human beings. Ranko (2015). In recent decades, much research has been done on creativity, which shows that creativity can also be educated, and the best time to progress for creativity is between the ages of 2 and 15 years. There is also evidence that art and music reduce hospital stays in hospitalized patients. Studies show that patients with strong visualizations are discharged earlier and require less medication than their less creative counterparts. Evaluating artistic research can link the benefits of creativity to physical and mental health. (Kritzer, 2002).

The need to cultivate creativity is an important issue. By fostering the creativity of the people of the society, a percentage of the mental health of the society can be guaranteed. In order to reveal the relationship between mental health and creativity, this study was conducted to review research studies on this issue to clarify the relationship between mental health and creativity.

Method:

The present study is a systematic review study. The purpose of this study was to investigate the relationship between mental health and creativity. The research community was all

Figure 1: The process of entering studies into the project



Findings:

Nine selected articles were published in various prestigious journals. The *Frontiers in Psychiatry* had the highest number of participants with 517. Among these nine selective articles, five were in Persian, and the rest were English. The total number of participants in this study was 2333, of which 1200 (51.43%) were women, and 1133 (48.57%) were men.

Eight articles (88.8%) reported a direct and positive relationship between mental health and creativity, and one article (11.2%) reported a negative and inverse relationship between mental health and creativity. In the following, the results of these nine final articles are briefly stated. *Shahriari Ahmadi et al.(2012)* reported a direct relationship between creativity and mental health and that there is no difference between the creativity of girls and boys.

Khosravani & Gilani(2007) examined the relationship between creativity and mental health. Correlation coefficients in their research findings showed that more creative people perceived less anxiety, depression, and stress. Also, the results of their research regression analysis showed that only the initiative variable could predict depression and stress scores experienced.

On average, it can be concluded that increasing creativity guarantees mental health to a large extent. results showed a direct relationship between mental health and creativity of adolescents, and only depression is inversely related to creativity.

Moslemi et al. (1397) concluded that mental health is the best component of predicting creativity. *Delavar et al.(1398)* studied the role of mental health in the creative behaviors of students in Tehran; the results of their research indicated that one of the defining elements of students' creativity is their mental health. *Olugbile et al.(2011)* study concluded that engaging in creative activities helps mentally ill people recover from illness and that psychologists and psychiatrists also strongly emphasize that creative activity has a therapeutic effect on people with mental disorders. . *Rong Joon Zhao et al. 2022* stated in their research that there is a direct relationship between mental health and creativity.

Katrina Janice et al. (2022) examined the relationship between creativity and mental health and mental illness in female Visual artists and reported that mental health and creativity are directly related and that creativity and mental illness are inversely related. . *Fink et al. (2014)* in their study by brain imaging of schizotypal people concluded that in areas of the brain (frontal lobe) of these people, which is also associated with creativity is also active in the brain of schizotypal people. General information and specifications of the reviewed articles are given in Table 2.

Table2: Characteristics of selective articles

Results (Relationship between mental health & creativity)	Sample size	Title	Author's name/ Publication year
There is a positive relationship between mental health and creativity.	400	Comparison of mental health and creativity and gifted students.	Afrooz, Ahmadi davaei, Pasha Sharifi. 2012

There is a positive relationship between mental health and creativity.	248	Relation between mental health and creativity.	Khosravani, Guiliani. 2007
There is a positive relationship between mental health and creativity.	125	Investigating the relationship in adolescents.	Kalantarghoreishi, Einolahzadegan, Rezayikargar. 2012
There is a positive relationship between mental health and creativity.	150	Efficacy of mental health in creative behavior students in Tehran.	Parpanchi, Delavar, Farrokhi. 2019
There is a positive relationship between mental health and creativity.	303	Investigating the relationship between mental health and creativity in students at University.	Moslemi, Ghomi, Mohamadi. 2018
There is a positive relationship between mental health and creativity.	370	The relationship between creativity and mental health in the African setting.	Eligible, Zachariah. 2011

There is a positive relationship between mental health and creativity.	120	An updated evaluation of dichotomous link between creativity and mental health.	Zhao, Zhiwen, Wangb, Lu, Fang, Qiang, ing. 2022
There is a negative relationship between mental health and creativity.	517	Creativity and Schizotypal from neuroscience perspective.	Fink, Weber, Beneck, Reishofer, Ebner, Koschutnig, Weiss, EM. 2022
There is a positive relationship between mental health and creativity.	100	Interrelationships between artistic creativity and mental health among in eminent female Visual artists.	Ginis, Stewart, Kronborg. 2022

answer questions about the nature of mental health and its relationship to creativity. Richter & Dixon(2022) showed that, the relationship between creativity and mental health is of particular importance.

