



## Predicting Mental Health and Illness Based on Religious Health Promoting Behaviors and Patience in Female Students During COVID-19 Pandemic

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### ABSTRACT

The aim of the present study was to examine symptoms that predict mental health and illness based on religious health promoting behaviors and patience during COVID-19 pandemic. A total of 395 university students completed the Mental Health Inventory (MHI-28), the Religious Health Promoting Behaviors Inventory (RHPBI), and the Patience Scale (PS). The results suggested a significantly positive relationship between religious health promoting behaviors and patience with symptoms of mental health. They also suggested a significantly negative relationship between religious health promoting behaviors and patience with symptoms of mental illness. The results confirmed the predictive role of religious health promoting behaviors and patience for symptoms of mental health and illness. Religious health promoting behaviors and patience could hence be considered as effective variables in mental health and reinforcing them can be an effective preventive act in the area of promoting mental health.

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## **Introduction**

### **Mental health and illness**

The COVID-19 pandemic has led to increased loneliness, social isolation, domestic violence, and feelings of fear, uncertainty, hopelessness, and anxiety (Sinha et al., 2020). Also, the levels of stress and depression in the population have seen an increase (Wang et al., 2020). An alarming number of young adults have showed clinically relevant post-traumatic stress disorder, depressive or anxiety symptoms in the COVID-19 pandemic crisis. At the same time, numerous individuals have been able to effectively cope with the situation (Chi et al., 2020). Studies show that anxiety, depression, and/or suicidal thoughts have reached an alarming rate in university students in the US. University students are reported to be among the most sensitive groups in the area of mental health during the pandemic of COVID-19 (Wang et al., 2020). Besides the effects of the current pandemic, mental disorders have been reported to be rising in colleges. One-fifth of college students have experienced 12 months of DSM-IV/ICD-10 disorders (Auerbach et al., 2016). Results of an important study by the WHO indicated that 35% of students had experienced at least one psychiatric disorder throughout their lifetime, and 31% had experienced at least one DSM-IV disorder during one year prior to the study (Auerbach et al., 2016). Therefore, research on the mental health of students and the factors affecting it has become especially important. The present study has been conducted in the context of mental health of university students.

Generally speaking, one of the most momentous psychological variables is mental health. According to the definition by the World Health Organization (WHO), mental health refers to a situation of well-being. In this state, an individual realizes his/her own abilities, copes with stress, works fruitfully,

and is able to contribute to the community (WHO, 2020). Mental illness is known to create the highest level of burden among all disabilities to individuals suffering from it (Vigo, Thornicroft, & Atun, 2016). The findings of a large study showed that all types of mental disorders were related to higher risks of a broad range of physical conditions, and hence, the prevention of mental disorders from occurring and addressing them when they inflict an individual plays a very important role in the well-being of the community (Scott et al., 2016). The anxiety of two thirds, and the depression of one third of university students has increased across the COVID-19 pandemic (Passali et al., 2020). One of the risk factors were female sex (Passali et al., 2020). As a result, research on the mental health of female students during the pandemic of COVID-19 has a particular importance. The present study investigated the important issue. Also, religion and its components are known as one of the factors promoting mental health and therefore preventing mental illness.

### **Religious health promoting behaviors and patience**

A large number of studies suggest that the behaviors and beliefs that are based on religion or spirituality are correlated with mental health (Bosco-Ruggiero, 2018). There is an association reported between an individual's religious practices and lower mental distress (Drakeford, 2019). Religion can be regarded as a way to have a purpose and meaning in life. Also, it can serve as a way to have a sense of well-being. Mental health has often coexisted with religious experiences (Papaleontiou-Louca, 2021). A new study suggests that religious cognitive behavioral therapy could improve psychological and general health (Alagheband et al., 2019). The findings of another study suggest that there are two kinds of religiousness: 1. Restful religiousness (which consists of doing prayers, attending religious ceremonies, and becoming educated in religion), and is reported to be correlated with well-being, and 2. Crisis religiousness (which only consists of praying without

following any other religious practices), and is reported to be correlated with poor health (Ahrenfeldt et al., 2017).

Many recent studies have indicated that religiosity could supply various health benefits (Regnerus, 2003). A longitudinal study suggests that stronger religious beliefs and behaviors are correlated with more active spiritual health and control (Clark, Williams, Huang, Roth, & Holt, 2018). Another study suggests that religion can support psychological adjustment to an illness by offering a sense of having a goal and meaning in life (Toledo, Ochoa, & Farias, 2020). Mental health and health behaviors are related (Hautekiet et al., 2020), and a variety of health outcomes have been associated with religious involvement. One such association is the influence of being religious in health behaviors (Halt, Roth, Huang, Park, & Clark, 2017). Psychological function, social support, physical and cognitive function, and health behaviors have been reported higher among more religious individuals (Al Zaben et al., 2015).

The public health effects of COVID-19 on psychological disorders and symptoms, addiction, and health behaviors are reported to be important and lingering (Zvolensky et al., 2020). Physical activity and nutrition are two health behaviors that are influenced by sociocultural factors (Haddad & Sarti, 2020). As one of health behaviors, physical activity is related to mental health. A recent comprehensive review has suggested that physical activity can decrease depressive symptoms and enhance cardiorespiratory fitness, and increase the quality of life in major depressive disorder patients (Stubbs et al., 2018). Another study indicated that having poor quality of sleep has a strong correlation with mental health (Ofstedal et al., 2019).

