

Research Paper

Protecting Students' Psychological Well-being During COVID-19 Pandemic: The Role of Optimism and Gratitude

Karim Sevari¹ *1. Department of Educational Psychology, Payame Noor University, Tehran, Iran.*

Citation Sevari K. Protecting Students' Psychological Well-being During COVID-19 Pandemic: The Role of Optimism and Gratitude. *Journal of Research & Health*. 2022; 12(5):331-338. <http://dx.doi.org/10.32598/JRH.12.5.2015.1>

doi <http://dx.doi.org/10.32598/JRH.12.5.2015.1>

**ABSTRACT**

Background: Psychological well-being is one of the issues of positive psychology that requires life and includes good mental health, high life satisfaction, a sense of meaning and purpose, and the ability to manage stress. Given that we live in the 21st Century and since the disease affected people's health, optimism and gratitude can play an important role in promoting psychological well-being, and investing in this issue can lead to good results.

Methods: The present research design is correlational. All male and female students in the fields of psychology, educational sciences, and counseling at Payame Noor University in Khuzestan province include the statistical population. Due to the prevalence of coronavirus and lack of face-to-face access to students and by designing a WhatsApp link, 393 people (301 girls and 92 boys) were selected voluntarily. To collect data, the questionnaires on optimism (2019); gratitude (2022), and psychological well-being (2022) were used. Questionnaires were distributed and collected through the WhatsApp link. Pearson correlation and regression were used for data analysis in SPSS software, version 27.

Results: The results showed that the mean of optimism and gratitude of girls is higher than boys, while the psychological well-being of boys is higher than girls. The results showed that there is a significant positive relationship between optimism and psychological well-being ($r=0.61$, $P=0.002$) and between gratitude and psychological well-being ($r=0.55$, $P<0.012$). Step-by-step regression showed that 42% of psychological well-being can be explained and predicted by optimism and gratitude.

Conclusion: Given that optimism and gratitude are effective in the amount of psychological well-being, it is possible to provide psychological interventions based on optimism and gratitude.

Keywords: Psychological well-being, Optimism, Gratitude

Article info:

Received: 12 May 2022

Accepted: 09 Jul 2022

Publish: 01 Sep 2022

*** Corresponding Author:**

Karim Sevari

Address: Department of Educational Psychology, Payam Noor University, Tehran, Iran.

Phone: +98 (916) 3138638

E-mail: k_sevari@pnu.ac.ir

1. Introduction

P psychological well-being is one of the topics of positive psychology that has received a lot of attention from researchers in recent years [1]. It is considered as a necessity of life including good mental health, high life satisfaction, a sense of meaning or knowing the purpose, and the ability to manage stress [2-4]. Psychological well-being is often thought of as a combination of positive emotional states such as happiness (hedonistic perspective) and performance with desirable effectiveness in individual and social life [5]. Psychological well-being refers to the meaning, purpose, and satisfaction of a person's life [6]. Researchers have emphasized the importance of psychological well-being in protecting against inflammation and reducing the risk of developing viruses [7]. At the individual level, it has been conclusively shown that impaired psychological well-being may have a detrimental effect on health, but positive psychological well-being may play a protective role in health [8]. Studies show that there are several factors associated with psychological well-being, two of which are mentioned.

A sense of gratitude has always been of interest to scholars, and all major religions have emphasized loyalty to gratitude, especially to God [9]. Gratitude shows how grateful people are for what they have in life, knowing that they have not been given it forever [10]. High levels of gratitude can have various benefits in different areas of life such as social welfare, mental health, physical health as well as mental and psychological well-being [11]. Research shows that gratitude is of the most beneficial positive personality traits [12] and is the mother of all virtues [13]. Some experts believe that gratitude can increase psychological well-being and work conflict [14]. Grateful people tend to experience fewer negative emotions such as jealousy, depression, and resentment [15]. Gratitude has one of the strongest links with well-being and life satisfaction, even compared to other positive virtues, such as optimism or compassion [16]. A study found that 38.4% of gratitude contributed to well-being [17].