Shahriari Ahmadi et al. (2012) showed that mental health is higher in gifted students. However, there is no difference between the creativity of girls and boys, so it can be concluded that cultivating students' creativity can increase their intelligence and talent. In another study, Sheriff Qureshi et al.(2012)

Conclusion and Discussion:

This systematic study aimed to investigate the relationship between creativity and mental health. Among the results of these nine articles, eight articles (88.8%) reported a direct and positive relationship between mental health and creativity, and one article (11.2%) reported a negative and inverse relationship between mental health and creativity. Mental health and creativity have been controversial concepts for centuries. Researchers in various fields have tried to

or see things uniquely does not happen with change. It has to do with other more essential thinking qualities, such as flexibility, tolerance of ambiguity or unpredictability.

It can be said that there is a general agreement among researchers that creativity involves the production of new and valuable ideas and products. (Mumford, 2003). Hennessy and Amabil (2010) reported that creativity is where innovation takes place and has a positive association with mental health. Mumford & Gustofson (2002) mentioned two: a set of processes involved in creative work: (a) activities that lead to the production of ideas (idea generation) and (b) activities that are needed to implement Ideas (implementation) and identify an unresolved problem (conceptualization) require creativity and can be considered a creative task (Shkliarevsky,1988). In the past, creativity was known as the same as intelligence. It is now clear that the two factors are independent, although most creative people seem to have an IQ of 120 or higher. (Andreasen,1988). In most cases, the definition of creativity based on perceived originality has been a "creative" product.

Creativity is undoubtedly one of the most important human traits which have allowed us to evolve. Research has shown that creative people enjoy higher mental health. It is suggested that more research be done on ways to increase creativity because, by increasing creativity, mental health can be guaranteed to a large extent.

References

Abeedia, A., Majeed, M.(2019).Happiness and Spirituality: An Empirical Analysis using divine perspective in Pakistan. *Empirical economic review*,2(1), 117-151.

<https://ojs.umt.edu.pk/index.php/eer/article/view/146>

reported that conscientiousness, openness to experience, and agreeability with creativity have a direct, positive, and neurotic relationship with creativity inversely and significantly. Among the personality dimensions, only conscience and neuroticism can significantly predict creativity. Therefore, it can be concluded that by measuring creativity, one can also estimate the personality type.

Olugbileh and Zacharia(2011) reported that participating in creative activities helps prevent mental disorders. Fink (2013) found that some of the creative thoughts of people with schizotypal and schizophrenia can be the same as those of creative people. Fink's research has many opponents. Pavitra (2018) stated that there has always been speculation about creativity and its relationship to mental health.

Health has different aspects such as physical, mental, emotional, and mental health, which mental health is the most influential factor in the individual and social behaviors of each person.

Overall, the result of this study indicates that the vast majority of researchers pointed to the positive correlation of the relationship between creativity and mental health. Creativity is a complex subject to define. How do quantify the talent of a novelist or atomic scientist who creates new fields in his research? Langman's Active Study Dictionary, Adrian-Valence, et al.(2004) defines creativity as "involving the use of the imagination to generate new ideas or things." In his book Human Motivation, Robert E. Franken believes that in order to be creative, one must have mental health and see things in a new way or from a different perspective; among other things, you should be able to create new features or new alternatives. Creativity tests measure the number of alternatives that individuals can create and the uniqueness of those options. The ability to create alternatives