Psychological well-being can have an important role in adherence to health behaviors. There is an association between health behaviors and positive constructs such as pride, hope, and determination (Celano et al., 2020), which are related to the mental health. Because of the importance of health

promoting behaviors, the present study investigates the role of religious health promoting behaviors in predicting mental health.

Another predictor of mental health is patience (Zarei, 2015). The holy Quran has commanded those who are with faith to be patient (The Holy Quran, (3) Al-Emran, verse 200). The word patience has been used frequently in the holy Quran as an indication of its importance (Shamshiri & ShirvaniShiri, 2012). Patience as one of the most important moral and religious teachings has been mentioned 103 times in 93 verses of the holy Quran. In terms of frequency, next to the words such as resurrection and the hereafter, patience is one of the most frequent words in the holy Quran (Zare & Farmani, 2017). Patience is closely related to concepts such as Islam, faith, piety, certainty, determination, perseverance, kindness, and gratitude (Daneshi & Yari Dehnavi, 2013). The word patience as used in the holy Quran refers to several related concepts such as perseverance in obedience and worship of God, patience in face of disasters, perseverance in resisting sins, forbearance in relationships, not engaging in hasty and rushed behavior, steadfastness in achieving knowledge and seeking the truth, and perseverance in the path of the truth (Shamshiri & ShirvaniShiri, 2012).

Patience has been introduced as one of the main elements of faith in Islam. It can be regarded as a comprehensive term that encompasses all religious and moral values and virtues. This special human virtue appears to best demonstrate its impact in difficult situations. Restraint against adversity or adverse situations is considered as the main core of patience. Patience is expressed in the Quran and the narrations (Hadith) as endurance, perseverance, and striving to achieve deliverance and dignity which are regarded as the goals of the human creation (YousofiAmoli, & Akbari, 2012). The Quran and Hadith have named such benefits for patience as mental and physical health, success in worldly matters, turning problems into

opportunities to earn divine grace, having prayers answered, and entering the Paradise (IzadiTame, Borjali, Delaver, & Eskandari, 2009). Also, patience is recognized as a way of self-regulation that leads to mental balance (Ghobarian, Khodayarifard, Sholouhiyekta, 2000). Three main aspects of patience are emphasized in Islamic studies: 1) Patience in obedience of God; 2) Patience in sufferings and tribulations; and 3) Patience in avoidance of sin. Patience is associated with gratitude, contentment, forgiveness, satisfaction, and surrender to Allah (Rusdi, 2016).

Patience as a Quranic concept is closely related to psychology (Shamshiri & ShirvaniShiri, 2012). One of the important goals of contemporary psychology is to increase the psychological well-being, the realization of which is influenced by various factors. Religious orientation and patience are among the predictors of psychological well-being (Mirzaee Fandokht, Sadpour, Talebi, Salmabadi, 2017). In the past years, psychologists have introduced a new definition for patience as the ability to delay some desires in order to achieve them in better forms in the future (Dia & Fishbach, 2013). Today, researchers regard patience as the component behind the power to procrastinate the fulfillment of desires (Comer & Sekerka, 2014). In contemporary psychology, patience is synonymous to resilience, self-control, restraint in face of adversity, and several other attributes (Rusdi, 2016). Patience has also been considered as a religious-moral concept in recent psychological research (Farmani & Pani, 2015; Khormaei, Farmani, & Kalantari, 2015; Shokoofeh fard & Khormaei, 2012). For example, variables such as lack of faith in God and attachment to materialistic belongings are reported as negative predictors of patience, and belief in God is reported as a positive predictor of patience (Mahdiyar, Taghavi, & Goodarzi, 2016). There are also reports on a correlation between patience, mental health, and resilience. Patience can also protect against the negative effects of stress (Zarei, 2015). Patience has an effect on procrastination. Patience training

programs can reduce procrastination (Khormaei & Azadidehbidi, 2017). Cognitive styles of thinking are related to components of patience (Mahmoodi & Khormaei, 2015). Patience has a mediating role in the relationship between religiousness and hope. Religiosity combined with patience can increase the level of hope (Marhamati & Khormaei, 2018). Patience can increase resilience through promoting resistance to pressure. It has been suggested that patience be prescribed by the medical staff to patients in therapeutic interventions (Sharifi Saki et al., 2018). In a study with a longitudinal design that included an intervention focused on patience, the intervention proved to offer some benefits: The participants made progress in the traits of self-control and forgiveness. In addition, patience could predict mental (anxiety, resilience, satisfaction with life, positive and negative affect, and depression), physical, relational (perceived social support and communicative competence), and spiritual (spiritual involvement and attitudes) health outcomes (Lavelock, 2015).