Numerous studies with different groups have shown that the practice of appreciation increases the feeling of energy, alertness, vitality, success in achieving personal goals, better coping with stress, feeling more purposeful and flexible, strong and secure social relationships, strengthened sense of worth and confidence, and generosity and helpfulness [16]. The results also showed that gratitude is related to psychological well-

being, and grateful people are happier, healthier, more lovely, better able to cope with stress, more humble, less narcissistic, more forgiving, and more spiritual [18]. In one study, participants were asked to write a weekly thank-you note for three weeks. At the end of the exercise, the results showed that they were happier, less depressed, and more satisfied with their lives [19]. In this regard, psychological interventions showed appreciation that is associated with increased happiness, mental well-being, and reduced depressive symptoms one month after the intervention [20]. Studies showed that psychological well-being and the meaning of life can be enhanced through gratitude interventions [21]. Similarly, gratitude interventions were able to increase the rate of gratitude [22, 23]. Numerous new studies have shown that there is a relationship between gratitude and psychological well-being [24-26].

Optimism is one of the variables related to psychological well-being (the tendency for good experiences to occur in life), defined as a relatively stable personality trait that determines the type of behavior of a person with an optimistic direction about the future, evaluates stressful situations and situations that endanger psychological well-being with a positive outlook (having generalized expectations for positive outcomes), and uses these abilities to overcome problems [27]. Optimism, which is a general approach and orientation about life, means paying attention to the positive things in life and not dealing with the negative aspects of it. Optimism means looking forward to positive events in the future and a kind of cognitive structure that usually leads to motivation to strive [28]. In the same context, optimism helps a person to achieve more success in life, the work environment, and other areas of life than others' expectations.

Optimism activates the immune system, which makes a person less likely to develop infectious diseases and see a doctor less often. Optimists tend to view the causes of negative events as transient, situational, and external. Optimism is associated with psychological benefits such as less anxiety, mental well-being, life satisfaction, positive emotions, resilience, less depression and hopelessness, and a problem-oriented active acting style [29]. Optimism is a lasting trait when it relates to different contexts and affects psychological well-being [30]. Some experts believe that both optimism and resilience are major elements of psychological well-being [31]. Studies have shown that hope and optimism have a positive relationship with psychological well-being [32, 33]. In this regard, the results of several studies showed that there is a relationship between optimism and psychological well-being [34-40].

Given that the recent challenge posed by COVID-19 is related to psychological well-being [41], and consequently the physical and mental health aspects of students such as anxiety [42], distress [43], and lack of participation in learning activities [44] have changed their lifestyle and academic life [28], the government, educators, and psychologists need to maintain or promote psychological well-being [45]. Since psychological well-being has been considered by experts, we can pay attention to important protective issues such as appreciation and optimism, because gratitude and optimism help increase the psychological well-being of individuals [46]. On the other hand, empirical research has shown that high levels of gratitude are associated with mental well-being, life expectancy, hope, optimism, empathy, and expressing gratitude with positive emotions and increased social motivation [47]. In this regard, the results of studies show that increasing gratitude and compassion can help improve mental health and reduce the effects of stress and fear of COVID-19 to positively affect mental health [48].

To protect the psychological well-being of people, which is a source of their health, it is very important to pay attention to the mentioned issues. That is, due to the prevalence of COVID-19 disease, the physical and mental health of people, especially students, affected by this disease, and the need to face the effects of this disease led to the identification of protective factors against this disease in this study. In other words, the present study shows that during the outbreak of COVID-19, psychological well-being can be maintained through optimism and gratitude. On the other hand, since studies have shown that COVID-19 affected all aspects of human life, especially educational issues, to maintain academic motivation and improve psychological well-being, important and effective variables should be identified. Therefore, identifying such variables can minimize the vulnerability of individuals. This study investigated the role of protective factors (optimism and gratitude) in the psychological well-being of students.

2. Methods

Participants

The present research design is correlational. All male and female students in the fields of psychology, educational sciences, and counseling at Payame Noor University in Khuzestan province included the statistical population. Due to the prevalence of coronavirus and lack of face-to-face access to students and by designing a WhatsApp link, 393 people (301 girls and 92 boys) were selected voluntarily. The higher number of female students in this study is rooted in their choice of

Payame Noor University and their priority to the city of residence. On the other hand, the number of female students is higher than male students, and also the priority of many boys is to find a job and have an income rather than study.