- Journal*, (3), 167- 178.
[https://doi.org/10.1016/s0277-9536\(99\)00390-1](https://doi.org/10.1016/s0277-9536(99)00390-1)
- Danner, EM.(2002). Very happy people. *Psychological Science*, 1(34), 22-28.
<https://doi.org/10.1111/1467-9280.00415>
- Devlin, B.(2006). The art of healing and knowing in cancer and palliative care. *Int J Palliative Med* 12(1), 16–19.
<https://doi.org/10.12968/ijpn.2006.12.1.20391>
- Diener, E. (1984). Subjective well-being. *Psychological Bulletin*, 95, 542–575.
<https://doi.org/10.1037/0033-2909.95.3.542>
- Richter, D., Dixon, J. (2022) Models of mental health problems: a quasi-systematic review of theoretical approaches. *Journal of Mental Health*,
<https://doi.org/10.1080/09638237.2021.2022638>
- Dixon, J., & Richter, D. (2018). Contemporary public perceptions of psychiatry: Some problems for mental health professions. *Social Theory & Health*, 16(4), 326–341.
<https://doi.org/10.1057/s41285-017-0059-9>
- Fatahi, R., Neshatdost, H., Rabie, M., Shrif, E.(2011). The relationship between happiness and spiritual tendencies in students of Isfahan University. *Islamic Studies and Psychology*, 5(8), 85-98. [In Persian].
<https://www.sid.ir/FileServer/JF/1000711394030401.pdf>
- Amabile, T., Barsade, S. G., Mueller, J. S., & Staw, B. M. (2005). Affect and creativity. *Administrative Science Quarterly*, 50, 367–403.
<https://doi.org/10.2189/asqu.2005.50.3.367>
- Andreasen, N. (1987). Creativity and Mental Illness; Prevalence rates in writers and their first degree relatives, *American Journal of Psychiatry*, (144), 1288–1292.
<https://doi.org/10.1176/ajp.144.10.1288>
- Argyle, M., Martin, M., Crossland, J. (1989). Happiness a function of personality and social encounters. *Recent advances in social psychology: An international perspective*. 189-203.
- Batey, M., Furnham, A. & Safiullina, X. (2010). Intelligence, general knowledge and personality as predictors of creativity. *Learning and Individual Differences*, Article in Press.
- Bokhari, J., Poursharifi, Sh.(1391). The role of depression and stress and happiness and social support in suicidal ideation. *The Journal of Psychology and Psychiatry*.(32),44-46.[In Persian].
https://ijpcp.iums.ac.ir/browse.php?a_id=1608&sid=1&slc_lang=en
- Courtenay, WH. (2000). Constructions of masculinity and their influence on men's well-being: a theory of gender and health. *Social science & medicine*, 50(10), 1385-401.
[https://doi.org/10.1016/s0277-9536\(99\)00390-1](https://doi.org/10.1016/s0277-9536(99)00390-1)
- Cropley, A.J. (1990). Creativity and mental health in everyday life. *Creativity Research*

Mapping interventions that promote mental health in the general population: a scoping

review of reviews *Prev. Med.*, (87), 70-80. PMID: 26896634

<https://doi.org/10.1016/j.ypmed.2016.02.022>

Jones, C., Svejenova, S., Pedersen, J. S., & Townley, B. (2016). Misfits, mavericks, and mainstreams: Drivers of innovation in the creative industries.

Organization Studies, (37), 751–768. doi:10.1177/0170840616647671.

Junge, MB .(1994). *A History of Art Therapy in the United States* Mundelein, IL: American Art

Therapy Association. <https://psycnet.apa.org/record/2012-03899-001> J.Am, Acad.(2019). *Child Adolesc. Psychiatry*, (58), 474-477

<https://doi.org/10.1016/j.jaac.2019.01.012>

Kalantarghoreishi, M., Einollahzadegan, M., Rezayikargar, F.(1391). Investigating the relation between

creativity and health in adolescents. *Innovation and creativity in humanities*.2(3), 45-59 .

[In Persian]. <https://www.sid.ir/en/Journal/ViewPaper.aspx?ID=344114>

Kampylis, P. G., & Valtanen, J. (2010). Redefining creativity—Analyzing definitions, collocations, and consequences. *The Journal of Creative Behavior*,

44, 191–214. <https://doi.org/10.1002/j.2162-6057.2010.tb01333>

Fink, A., Weber, B., Koschutnig, K., Benedek, M., Reishofer, G., Ebner, F., Papousek, I.,

Weiss, EM.(2014). Creativity and schizotypy from the neuroscience perspective. *Cogn Affect Behav Neurosci*, 14(1), 378-87. <https://doi.org/10.3758/s13415-013-0210-6>.

Ginis, K., Stewart, S.E. and Kronborg, L. (2022), *Inter-Relationships Between Artistic Creativity and*

Mental and Physical Illness in Eminent Female Visual Artists: A Qualitative Exploration. J

Creat Behav. <https://doi.org/10.1002/jocb.537>

Graham-Pole, J.(2000). *Illness and the Art of Creative Self-Expression* Oakland, CA: *New Harbinger Publication*.

Haghighi, J., Khoshkonesh, A., Shokrkon, H., Shehniyeylagh, M., Neysi, A.(2006). Relationship five-

factor model of personality happiness martyr Chamran university students. *Journal of*

Education and Psychology, 3(13), 163-188. [In Persian].