Other studies have shown that individuals with higher IQs (Intelligence Quotient) possess more patience power than those with lower IQs (Chapman, Snowberg, Wang, & Camerer, 2018; Falk et al., 2018; Potrafk, 2019). This was explained by (Jones and podemska, 2010, quoted from Potrafk, 2019) as that intelligent individuals tend to be more patient because they maintain a long-term horizon in facing situations. There is also an association between patience and effective coping strategies. Resilience is the lowest component of patience which facilitates tolerance in face of frustrations (Qodariah & Puspitasari, 2016). There is a close association between patience, stamina, and strength (Sandroni, & Urgan, 2018). Patience can protect individuals from psychological disorders. It also has close relationships with several positive attributes (Rusdi, 2016) such as optimism, happiness (El Hafiz, Rozi,

Mundzir, & Pratiwi, 2013; quoted from Rusdi, 2016), and self-regulation (Zurah, 2015; quoted from Rusdi, 2016).

A new study showed that a low socioeconomic status in childhood can lead to higher willingness to wait for a primary choice, and can also predict experiencing less negative emotions in response to a delay (Thompson, Hamilton, & Banerji, 2020). Patience can increase cooperative behaviors and decrease competitiveness. It has been shown that groups that consist of more patient members show better cooperative synergy in problem solving situations (Espin, Correa, & Ruiz-Villaverde, 2019). A correlation has been established between patience and delays in receiving of gratifications (Barragan-Jason, Atance, Kopp, & Hopfensitz, 2018). Therefore, as one of the most important variables in psychology, patience deserves to be further studied (Rusdi, 2016). The present study investigates the role of patience in predicting mental health.

Generally speaking, not enough psychological research has been conducted on faith-based behavior in Muslim-majority countries to date (Koenig & Al Shohaib, 2014). Also, more research is needed to understand any causal relationship between mental health and health behaviors (Hoang et al., 2019), while the connecting link between religiousness and health benefits is also not well studied (George, Ellison, & Larson, 2002). On the other hand, with regard to the increasing rates of mental disorders in colleges around the world (Auerbach et al., 2018), the correlation between religious/spiritual belief and behaviors and mental health (Bosco-Ruggiero, 2018) needs to be examined for finding approaches that can help address the issue. Despite the important role that patience can potentially play in the ecosystem of faith, behavior, and mental health (Mahdiyar et al., 2016), little has been done in the form of a rigorous research study. The current study aims to address this need by examining the predicting symptoms of mental health and illness based on religious health promoting behaviors and patience. The study is conducted on



a population of female students. The research questions are as follows: (1) Can religious health promoting behaviors and patience predict mental health symptoms? (2) Can religious health promoting behaviors and patience predict mental illness symptoms?

## **Methods**

### **Participants and procedure**

A total of 395 female students of Alzahra University participated in this study. Their age ranged between 18 and 57 ( $M = 23$ ;  $SD = 6$ ). The educational background of participants was: 341 undergraduates (86.3%), 51 postgraduates (12.9%), and 3 doctoral students (.8%). Their marital status was so that 315 students were single (79.7%), and 80 were married (20.3%). The participants were asked to complete the Mental Health Inventory (MHI-28; Besharat, 2009), the Religious Health Promoting Behaviors Inventory (RHPBI; Besharat, & Hosseini, 2015), and the Patience Scale (PS; Khormaei, Farmani, & Soltani, 2014).

In order for the study to comply with the ethical principles of research, the participants were first given an explanation about the study and were instructed on how to complete the questionnaires. Before taking part in the study, the participants signed a consent form. They were also given assurances that their personal information would remain confidential. Participants were informed that they could withdraw from cooperation at any time during the study. The criteria of inclusion in the study included being a student, and willingness to participate in the research.

## **Measures**

### **Mental Health Inventory**

Mental health of the participants was measured using the Mental Health Inventory (MHI-28; Besharat, 2009). It is a short form of the 34-item Mental

Health Scale (Veit & Ware, 1983) with 28-items that assess 22 psychological well-being and psychological distress states in a 5-point Likert scale (1 = completely disagree to 5 = completely agree). The Cronbach's alpha coefficients were .94 and .91, respectively. The correlation coefficients between the scores were calculated with a 2-week interval for test-retest reliability. These coefficients for psychological well-being and psychological distress were  $r = .90$ ,  $r = .89$ , respectively. The concurrent validity of the MHI-28 was measured by the simultaneous implementation of the General Health Questionnaire (Goldberg, 1972, 1988). Correlation coefficients showed that a significantly negative correlation between the subjects' general score in the general health questionnaire and the sub-scale of psychological well-being ( $r = -.86$ ,  $p < .001$ ), and a significantly positive correlation with the sub scale of psychological distress ( $r = .89$ ,  $p < .001$ ) (Besharat, 2009). The Cronbach's alpha coefficient of the psychological well-being sub-scale for the present study was .89, and .90 for psychological distress.

## **Religious Health Promoting Behaviors Inventory**

The Religious Health Promoting Behaviors Inventory (RHPBI; Besharat, & Hosseini, 2015) is a 16-item measure that assesses the personal behaviors and habits based on religious beliefs of the individuals in everyday life on a 7-point Likert scale (0 = completely disagree to 6 = completely agree). The Cronbach's alpha coefficient for the questions was calculated for a sample of 93 individuals (.88). The convergent and differential validity of the RHPBI was calculated through the simultaneous implementation of the Spiritual Well-Being Scale (SWBS; Palutzin & Ellison, 1982) and the Mental Health Inventory (MHI; Besharat, 2009) in the sample. A significantly positive correlation between the scores of subjects in the RHPBI and SWBS and psychological well-being from .37 to .49 ( $p < .001$ ) and a negative correlation with psychological distress ( $-.33$ ,  $p < .001$ ) was revealed through the analysis.