To conduct the present study, the implementation and distribution of questionnaires were approved by the education department of the Payame Noor University of Ahvaz. In other words, because the present study was conducted during the COVID-19 outbreak and the classes were held virtually and direct access to the above students was not possible, 393 people were selected voluntarily. Male and female students of educational sciences, psychology, and counseling at the Payame Noor University of Khuzestan Province and satisfaction with participating in the research were the criteria for entering the study. Not completing the questionnaires and not specifying the gender on behalf of the subjects were the criteria for leaving this research. Questionnaires were distributed and collected through a WhatsApp link. It should be noted that the present study was conducted during the outbreak of COVID-19.

Research tools

The following questionnaires were used to measure the research variables:

Psychological well-being questionnaire: To measure psychological well-being, the 11-item psychological well-being questionnaire by Sevari [49] based on Tennant et al. [50] was used. The questionnaire is scored on a five-point Likert scale from strongly agree (5) to strongly disagree (1). The reliability of the items was assessed by Cronbach's alpha of 0.80 and its validity was confirmed by confirmatory factor analysis. In the present study, the reliability of this questionnaire was obtained at 0.87 through Cronbach alpha. Its validity was verified through confirmatory factor analysis (IFI=0.91, RMSEA=0.06).

Gratitude questionnaire: Gratitude was measured by Sevari's Questionnaire [51] obtained from 200 students of Payame Noor University of Ahvaz through exploratory factor analysis. The questionnaire consists of 3 items. Cronbach alpha reliability of all female questionnaires was 0.90. The validity of the questionnaire was confirmed through confirmatory factor analysis. The scoring method is based on a four-point Likert scale from strongly disagree (1 point) to strongly agree (4 points). The questionnaire's validity was verified through confirmatory factor analysis (IFI=0.93, RMSEA=0.07).

Optimism questionnaire: Optimism was measured by Sevari’s questionnaire [52] based on Millstein et al’s questionnaire (2019). The questionnaire consists of 7 items scored on a 5-point Likert scale from strongly disagree (1) to strongly agree (5). Its reliability was 0.74. Its validity was verified through confirmatory factor analysis (IFI=0.90, RMSEA=0.06).

Descriptive statistics (Mean±SD) and inferential statistics (Pearson correlation and multivariate regression) were used to analyze the data. The Kolmogorov-Smirnov test was used to check the normality of the data. Data analyses were conducted via SPSS software, version 27.

3. Results

Table 1 shows that female students (n=301, 77%) and male students (n=92, 23%) have the highest frequency

and percentage, respectively. The Mean±SD of students’ age was 22.42±2.52. Table 1 shows the demographic characteristics of the subjects.

Table 2 presents the Mean±SD and normality test of the data related to the research variables. Table 2 shows that the Mean±SD for the psychological well-being variable of female students is 38.79±10.07 and 38.90±10.06 for male students. The Mean±SD for the variable of optimism of female students is 25.59±6.33 and 23.84±7.28 for male students. The Mean±SD of the gratitude variable of female students is 10.29±2.45 and 9.80±2.69 for male students. The results also show that the mean score of female students in optimism and gratitude is higher than boys’ while the mean score of psychological well-being of male students is higher than girls’. In addition, the findings of the Kolmogorov-Smirnov test indicated that the data distribution was normal.

Table 1. Demographic characteristics of the subjects

| Variables | | No. | Mean±SD |
|-----------|------|-----|------------|
| Gender | Girl | 301 | 21.37±3.19 |
| | Boy | 92 | 23.48±2.34 |
| Age | | 393 | 22.42±2.52 |



Table 2. Descriptive indicators and results of Kolmogorov-Smirnov normality test related to research variables

| Variables | Gender | Mean±SD | K.S | |
|-----------|--------|-------------|------|------|
| | | | Z | Sig |
| PWB | Girls | 38.79±10.07 | 0.76 | 0.08 |
| | Boys | 38.90±10.06 | | |
| Optimism | Girls | 25.59±6.33 | 0.24 | 0.17 |
| | Boys | 23.84±7.28 | | |
| Gratitude | Girls | 10.29±2.45 | 0.29 | 0.10 |
| | Boys | 9.80±2.69 | | |

K.S: Kolmogorov-Smirnov.



Table 3. Pearson correlation coefficients of the research variables

| Variables | 1 | 2 | 3 |
|-----------|------|------|---|
| PWB | 1 | - | - |
| Optimism | 0.61 | 1 | - |
| Gratitude | 0.55 | 0.62 | 1 |

PWB: psychological well-being.