<https://www.sid.ir/en/Journal/ViewPaper.aspx?ID=103543>

Heydari, A., Koroshniya, M., Hosseyni, S.(2015). The relationship between spiritual intelligence and

happiness due to the psychological well-being. *Psychological methods and models*, 6(21), 73-85. [In Persian].

<https://www.sid.ir/FileServer/JF/1000711394030401.pdf>

J. Enns, M., Holmqvist, P., Wener, G., Halas, J., Rothney, A., Schultz, L., Goertzen, A. (2016).

M.C. Etchepareborda, A., Díaz-Lucero, M.J., Pascuale, L., Abad-Mas, R., Ruiz-Andrés.(2007).

Asperger's syndrome, little teachers: special skills Rev. *Neurol*, 44 (2), 44-47.

<https://pubmed.ncbi.nlm.nih.gov/17347944/>

Mumford, M. D., Gustafson, S. B. (1988). Creativity syndrome: Integration, application, and

innovation. *Psychological Bulletin*, 103, 27–43. <https://doi.org/10.1037/0033-2909.103.1.27>.

Nordlund, A., Pålsson, C., Holmberg, K., Lind, A. (2011). The Cognitive Assessment Battery

(CAB): a rapid test of cognitive domains *Int. Psychogeriatr*, (23), 1144-1151

<https://doi.org/10.1017/S1041610210002334>

Olugbile, O, and M P Zachariah. “The Relationship between Creativity and Mental Disorder in an

African Setting.” *Men's Sana monographs* vol. 9,1 (2011): 225-37.

<https://doi.org/10.4103/0973-1229.77439>

Fusar-Poli,P., de Pablo,G., Micheli, A., Dorian, H., Christoph, U. Correll, Kessing, L., Pfennig,

A., Bechdorf, A., Borgwardt, S., Arango, C., Amelsvoort, T.(2019).What is good mental

health? A scoping review, *European Neuropsychopharmacology*, (31), 33-46.

<https://doi.org/10.1016/j.euroneuro.2019.12.105>.

Parpanchi, M., Delavar, A.,Farrokhi, N.(1398).Efficacy of mental health in creative behavior of students in Tehran.*Innovation and creativity in humanities*.8(4),153-

Khosravani, S.,Gilani, B.(1386).Creativity and mental health. *Psychology and educational sciences*.37(2),65-83. [In Persian]

<https://www.sid.ir/fa/journal/ViewPaper.aspx?id=73678>.

Kreitzer, M., Snyder, M.(2002). Healing the heart: integrating complementary therapies and healing

practices into the care of cardiovascular patients. *Prog Cardiovasc Nurs*, 17(2), 73–80.

<https://pubmed.ncbi.nlm.nih.gov/11986540/>

Manwell, LA., Barbic, SP., Roberts K, Durisko, Z., Lee, C., Ware, E., McKenzie, K.(2015).

what is mental health? Evidence towards a new definition from a mixed-methods

multidisciplinary international survey. *BMJ Open*. 2;5(6):e007079.

<https://doi.org/10.1136/bmjopen-2014-007079>. PMID: 26038353

Manzaritavakoli, A., Eraghipor, N.(2010). The relationship between religiosity and happiness among

female students of Islamic Azad University Kerman academic year 1389-1388.

Educational Psychology. 2010; 6(19): 19-45.

<https://doi.org/10.22054/jep.2011.6025>

McNeil, T. Pre-birth and post-birth Influence on the relationship between creative ability and mental

illness, *Journal of Personality*. 1971;39:391–406. [PubMed] [Google Scholar]

<https://doi.org/10.1111/j.1467-6494.1971.tb00050.x>

Reynolds, MW., Nabors,L., Quinlan,A. (2000). The effectiveness of arts therapy: does it work? *Art Ther*, (17),207–213
<https://doi.org/10.1080/07421656.2000.10129706>

Ryan, R. M., & Deci, E. L. (2001). On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology*, (52), 141–166.

<https://doi.org/10.1146/annurev.psych.52.1.141>

Salmi, Z.,Ghomi, M.,Mohammadi, D.(1397). The Relationship between Creativity and Mental Health and Academic Achievement of Qom University of Medical Sciences Students. *Ahwaz Jundishapur Education Development Quarterly*. 9(4),229-242.[In Persian].