These results confirm the convergent and differential validity of the RHPBI (Besharat & Hosseini, 2015). The Cronbach's alpha coefficient of the RHPBI for the present study was .72.

## **Patience Scale**

The patience of the participants was measured using the Patience Scale (PS; Khormaei, Farmani, & Soltani, 2014). The scale has been defined using the components of the concept of patience derived from the Quran and Hadith. It consists of 25 items with ratings based on 5-point Likert scale (1 = completely true to 5 = completely false) (Khormaei et al., 2014). In Khormaei et al.'s (2014) study, using the principal component method with varimax rotation, factor analysis of the data revealed the existence of 5 components including eminence, sufferance, satisfaction, perseverance, and halt. These 5 components accounted for 52% of the total variance of the sample. Cronbach's alpha coefficients ranged between 0.60 and 0.84 for subscales and 0.86 for the whole scale (Khormaei et al., 2014). Cronbach's alpha coefficient of the PS for the present study was .82.

## **Results**

In the present study, the predictive role of religious health promoting behaviors, and patience for the symptoms of mental health and illness was investigated using the standard multiple regression method. Outlier data were checked by examining marginal scores and screening of primary data. Data analysis showed that the default of outlier data control existed. In order to evaluate the normality of the variables, the Kolmogorov-Smirnov test was used. According to the value of the  $z$  statistics (ranged from .520 to 1.225), the normality assumption was observed ( $p > .05$ ).

**Table 1**

*Means, Standard Deviation, Observed Range, and Correlation matrix of research variables*

		Patience						RHPBI	Psyc. Dis	Psyc. Well
		Total	Halt	Perseverance	Satisfaction	Sufferance	Eminence			
Mental health	Psyc. Well	.47**	.20**	.37**	.31**	.34**	.43**	.24**	-	-
	Psyc. Dis	-.43**	-.19**	-.31**	-.44**	-.38**	-.22**	-.23**	-	
RHPBI		.50**	.32**	.30**	.27**	.32**	.49**	-		
Patience	Eminence	.68**	.40**	.44**	.27**	.38**	-			
	Sufferance	.65**	.29**	.29**	.39**	-				
	Satisfaction	.62**	.22**	.34**	-					
	Perseverance	.61**	.19**	-						
	Halt	.55**	-							
	Total	-								
	Mean			10.40	10.40	12.66	20.68	28.39	65.53	35.58
SD			2.25	2.90	3.05	4.23	5.06	11.80	11.03	9.99
Observed Range			4-15	3-15	5-28	9-35	16-40	21-98	7-62	19-79

\*\*  $p < .001$

Psyc. Well: Psychological Well-being

Psyc. Dis: Psychological Distress

RHPBI: Religious Health Promoting Behaviors Inventory

The results related to the common scatter between the observed variable are reported in Table 1. As is shown, linearity and multi-alignments hypotheses were observed. The correlation matrix indicates that there is a significantly positive relationship between religious health promoting behaviors and patience (including eminence, sufferance, satisfaction, perseverance, and halt) with mental health symptoms. Also, there is a significantly negative relationship between religious health promoting behaviors and patience with mental illness symptoms. As a result, a significant relationship exists between the criterion variables and the predictors, and the

relationship is not to the extent that multiple lines occur. Considering that all the assumptions have been observed, multiple simultaneous regression was used.

**Table 2**

*One-way analysis of variance for assessing the predicting role of religious health promoting behaviors and patience for mental health symptoms*

Model	SS	df	MS	f	p	R	R <sup>2</sup>	Adj. R <sup>2</sup>
regression	8794.15	2	4510.86			.47	.22	.21
residual	30599.05	392	99.32	56.33	.001			
Total	39393.2	394						

**Table 3**

*Differential correlation coefficient for assessing the predicting role of religious health promoting behaviors and patience for mental health symptoms*

Model		Unstandardized Coefficients		Standardized	t	p	Correlations		
		B	SE	Coefficients β			Zero-order	Partial	Part
1	Constant	17.93	3.28		5.45	.001			
	Patience e score	.39	.04	.47	9.13	.001	.47	.41	.40
	RHPBI score	.11	.04	.20	4.10	.019	.24	.21	.17

The first question of the study was whether the individual’s religious health promoting behaviors and patience predict their mental health? As Tables 2 and 3 show, the results suggest that according to the values of  $R = .47$  and  $R^2 = .22$ , and significance levels ( $p < .001$ ), the model was able to explain 22 % of mental health and illness. Also, the evaluation of the model with respect to the values ( $F = 56.33; p < .05$ ) confirmed the model’s predicting role for religious health promoting behaviors and patience among the participants. The strongest contribution to explaining the symptoms of mental health can be

provided by the value of patience ( $B = .39$ ). Also, investigating the contribution of each of the predictor variables in the total  $R^2$  value and the total variance of the criterion variable using the discriminant correlation coefficient shows that patience with a quadratic correlation of .40 and religious health promoting behaviors with a quadratic correlation of .21, respectively, have unique contributions of 16.5% and 4.4% in explaining the variance of mental health symptoms.