Table 4. Predicting psychological well-being based on optimism and gratitude

| Models | Variables | F | P | R | R ² | β | T | P |
|--------|-----------|--------|-------|------|----------------|------|-------|-------|
| 1 | Optimism | 231.79 | 0.000 | 0.61 | 0.37 | 0.61 | 15.22 | 0.000 |
| 2 | Optimism | 141.45 | 0.000 | 0.65 | 0.42 | 0.44 | 8.89 | 0.000 |
| | Gratitude | | | | | 0.28 | 5.69 | 0.000 |



Table 3 presents the findings related to the correlation between the variables. Table 3 shows that there is a significant positive correlation between optimism and psychological well-being ($r=0.61$, $P=0.03$) and between gratitude and psychological well-being ($r=0.55$, $P=0.001$).

Table 4 presents the findings of predicting psychological well-being through optimism and gratitude. Stepwise multiple regression analysis showed that optimism alone explains and predicts 37% of psychological well-being and the combination of optimism and gratitude predicts 42% of psychological well-being. Based on the results, the third hypothesis of the research is confirmed.

4. Discussion

As mentioned earlier, in the present study, the protective factors of students' psychological well-being during the corona outbreak were studied. In this regard, the results showed that there is a significant positive relationship between optimism and the psychological well-being of students. The results of this research are consistent with the results of Werdani [34], Garvin & AdhiPutri [35], Sánchez-Aragónm [36], Duy and Yildiz [37], Parveen et al. [38], Datu and Mateo [39], and Nguyen & Le [48]. The results of the study by Sabiq and Miftahuddin [53] showed that optimism is related to well-being. Chang and McBride [54] stated that optimism is related to positive results desired by a person such as good moral conditions, satisfying achievement, and the ability to solve problems that had been arisen. Optimism is a style of explanation and a positive mindset for the future when individuals think about the causes of an experience [55].

Explaining this finding, the optimism as a stable trait affects psychological well-being [30] and as a relatively stable personality trait determines the type of behavior. Optimism gives individuals an optimistic outlook on the future and positively evaluates stressful situations and situations that endanger their psychological well-being [27]. In other words, optimism helps a person to be more successful in life, work environment, and other areas of life and goes beyond others' expectations. In this regard,

some believe that optimistic people tend to evaluate the causes of negative events as transient, situational, and external. Optimism is also associated with less anxiety, higher mental well-being, higher life satisfaction, positive emotions, resilience, less depression and hopelessness, and a problem-oriented active style of acting [29]. Optimism leads people to find beliefs that empower them to make positive assessments of the social context and environment, and therefore expect positive results. In other words, confirming the results of this study, it has been observed that optimistic people have high mental and physical health and life satisfaction due to having a high sense of well-being and positive emotions, and positive evaluation of events around them [56]. It can also be said that optimism makes a person have a strong expectation that everything will be fine despite the obstacles and discouragements in life as a whole.

Some experts believe that both optimism and resilience are major elements of psychological well-being. It is necessary to mention that optimism is defined as a generalization of expectations that good results occur in all important areas of life. The results of a study by Strassle et al. showed that life is associated with psychological well-being, physical and mental health, and fewer mental disorders [57]. Optimism not only motivates action but also rewards behaviors that function adaptively. Optimists consider obstacles, failures, and unfortunate events to be temporary, situational, and external.

The results of the present study also showed that there is a significant positive relationship between gratitude and psychological well-being. The results of this research are in line with the results of Portocarrero et al. [25] and Yildirim et al. [26], Atad and Russo-Netzer [58], and Farzadi et al. [59]. Explaining this finding, grateful people are happier, healthier, more lovable, better able to cope with stress, more humble, less narcissistic, more forgiving, and more spiritual [18]. In this regard, it must be said experiences indicate that adolescents with more gratitude report more optimism, positive emotions, and more satisfaction with school life.

The psychological nature of gratitude has important implications for social functioning and individuals' well-being. Gratitude, as a positive emotional state, also increases a person's resilience and tolerance in life and helps his well-being. In addition, gratitude helps students to form and maintain communication in college to have more social communication. It can provide them with social support. As a result, such people in stressful situations will have less confusion and distress and they will experience higher well-being at university. It is worth mentioning that gratitude occurs when individuals perceive that they have obtained an intentional benefit from another person or a higher being [47].