<https://www.sid.ir/en/journal/ViewPaper.aspx?id=664001>

Shahriari Ahmadi, M., Afrooz, Gh., Sharifi, H., Davayi, M. (1391). Comparison of Creativity and Mental Health of gifted and ordinary students. *Psychological research*. 4(15). [In Persian].

<https://www.sid.ir/fa/journal/ViewPaper.aspx?id=228372>

Shkliarevsky, G. (2017). Understanding the process of creation: A new approach. *Management: Journal of Sustainable Business and Management Solutions in Emerging Economies*, 22, 1–13.
<https://doi.org/10.7595/management.fon.2017.0021>

170. .[In Persian]

<https://www.sid.ir/fa/journal/ViewPaper.aspx?id=490118>

Peterson, C., Seligman, MEP. (2005). *Strength of character and wellbeing*. Oxford University Press: 554-564.

<https://doi.org/10.1521/jscp.23.5.603.50748>

Peyvastehnegar, M.,Dastjerdi, E.,Dehshiri, Gh.(1389). The relationship between creativity and mental well-being. *Journal of Behavior*.4(3),204-207 [In Persian].

<https://www.jehp.net/article.asp?issn=2277-9531;year=2020;volume=9;issue=1;spage=320;epage=320;aulast=Amiri>

531;year=2020;volume=9;issue=1;spage=320;epage=320;aulast=Amiri

PFusar, P. (2017). The Clinical High-Risk State for Psychosis (CHR-P). Version II. *Schizophr. Bull*, (43), 44-47.
<https://doi.org/10.1093/schbul/sbw158>

Porrahi M, Ahadi H, Asgari P, Bakhtiyaripor S.(2015). The effectiveness of Fordyce happiness

training on coping strategies, quality of life and optimism female students. *Sociology of Women*, 6(3), 25-40.

<https://www.sid.ir/en/journal/ViewPaper.aspx?ID=484234>

R.AVan, G., Van Tricht, M.W.J., Koeter, W., Van den Brink, A.H. (2018).

The use and helpfulness of self-management strategies for depression: The experiences of

patients *.PLoS One* p. 13.
<https://doi.org/10.1371/journal.pone.0209109>

Can. J. Public Health, 77 (1986), pp. 425-430

https://www.euro.who.int/__data/assets/pdf_file/0004/129532/Ottawa_Charter.pdf

World Health Organization

Prevention of mental disorders: Effective interventions and policy options: Summary report

World Health Organization, Geneva (2004)

<https://apps.who.int/iris/handle/10665/43027>

Zhao,R., Zhiwen, T., Lu,Fang.,Qiang, X., Wangbing, Sh.(2022). An Updated Evaluation of the Dichotomous Link Between Creativity and Mental Health. *Frontiers in Psychiatry*.12(1)

<https://doi.org/10.3389/fpsy.2022.781961>

Simonton, D.K. The Psychology of Creativity: A Historical Perspective .(2001). Available online:

[https://simonton.faculty.ucdavis.edu/wp-](https://simonton.faculty.ucdavis.edu/wp-content/uploads/sites/243/2015/08/HistoryCreativity.pdf)

[content/uploads/sites/243/2015/08/HistoryCreativity.pdf](https://simonton.faculty.ucdavis.edu/wp-content/uploads/sites/243/2015/08/HistoryCreativity.pdf)

Tan, C.-Y., Chuah, C., Lee, S.-T., Tan, C.-S.(2021). Being Creative Makes You Happier: The

Positive Effect of Creativity on Subjective Well-Being. *Int. J. Environ. Res. Public Health*,

(18), 7244. <https://doi.org/10.3390/ijerph18147244>

Torrance, E. P. (1966). Torrance test on creative thinking: Norms-

Technical Manual Research Edition. Princeton, NJ: Personnel Press.

Veenhoven, R. (2010).How universal is happiness. In: Diener E, Kahnemann D, Helliwell JF (eds).

<https://personal.eur.nl/veenhoven/Pub2010s/2010a-full.pdf>

Villani, D., Sorgente,A., Iannello,P.,Antonietti,A.(2019). The Role of Spirituality and Religiosity in

Subjective Well-Being of Individuals With Different Religious Status. *Front. Psychol.*

10:1525. <https://doi.org/10.3389/fpsyg.2019.0152>.

Ward, T. B., Smith, S. M., & Finke, R. A. (1999). Creative cognition. In R. J. Sternberg (Ed.),

Handbook of creativity (pp. 189–212). Cambridge, England: Cambridge University Press.

World Health Organization Ottawa charter for health promotion