**Table 4.**

*One-way analysis of variance for assessing the predicting role of religious health promoting behaviors and patience for mental illness symptoms*

Model	SS	df	MS	f	p	R	R <sup>2</sup>	Adj. R <sup>2</sup>
regression	9021.72	2	4510.86			.43	.18	.18
residual	38934.35	392	99.32	45.41	.001			
Total	47956.07	394						

**Table 5.**

*Differential correlation coefficient for assessing the predicting role of religious health promoting behaviors and patience for mental illness symptoms*

Model		Unstandardized		Standardized	t	p	Correlations		
		Coefficients		Coefficients			Zero-order	Partial	Part
		B	SE	β					
1	Constant	69.08	3.70		18.62	.001			
	Patience e score	-.39	.04	-.42	-8.05	.001	-.43	-.37	-.36
	RHPBI score	-.01	.04	-.22	-.39	.697	-.23	-.18	-.17

The second question of the study was whether health promoting behaviors and patience can predict mental illness symptoms? As Tables 4 and 5 show,

the results suggest that according to the values of  $R = .43$  and  $R^2 = .18$ , the model was able to explain 18 % of the criterion variable, which is a significant percentage. Also, the evaluation of the model with respect to the values ( $F = 45.41$ ;  $p < .05$ ) confirmed the predictive role of religious health promoting behaviors and patience. The strongest contribution to explaining the symptoms of mental illness can be provided by the value of patience ( $B = .42$ ). Also, investigating the contribution of each of the predictor variables in the total  $R^2$  and the total variance of the criterion variable using the discriminant correlation coefficient shows that patience with a quadratic correlation of  $-.366$  and religious health promoting behaviors with a quadratic correlation coefficient of  $-.174$ , have unique contributions of 13.3% and 3% in explaining the variance of mental illness symptoms.

### **Discussion**

The findings suggest that there is an important positive relationship between religious health promoting behaviors and patience with mental health symptoms. In addition, there is an important negative relationship between religious health promoting behaviors and patience with mental illness symptoms. The questions of the study were whether religious health promoting behaviors and patience predict mental health/illness symptoms? The results revealed that the answer was positive.

The relationship between religious health promoting behaviors and mental health has been studied in only one study to the best of our knowledge (Besharat, Hosseini, Jahed, BahramiEhsan, & Dortaj, 2020), whereas the relationship between religious behaviors and mental health has been confirmed in several other studies (Alagheband et al., 2019; Bosco-Ruggiero, 2018; Papaleontiou-Louca, 2021). Also, the relationship between health promoting behaviors and mental health observed in the current study is consistent with the results of previous studies (Celano et al., 2020; Hautekiet

et al., 2020). Moreover, the relationship between patience and mental health demonstrated in our study is consistent with the results reported in earlier studies (Mirzaee Fandokht et al., 2017; Lavelock, 2015; Zarei, 2015).

Some explanations for the results are as follows: The predictive role of religious health promoting behaviors for mental health and illness can be explained through considering a collection of reported conjectures by other studies such as those that suggest religion could serve as a source of purpose, meaning, and a sense of well-being (Papaleontiou-Louca, 2021). Therefore, an individual who is more religious and shows more religious health promoting behaviors, has a purposive, and meaningful life, which can lead to an increase in their mental health.

Also, some studies establish a relationship between religious involvement and a variety of health outcomes. Being religious can affect health by impact on religious coping.

Religious beliefs have a protecting role against decrease in positive religious coping (Holt et al., 2017). As a result, one can expect that a more religious and healthier person, to have more mental health. Furthermore, as Besharat et al. (2020) found a relationship between religious lifestyle and mental and physical health, an individual who has more religious health promoting behaviors can also have more mental health (Besharat et al., 2020). In explaining the findings one can say that following religious instructions in the field of health, helps a person to have better physical health. In addition, having a healthy body promotes mental health.

Better psychological function, social support, physical and cognitive function, and health behaviors have been reported in more religious individuals (Al Zaben et al., 2015). As a result, a person who is more religious and has more religious health promoting behaviors has more mental health. Islamic lifestyle can promote health indicators through physical and psychological ways (Besharat et al., 2020). Some mediators of the relationship



between mental health and spirituality are physiological mechanisms, social network, social support, locus of control, and coping styles (Cornah, 2006).

The predictive role of patience in mental health and illness can also be explained as follows: Patience can facilitate self-regulation (Ghobarian et al., 2000); it is related to resilience so it can protect individuals against stress (Zarei, 2015); its combination with religiousness can increase the level of hope (Marhamati & Khormaei, 2018); it can improve self-control and forgiveness (Lavelock, 2015); it is correlated with effective coping strategies (Qodariah & Puspitasari, 2016); it is correlated with strength (Sandroni, & Urgun, 2018); and it is related to several positive variables (Rusdi, 2016) such as optimism, happiness (El Hafiz, Rozi, Mundzir, & Pratiwi, 2013), and self-regulation (Zurah, 2015). Therefore, a person who scores higher in the favorable variables mentioned above, can have more mental health.