Gratitude is an other-oriented emotion since people tend to feel grateful precisely when they receive a benefit provided by another person [54]. In part, gratitude is an emotion that occurs after people receive aid that is perceived as costly, valuable, and altruistic [60]. On this basis, several researchers have conceptualized gratitude as an emotion that is always directed toward appreciating the helpful actions of other people [61]. In one study, participants were asked to write a weekly thank-you note for three weeks. At the end of the exercise, the results showed that they were happier, less depressed, and more satisfied with their lives [19]. In this regard, psychological interventions showed that gratitude is associated with increased happiness, mental well-being, and reduced depressive symptoms one month after the intervention [20]. Czyzowska and Gurba [21] showed that psychological well-being and the meaning of life can be enhanced through gratitude interventions. Similarly, gratitude interventions were able to increase the rate of gratitude. Educators and parents must use valid experimental methods and interventions to increase college welfare for students to thrive in gratitude conditions. For example, students can be asked to participate in gratitude interventions such as counting blessings.

5. Conclusion

The results showed that girls' mean score of optimism and gratitude is higher than boys' mean score, while the psychological well-being of boys is higher than that of girls. The results showed that there is a significant positive relationship between optimism and gratitude with psychological well-being and 42% of psychological well-being can be explained and predicted through optimism and gratitude. Deletion of some questionnaires due to incomplete answers to questions and lack of face-to-face access to students due to the prevalence of COVID-19 were among the limitations of the present study. It is suggested that those in charge of education try to increase students' optimism as well as gratitude through training courses, which will help improve their psychological well-being.

Ethical Considerations

Compliance with ethical guidelines

This study has been approved by the specialized research group of psychology and educational sciences of the [Payame Noor University of Khuzestan](#). (Code: IR.KHZ.PNU.1401.1). All ethical principles were considered in this article. The participants were informed about the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information and were free to leave the study whenever they wished and if desired, the research results would be available to them.

Funding

This research did not receive any grant from funding agencies in the public, commercial, or non-profit sectors.

Authors' contributions

All authors equally contributed to preparing this article.

Conflict of interest

The authors declare no conflicts of interest.

References

- [1] Goodday SM, Geddes JR, Friend SH. Disrupting the power balance between doctors and patients in the digital era. *Lancet Digit Health*. 2021; 3(3):142-3. [DOI:10.1016/S2589-7500(21)00004-2]
- [2] Thomas RP. A review of the literature: Concept of wellbeing, religious practices and mental health in old age. *J Res Humanit Soc Sci*. 2022; 10(4):58-60. [Link]
- [3] Davies T. What is well-being? Definitions, types, and well-being skills. 2019; Retrieve from: www.psychologytoday.com. 201901. [Link]
- [4] Vlaev I, Elliott A. Financial well-being components: Social indicators research. 2013; 18(3): 1103-23. [DOI:10.1007/s11205-013-0462-0]
- [5] Deci EL, Ryan, RM. Hedonia, eudaimonia and well-being: An introduction. *J Happiness stud*. 2008; 9, 1-11. [DOI:10.1007/s10902-006-9018-1]
- [6] Ryff CD, Keyes CLM. The structure of psychological well-being revisited. *J Pers Soc Psychol*. 1995; 69:719-27. [DOI:10.1037/0022-3514.69.4.719] [PMID]