## **Conclusion**

In general, it can be concluded that religious health promoting behaviors and patience are two very important variables in the field of mental health and their promotion can play a very effective role in increasing people's mental health. The present study faced some limitations. The participants were female university students. Therefore, generalizations of the findings should be done with caution. Future studies can investigate the variables in other samples and situations. Also, future studies could investigate the role of other important variables such as resilience, coping strategies, and social support that influence the individual's mental health during the COVID-19 pandemic. Religious health promoting behaviors and patience are novel variables in psychology and deserve further attention.

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## References

- Ahrenfeldt, L. J., Möller, S., Andersen-Ranberg, K., Vitved, A. R., Lindahl-Jacobsen, R., & Hvidt, N. C. (2017). Religiousness and health in Europe. *European Journal of Epidemiology*, *32*(10), 921-929.
- Al Zaben, F., Khalifa, D. A., Sehlo, M. G., Al Shohaib, S., Binzaqr, S. A., Badreg, A. M., ... & Koenig, H. G. (2015). Religious involvement and health in dialysis patients in Saudi Arabia. *Journal of religion and health*, *54*(2), 713-730.
- Alagheband, M., Mazloomi Mahmoodabad, S. S., Yassini Ardekani, S. M., Fallahzadeh, H., Rezaei, M. R., Yavari, M. R., & Moghadam, J. A. (2019). The impact of religious cognitive behavioural therapy (RCBT) on general health among Iranians. *Mental Health, Religion & Culture*, *22*(1), 73-81.
- Auerbach, R. P., Alonso, J., Axinn, W. G., Cuijpers, P., Ebert, D. D., Green, J. G., ... & Nock, M. K. (2016). Mental disorders among college students in the World Health Organization world mental health surveys. *Psychological medicine*, *46*(14), 2955-2970.
- Barragan-Jason, G., Atance, C., Kopp, L., & Hopfensitz, A. (2018). Two facets of patience in young children: Waiting with and without an explicit reward. *Journal of Experimental Child Psychology*, *171*, 14-30. <https://doi.org/10.1016/j.jecp.2018.01.018>
- Besharat, M. A. (2009). Reliability and validity of the 28-item model of mental health inventory in Iranian population. *Journal of Pezeshki Ghanooni*, *54*, 87-91. [Persian]
- Besharat, M. A., & Hosseini, S. A. (2015). *Preliminary study of psychometric properties of the Religious Health Promoting Behaviors Inventory*. Unpublished [Persian]
- Besharat, M. A., Hosseini, S. A., Jahed, H. A., BahramiEhsan, H., & Dortaj, F. (2020). Introduce a new intervention model based on Islamic lifestyle for decreasing the risk of cardiovascular disease in people at risk: A comparative study. *Journal of Religion and Health*. <https://doi.org/10.1007/s10943-020-00996-8>
- Bosco-Ruggiero, S. A. (2018). The relationship between Americans' spiritual/religious beliefs and behaviors and mental health: New evidence from the 2016 General Social

- Survey. *Journal of Spirituality in Mental Health*. doi:10.1080/19349637.2018.1515052
- Celano, C. M., Beale, E. E., Freedman, M. E., Mastromauro, C. A., Feig, E. H., Prak, E. R., & Huffman, J. C. (2020). Positive psychological constructs and health behavior adherence in heart failure: A qualitative research study. *Nursing & Health Sciences*.
- Chapman, J., Snowberg, E., Wang, S., & Camerer, C. (2018). Loss attitudes in the USA population: Evidence from dynamically optimized sequential experimentation (DOSE). *NBER Working Paper No 25072*.
- Chi, X., Becker, B., Yu, Q., Willeit, P., Jiao, C., Huang, L., ... & Veronese, N. (2020). Prevalence and psychosocial correlates of mental health outcomes among Chinese college students during the coronavirus disease (covid-19) pandemic. *Frontiers in Psychology, 11*, 803.
- Clark, E. M., Williams, B. R., Huang, J., Roth, D. L., & Holt, C. L. (2018). A Longitudinal Study of Religiosity, Spiritual Health Locus of Control, and Health Behaviors in a National Sample of African Americans. *Journal of Religion and Health, 57*(6), 2258-2278. doi:10.1007/s10943-017-0548-0
- Comer, D., & E. Sekerka, L. (2014). Taking time for patience in organizations. *Journal of Management Development, 33*(1), 6-23.
- Cornah, D. (2006). The impact of spirituality on mental health: A review of the literature. Mental Health Foundation. www.menralhealth.org.uk. ISBN 978-1-903645-85-7
- Daneshi, Gh., & Yari Dehnavi, M. (2013). Analysis of the concept of patience in the Qur'an and its consequences in moral education. National Conference on the Philosophy of Religious Education and Moral Education. *National Conference on Philosophy of Religious Education and Moral Education, 454-457*. [Persian]
- Dia, X., & Fishbach, A. (2013). When waiting to choose increases patience. *Organizational Behavior and Human Decision Processes, 121*(2), 256-266.
- Drakeford, L. (2019). Mental Health and the Role of Religious Context among Inmates in State and Federal Prisons: Results from a Multilevel Analysis. *Society and Mental Health, 9*(1), 51-73. doi:10.1177/2156869318763248
- El Hafiz, S., Rozi, F., Mundzir, I., & Pratiwi, L. (2013). Konstruksi Psikologi Kesabaran dan Perannya dalam Kebahagiaan Seseorang. Retrieved September 15, 2016, from Lemlit Uhamka: www.lemnit.uhamka.ac.id/files/RingkasanPenelitianSabar.pdf
- Espin, A. M., Correa, M., & Ruiz-Villaverde, A. (2019). Patience predicts cooperative synergy: The roles of ingroup bias and reciprocity. *Journal of Behavioral and Experimental Economics, 83*, 101465.

- Falk, A., Becker, A., Dohmen, T., Enke, B., Huffman, D., & Sunde, U. (2018). Global evidence on economic preferences. *Quarterly Journal of Economics*, 133(4), 1645-1692.
- Farmani, A., & Pani, A. (2015). Comparison of patience components in adolescents with major thalassemia with high and low mental health. *International Conference on Child and Adolescent Psychiatry*. Tehran: Shahid Beheshti University of Medical Sciences. [Persian]
- George, L. K., Ellison, C. G., & Larson, D. B. (2002). Explaining the relationships between religious involvement and health. *Psychological Inquiry*, 13(3), 190-200.  
doi:[https://doi.org/10.1207/S15327965PLI1303\\_04](https://doi.org/10.1207/S15327965PLI1303_04)
- Ghobarian, B., Khodayarifard, M., Sholouhiyekta, M. (2000). The relationship between God, anxiety, patience and hope in adverse conditions. *The first international conference in religion and mental health*. Iran Medical Sciences University, Tehran, Iran. [Persian].
- Haddad, M. R., & Sarti, F. M. (2020). Sociodemographic determinations of health behaviors among Brazilian adolescent: Trends in physical activity and food consumption, 2009-2015. *Appetite*, 144, 104454.
- Hautekiet, P., Nawrot, T. S., Demarest, S., Van der Heyden, J., Van Overmeire, I., De Clercq, E. M., & Saenen, N. D. (2020). Environment exposures and health behavior in association with mental health: A study design. *Archives of Public Health*, 78(1), 1-9.  
Dio: <https://doi.org/10.1186/s13690-020-00477-0>
- Hoang, D., Kristoffersen, I., & Li, I. W. (2019). All in the mind? Estimating the effect of mental health on health behaviours. *Social Science and Medicine*, 225, 69-84.  
doi:10.1016/j.socscimed.2019.02.017
- Holt, C. L., Roth, D. L., Huang, J., Park, C. L., & Clark, E. M. (2017). Longitudinal effects of religious involvement on religious coping and health behaviors in a national sample of African Americans. *Social Science and Medicine*, 187, 11-19.  
doi:10.1016/j.socscimed.2017.06.014
- IzadiTame, A., Borjali, A., Delaver, A., & Eskandari, H. (2009). Patience, theoretical foundations and social-mental functions. *Journal of Human Science*, 7(78), 103-130. [Persian]
- Khormaei, F., & Azadidehbidi, F. (2017). Explaining students' academic procrastination based on the religious-moral structure of patience. *Culture in The Islamic University*, 7(1), 77-92. [Persian]
- Khormaei, F., Farmani, A., & Kalantari, Sh. (2015). Comparison of patience components in patience with major depression, generalized anxiety disorder, and normal individuals. *Journal of Behavioral Science*, 9(1), 77-84. [Persian]

- Khormaei, F., Farmani, A., & Soltani, E. (2014). Construction and evaluation of psychometric properties of the Patience Scale. *Educational Measurement Quarterly*, 5(17), 83-99. [Persian]
- Koenig, H. G., & Al Shohaib, S. (2014). *Health and well-being in Islamic societies*: Springer.
- Lavelock, C. R. (2015). *Good things come to those who (peacefully) wait: Toward a theory of patience*. Virginia Commonwealth University.
- Mahdiyar, M., Taghavi, S. M., & Goodarzi, M. (2016). Predicting patience based on the worldly and divine attachment among the students. *Religion and health*, 4(2), 29-38. [Persian]
- Mahmoodi, T., & Khormaei, F. (2015). Cognitive styles of thinking and components of patience in students. *Contemporary Psychology*, 10, 1420-1422. [Persian]
- Marhamati, Z., & Khormaei, F. (2018). The relation of religiousness to hope: The mediating role of patience. *Developmental Psychology: Iranian Psychology*, 14(56), 435-444. [Persian]
- Mirzaee Fandokht, O., Sadpour, I., Talebi, A. M., Salmabadi, M. (2017). The role of religious orientation and patience with psychological wellbeing amongst nursing student qaeat. *Zanko Journal of Medical Science*, 47-55. [Persian]
- Oftedal, S., Kolt, G. S., Holliday, E. G., Stamatakis, E., Vandelandotte, C., Brown, W. J., & Duncan, M. J. (2019). Associations of health-behavior patterns, mental health and self-rated health. *Preventive Medicine*, 118, 295-303. doi:10.1016/j.ypmed.2018.11.01
- Passali, M. E., Mousa, D. P. V., Papadopoulou, E. V., Papadopoulou, K. K., Kaparounaki, C. K., Diakogiannis, I., & Fountoulakis, K. N. (2020). University students' changes in mental health status and determinants of behavior during the COVID-19 lockdown in Greece. *Psychiatry research*, 292, 113298.
- Papaleontiou-Louca, E. (2021). Effects of religion and faith in mental health. *New Ideas in Psychology*, 60, 100833.
- Potrafke, N. (2019). Risk aversion, patience and intelligence: Evidence based on macro data. *Economics letters*, 178, 116-120.
- Qodariah, S., & Puspitasari, N. R. (2016). Correlation between patience and coping strategy of mothers with autistic children. *International Journal of Social Science and Humanity*, 6(12), 919.
- Regnerus, M. D. (2003). Religion and positive adolescent outcomes: A review of research and theory. *Review of Religious Research*, 394-413.
- Rusdi, A. (2016). Patience in islamic psychology and its measurement. *In Paper Conference for the 3<sup>rd</sup> Inter-Islamic University Conference on Psychology*.