- [7] Vieira C, Franco OH, Restrepo C, Abel T. COVID-19: The forgotten priorities of the pandemic. *Maturitas*. 2020; 136:38-41. [DOI:10.1016/j.maturitas.2020.04.004.] [PMID] [PMCID]
- [8] Steptoe A, Deaton A, Stone AA. Subjective well-being, health, and aging. *The Lancet*. 2015; 385(9968):640-8. [DOI:10.1016/S0140-6736(13)61489-0]
- [9] Emmons RA, McCullough ME. Counting blessings versus bur dens: An experimental investigation of gratitude and subjective well-being in daily life. *J Pers Soc Psychol*. 2003; 84(2):377-89. [DOI:10.1037/0022-3514.84.2.377] [PMID]
- [10] Tomczyk J, Krejtz I, Kornacka M, Nezek JB. Grateful disposition promotes the well-being of women with breast cancer through adaptive coping international. *Int J Womens Health*. 2021; 13:579-90. [DOI:10.2147/IJWH.S294216] [PMID] [PMCID]
- [11] Lambert NM, Fincham FD, Braithwaite SR, Graham SM, Beach SR. Can prayer increase gratitude? *Psycholog Relig Spiritual*. 2009; 1(3):139-49. [DOI:10.1037/a0016731]
- [12] Emmons RA, Mishra A. Why gratitude enhances well-being: What we know, what we need to know. In: Sheldon MK, Kash dan TB, Steger MF, editors. *Designing Positive Psychology: Taking Stock and Moving Forward*. Oxford: Oxford University Press; 2011. [DOI:10.1093/acprof:oso/9780195373585.003.0016]
- [13] Allen S. The science of gratitude. Greater Good Science Center at UC Berkeley; 2018. [Link]
- [14] Loi NM, Ng DH. The Relationship between gratitude, wellbeing, spirituality, and experiencing meaningful work. *Psych*. 2021; 3:85-95. [DOI:10.3390/psych3020009]
- [15] Froh JJ, Emmons RA, Card NA, Bono G, Wilson JA. Gratitude and the reduced costs of materialism in adolescents. *J Happiness Stud*. 2011; 12:289-302 [DOI:10.1007/s10902-010-9195-9]
- [16] Emmons R. Gratitude works: A 21-day program for creating emotional prosperity. 2013; JoseyBass. [Link]
- [17] Tantomo EY, Suparman MY. Proceedings of the International Conference on Economics, Business, Social, and Humanities (ICEBSH 2021). *Adv Soc Sci Educ Human Res*. 2021; 570:1047-52. [Link]
- [18] Watkins P. Exploring how gratitude promotes human flourishing and meaning [Power Point Slides]. Retrieved Sept. 8. 2018 from: Tenth Biennial International Meaning Conference. [Link]
- [19] Toepfer SM, Cichy K, Peters P. Letters of gratitude: Further evidence for author benefits. *J Happiness Stud*. 2012; 13(1):187-201. [DOI:10.1007/s10902-011-9257-7]
- [20] Proyer RT, Gander F, Wellenzohn S, Ruch W. Positive psychology interventions in people aged 50-79 years: Long-term effects of placebo-controlled online interventions on well-being and depression. *Aging Ment Health*. 2014; 18(8):997-1005. [DOI:10.1080/136078 63.2014.899978.] [PMID]
- [21] Czyzowska N, Gurba E. Enhancing meaning in life and psychological well-being among a European cohort of young adults via a gratitude intervention. *Front Psychol*. 2022; 12:751081. [DOI:10.3389/fpsyg]
- [22] Koay SH, Ng, AT, Tham SK, Tan CS. Gratitude intervention on Instagram: An experimental study. *Psychol Stud*. 2020; 65:168-73. [DOI:10.1007/s12646-019-00547-6]