- Sandroni, A., & Urgun, C. (2018). When to confront: The role of patience. *American Economic Journal: Microeconomics*, 10(3), 219-252. <https://doi.org/10.1080/23748834.2020.1790251>
- Scott, K. M., Lim, C., Al-Hamzawi, A., Alonso, J., Bruffaerts, R., Caldas-de-Almeida, J. M., . . . De Jonge, P. (2016). Association of mental disorders with subsequent chronic physical conditions: world mental health surveys from 17 countries. *JAMA psychiatry*, 73(2), 150-158. doi:10.1001/jamapsychiatry.2015.2688
- Shamshiri, B., & ShirvaniShiri, A. (2012). The concept of patience in the Quran and its philosophical and educational implications. *Biquarterly Journal of Islamic Education*, 6(13), 79-98. [Persian]
- Sharifi Saki, Sh., Alipour, A., AghaYousefi, A. R., Mohammadi, M. R., Ghobari Bonab, B., & Anbiaee, R. (2018). Relationship of patience and self-compassion with depression in patience with breast cancer. *Iranian Quarterly Journal if Breast Disease*, 11(2), 37-45. [Persian]
- Shokoofeh fard, Sh., & Khormaei, F. (2012). Patience and the role of its components for predicting student's aggression. *Psychology and Religion*, 5(2), 99-112. [Persian]
- Sinha, M., Kumar, M., Zeitz, L., Collins, P. Y., Kumar, S., Fisher, S., ... & Atwoli, L. (2020). Towards mental health friendly cities during and after COVID-19. *Cities and Health*, 1-4.
- Stubbs, B., Vancampfort, D., Hallgren, M., Firth, J., Veronese, N., Solmi, M., . . . Gerber, M. (2018). EPA guidance on physical activity as a treatment for severe mental illness: a meta-review of the evidence and Position Statement from the European Psychiatric Association (EPA), supported by the International Organization of Physical Therapists in Mental Health (IOPTMH). *European Psychiatry*, 54, 124-144. doi: <https://doi.org/10.1016/j.eurpsy.2018.07.004>
- Thompson, D. V., Hamilton, R. W., & Banerji, I. (2020). The effect of childhood socioeconomic status on patience. *Organizational Behavior and Human Decision Processes*, 157, 85-102. <https://doi.org/10.1016/j.obhdp.2020.01.004>
- Toledo, G., Ochoa, C. Y., & Farias, A. J. (2020). Religion and spirituality: Their role in the psychosocial adjustment to breast cancer and subsequent symptoms management of adjuvant endocrine therapy. *Supportive Care in Cancer*, 1-8.
- Veit, C. T., & Ware, J. E. (1983). The structure of psychological distress and well-being in general population. *Journal of Consulting and Clinical Psychology*, 51, 730-742.
- Vigo, D., Thornicroft, G., & Atun, R. (2016). Estimating the true global

- burden of mental illness. *The Lancet Psychiatry*, 3(2), 171-178.
- Wang, X., Hegde, S., Son, C., Keller, B., Smith, A., & Sasangohar, F. (2020). Investigating mental health of US college students during the covid-19 pandemic. Cross-sectional survey study. *Journal of Medical Internet Research*, 22(9), e22817. doi: 10.2196/22817
- World Health Organization (2020). Mental health: Strengthening our response. <https://www.who.int/news-room/fact-sheets/detail/mental-health-strengthening-our-response>
- YousofiAmoli, H., & Akbari, Z. (2012). The semantics of the word patience with emphasis in the semantic network of this word in the Quran. *Journal of the Book of Ghayem*, 2(6), 51-74. [Persian]
- Zare, H., & Farmani, A. (2017). The role of patience components in predicting learning approaches mediated by cognitive flexibility. *Quarterly of Educational Psychology*, 13(45), 1-20. [Persian]
- Zarei, E. (2015). Patience and resilience as predictors of mental health in Hormozgan students. *First National Conference on Islam and Mental Health*, 1-14. [Persian]
- Zur'ah, U. (2015). *Hubungan Sabar dengan Regulasi Diri pada Penghafal al-Qur'an*. Yogyakarta: Skripsi Program Studi Psikologi Fakultas Ilmu Sosial dan Humaniora UIN Sunan Kalijaga.
- Zvolensky, M. J., Garey, L., Rogers, A. H., Schmidt, N. B., Vujanovic, A. A., Storch, E. A., ... & O'Cleiring, C. (2020). Psychological, addictive, and health behavior implications of the COVID-19 pandemic. *Behavior Research and Therapy*, 134, 103715.