- [23] Baumsteiger R, Mangan S, Bronk KC, Bono G. An integrative intervention for cultivating gratitude among adolescents and young adults. *J Posit Psychol*. 2019; 14:807-19. [DOI:10.1080/17439760.2019.1579356]
- [24] Mead JP, Fisher Z, Tree, JJ, Wong PTP, Kemp AH. Protectors of wellbeing during the COVID-19 pandemic: Key roles for gratitude and tragic optimism in a UK-Based Cohort. *Front Psychol*. 2021; 12:647951. [DOI:10.3389/fpsyg.2021.647951] [PMID] [PMCID]
- [25] Portocarrero FF, Gonzalez K, Ekema-Agbaw M. A meta-analytic review of the relationship between dispositional gratitude and well-being. *Pers Individ Diff*. 2020; 164:110101. [DOI:10.1016/j.paid.2020.110101]
- [26] Yildirim M, Alshehri NA, Aziz IA. Does self-esteem mediate the relationship between gratitude and subjective well-being? *Polish Psychol Bull*. 2019; 50(2):149-56. [DOI:10.24425/ppb.2019.126030]
- [27] Scheier MF, Carver CS. Dispositional optimism and physical health: A long look back, a quick look forward. *Am Psychol*. 2018; 73(9):1082-94. [DOI:10.1037/amp0000384] [PMID] [PMCID]
- [28] Charles NE, Strong SJ, Burns LC, Bullerjahn MR, Serafine KM. Increased mood disorder symptoms, perceived stress, and alcohol use among college students during the COVID-19 pandemic. *Psychiatry Res*. 2021; 296:113706. [DOI:10.1016/j.psychres.2021.113706] [PMID] [PMCID]
- [29] Carver CS, Scheier MF, Segerstrom SC. Optimism. *Clin Psychol Rev*. 2010; 30(1):879-89. [DOI:10.1016/j.cpr.2010.01.006] [PMID] [PMCID]
- [30] Lee LO, Grodstein F, Trudel-Fitzgerald C, James P, Okuzono SS, Koga HK, et al. Optimism, daily stressors, and emotional well-being over two decades in a cohort of aging men. *J Gerontol B Psychol Sci Soc Sci*. 2022; 77(8):1373-83. [DOI:10.1093/geronb/gbac025] [PMID] [PMCID]
- [31] Chopik W, Kim ES, Smith J. An examination of dyadic changes in optimism and physical health over time. *Health Psychol*. 2018; 37(1):42-50. [DOI:10.1037/hea0000549] [PMID] [PMCID]
- [32] Conversano C, Rotondo A, Lensi E, Vista OD, Arpone F, Reda MA. Optimism and its impact on mental and physical well-being. *Clin Pract Epidemiol Ment Health*. 2010; 6:25-9. [DOI:10.2174/1745017901006010025] [PMID] [PMCID]
- [33] Karademas EC. Self-efficacy, social support and well-being: The mediating role of optimism. *Pers Individ Differ*. 2006; 40(6):1281-90. [DOI:10.1016/j.paid.2005.10.019]
- [34] Werdani YD. Spiritual well-being and optimism as contributing factors that influence the subjective well-being of cancer patients. *Indonesia J Cancer*. 2022; 16(1):16-21. [DOI:10.33371/ijoc.v16i1.819]
- [35] Garvin G, Adhi Putri A. The relationship between optimism and subjective well-being in COVID-19 pandemic context. *Adv Soc Sci Educ Human Res. Proceedings of the International Conference on Economics, Business, Social, and Humanities (ICEBSH)*, 2021; 57:80-3. [DOI:10.2991/assehr.k.210805.012]
- [36] Sánchez-Aragónm R. Individual well-being: The role of rumination, optimism, resilience and ability to receive support. *Cienc Psicol*. 2020; 14(2):e-2222. [DOI:10.22235/cp.v14i2.2222]

- [37] Duy B, Yildiz MA. The mediating role of self-esteem in the relationship between optimism and subjective well-being. *Curr Psychol*. 2019; 38, 1456-63. [DOI:10.1007/s12144-017-9698-1]
- [38] Parveen F, Maqbool S, Khan M. Optimism as predictor of psychological well being among adolescents. *Int J Indian Psychol*. 2016; 3(4):12-21. [DOI:10.25215/0304.154]
- [39] Datu JAD, Mateo NJ. Gratitude and life satisfaction among Filipino adolescents: The mediating role of meaning in life. *Int J Adv Counselling*. 2015; 37:198-206. [DOI:10.1007/s10447-015-9238-3]
- [40] Peng C, Yuan., Mao Y, Wang X, Ma J, Bonaiuto M. Expanding social, psychological, and physical indicators of urbanites' life satisfaction toward residential community: A structural equation modeling analysis. *Int J Environ Res Public Health*. 2021; 18:4. [DOI:10.3390/ijerph18010004] [PMID] [PMCID]
- [41] Huang Y, Zhao N. Generalized anxiety disorder, depressive symptoms and sleep quality during COVID-19 outbreak in China: A web-based cross-sectional survey. *Psychiatry Res*. 2020; 288:112954. [DOI:10.1016/j.psychres.2020.112954] [PMID] [PMCID]
- [42] Hasan N, Bao Y. Impact of e-Learning crack-up perception on psychological distress among college students during COVID-19 pandemic: A mediating role of fear of academic year loss. *Child Youth Serv Rev*. 2020; 118:105355. [DOI:10.1016/j.childyouth.2020.105355] [PMID] [PMCID]
- [43] Khlaif ZN, Salha S, Kouraichi B. Emergency remote learning during COVID-19 crisis: Students' engagement. *Educ Inf Technol*. 2021; 26:7033-55. [DOI:10.1007/s10639-021-10566-4] [PMID] [PMCID]
- [44] Wu Z, McGoogan JM. Characteristics of and important lessons from the coronavirus disease 2019 (COVID-19) outbreak in China: Summary of a report of 72 314 cases from the Chinese Center for Disease Control and Prevention. *J Am Med Assoc*. 2020; 323:1239-42. [DOI:10.1001/jama.2020.2648] [PMID]
- [45] Diener E, Lucas R, Oishi S. Subjective wellbeing: The science of happiness and life satisfaction. 2002; New York: Handbook of Positive Psychology. [Link]
- [46] Rash JA., Matsuba MK, Prkachin KM. Gratitude and well-being: Who benefits the most from a gratitude intervention? *Appl Psychol Health Well-Being*. 2011; 3(3):350-69. [DOI:10.1111/j.1758-0854.2011.01058.x]
- [47] Sheldon KM. How to increase and sustain positive emotion: The effects of expressing gratitude and visualizing best possible selves. *J Positive Psychol*. 2006; 1(2):73-82. [DOI:10.1080/17439760500510676]
- [48] Nguyen TM, Le GNH. The influence of COVID-19 stress on psychological well-being among Vietnamese adults: The role of self-compassion and gratitude. *Traumatology*. 2021; 27(1):86-97. [DOI:10.1037/trm0000295.]
- [49] Sevari K. Development and validation of psychological well-being questionnaire. [Under print].
- [50] Tennant R, Hiller L, Fishwick R, Platt S, Joseph S, Weich S, et al. The Warwick-Edinburgh mental well-being scale (WEM-WBS): Development and UK validation. *Health and Quality of Life Outcomes*. 2007; 5(63):1-13. [DOI:10.1186/1477-7525-5-63] [PMID] [PMCID]
- [51] Sevari K. Development and validation of gratitude questionnaire. [Under print].
- [52] Jia L, Tong EMW, Lee LN. Psychological gel to bind individuals' goal pursuit: Gratitude facilitates goal contagion. *Emotion*. 2014; 14(4):748-60. [DOI:10.1037/a0036407] [PMID]
- [53] Sabiq Z, Miftahuddin M. The Influence of Optimism, Social Support, and Demographic Factors On Subjective Wellbeing in Nurses. *Jurnal Pengukuran Psikologi Pendidikan Indonesia (JP3I)*. 2017; 6(2):183-96. [DOI:10.15408/jp3i.v6i2.9174]
- [54] Chang L, McBride-Chang C. The factor structure of the life orientation test. *Educ Psychol Measur*. 1996; 56(2). [DOI:10.1177/0013164496056002013 56(2): 325-329.]
- [55] Tagney JP, Stuewig J, Mashek DJ. What's moral about the self-conscious emotions? In: J. L. Tracy, R. W. Robins, & J. P. Tangney (Eds.), *The self-conscious emotions: Theory and research*. 2007; (pp. 21-37). New York, NY: The Guilford Press.
- [56] Seligman ME. *Learned optimism: How to change your mind and your life*. New York: Pocket Books, 2006.
- [57] Strassle CG, Mckee EA, Plant DD. Mental health and job and optimism as an indicator of psychological health. *J Pers Assess*. 1999; 5(3):190-9. [DOI:10.1207/s15327752JP720203] [PMID]
- [58] Atad O, Russo-Netzer P. The effect of gratitude on well-being: Should we prioritize positivity or meaning? *J Happiness Stud*. 2022; 2(3):50-62. [DOI:10.1007/s10902-021-00448-4]
- [59] Farzadi F, Behrozi N, Moradi A. [The causal relationship between adolescents' appreciation and perceived well-being in school: Mediation of satisfaction with basic psychological needs (autonomy, competence and communication) and social behavior (Persian)]. *Train Learn Res*. 2020; 16(2):1-12. [Link]
- [60] Wood AM, Maltby J, Stewart N, Linley PA, Joseph S. A social-cognitive model of trait and state levels of gratitude. *Emotion*. 2008; 8:281-90. [DOI:10.1037/1528-3542.8.2.281] [PMID]
- [61] McCullough ME, Kilpatrick SD, Emmons RA, Larson DB. Is gratitude amoral affect? *Psychol Bull*. 2001; 127:249-66. [DOI:10.1037/0033-2909.127.2.249] [PMID]