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Relationship between aggression and individual resilience with the mediating role of spirituality in academic students – A path analysis

Yasaman Zahra Sadeghifard, Yousef Veisani, Fathola Mohamadian¹, Akbar Azizifar², Sakineh Naghipour³, Sehat Aibod

Abstract:

BACKGROUND: The importance of spirituality and spiritual growth in humans has been increasingly taken to attention by psychologists and mental health professionals. In this study, we aimed to investigate the relationship between the tendency to aggression and individual resilience also considering the role of mediator of spirituality in academic students by path analysis.

MATERIALS AND METHODS: A cross-sectional study was conducted using structural equation method (SEM). The target population consisted all of undergraduate academic students in Ilam, Iran University of Applied Sciences, in 2018. Participants included 200 people whom were selected by stratified random sampling. Data collection tools were demographic, Buss and Perry aggression, spirituality assessment, and resiliency of Connor and Davidson questionnaire. In this study, bivariate analysis was used to determine the directionality correlation between the study variables.

RESULTS: The results showed that there was a significant and positive correlation between spirituality and resilience ($r = 154\%$ $r = 83\%$). Furthermore, there was a negative and nonsignificant relationship between aggression with resiliency ($r = -122\%$ $P = 101$). In addition, there was no significant correlation between the aggression and spirituality ($r = 0.05\%$, $P = 0.942$). The results of SEM showed that spirituality and aggression can predict about 20% of the variations in the degree of resilience in academic students. Accordingly, the results of SEM spirituality in an indirect path reduce the aggression and thus increase the resilience ($r = 0.102$).

CONCLUSION: The results of this study showed the effect of spirituality on increasing the level of resilience and also positive mediator role of spirituality between aggression and resiliency.

Keywords:

Aggression, path analysis, resilience, spirituality, students

Introduction

According to the definition, spirituality is “the quality of being concerned with the human spirit or soul as opposed to material or physical things.”^[1] Therefore, all humans, both sick and nonsick, need to improve this existential dimension. Spirituality can be meaningful suffering and adaptation to crises in psychological patients.^[2,3] Psychologists and mental health

professionals recently taken to attention for spirituality and spiritual growth in the past few decades, the development of psychology and the dynamic nature of modern societies caused the creation of new needs and rise of demands of the new material.^[4] In the new findings in meta-analysis studies, researchers have shown that spirituality and related concepts (such as religion, beliefs, and religious practices) have a positive relationship with human health. For

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Psychosocial Injuries
Research Center, Ilam
University of Medical
Sciences, ¹Department of
Psychology, Psychosocial
Injuries Research Center,
Ilam University of Medical
Sciences, ²Department
of Psycholinguistics,
School of Medicine, Ilam
University of Medical
Sciences, ³Department of
Education, Ilam Province,
Ilam, Iran

Address for correspondence:

Mr. Sehat Aibod,
Psychosocial Injuries
Research Center, Ilam
University of Medical
Sciences, Ilam, Iran.
E-mail: s_i1354@yahoo.
com

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example, it observed that spirituality has been associated with low levels of depression, antisocial behaviors, and suicide.^[5]

Today, the scientific research has been conducted to obtain the spirituality and its relationship with other psychological and sociological structures.^[6] According to one study that was carried out in recent years, one of the variables related to spirituality is resilience,^[7] resilience or the ability to recover and return to a state of emergency in encounter to terrible conditions of life span.^[8] This structure helps people to successfully adapt in the unfavorable conditions of life.^[9] Resilience had a dynamic nature, in which its intensity varies from time to time.^[10] Resilience conforms persons with positive growth, adaptability, and achievement of a level of equilibrium after the disturbance condition in their life. Hence, resilience is a successful adaptation when persons meet with stresses and problems. This definition of resilience expresses the activation and structural dynamics that require a complex interaction between risk factors and protectors. The early theories on resilience emphasized the characteristics that are associated with positive outcomes encounter to life disorientation, aggression, and miseries.^[11] Clinical psychologists have recently investigated the patterns of resilience under conditions of disability, disaster, depression, aggression, and pain. The results of these studies show positive, constructive, and protective effects of resilience in successful coping and growing adaptation to stressful living conditions.^[12] Greeff and Loubser,^[13] in their study on South African families, point to the role of spirituality as a trait and resilience. Aggression and anger are effective indicators in mental health that are related to spirituality.^[14] Aggression is committed by have any verbal or nonverbal behavior directly or indirectly intended to harm other's physical or mental well-being.^[15] Furthermore, it can be said that aggression is any type of action that is intended to harm others.^[16] Accordingly, those who are more spiritual and more connected with god have a higher mental health.^[17,18]

Considering that spirituality forms the person's behaviors in the society and as a set of abilities to utilize religious sources in solving life problems; spirituality in the lives of individuals, especially students, and their effect on resilience in dealing with life's issues and problems, and various aspects of mental health such as anger and aggression, are of particular importance. Therefore, in this study, we aimed to investigate the relationship between the tendency to aggression and individual resilience by considering the role of mediator of spirituality in academic students.

Materials and Methods

This study is a cross-sectional study that was conducted by structural equation method (SEM). The target

populations included 1345 students who were academic undergraduate students in Ilam, Iran University of Applied Sciences in 2018. The sample size was calculated using the formula for estimate mean \pm standard deviation (SD) in fixed population, 200 people (81 girls and 99 boys) were enrolled in our study. Stratified random sampling was used to select the participants in the study. To observe ethical principles, the participants were assured of the confidentiality of information, so that they completed the questionnaire with complete satisfaction in a quiet environment without mentioning personal characteristics. The study was approved by the Ethical Committee in Ilam University of Medical Sciences.

Data collection tools

Spirituality Assessment Inventory

This questionnaire is a research tool to examine the evolutionary experiences focused on one or both of the quality factors of communication with God and knowledge of God. This tool is used to investigate the effect of spiritual orientation by Hall *et al.*, in 1996. To our knowledge, this instrument has been used for more than thirty experimental studies.^[19,20] This questionnaire consists of two main dimensions (quality of communication with God and awareness of God) and six subscales including awareness, real acceptance, despair, magnification, instability, and influence control. The quality dimension of this tool is designed to measure the difference in levels of communication with God and is based on the theory of thematic communication. The questionnaire is an attempt to conceptualize what is meant by the traditional concept of "spiritual transformation" and how this concept can turn into a "spiritual evolution." The quality of communication with God in this questionnaire has been measured by four subscales including disappointment, real acceptance, magnification, and instability. One of the hypotheses of this questionnaire is that those who earned at least one score in all questions are assumed to have a pattern of denial defense mechanism. The influence control subscale added in the latest version Spirituality Assessment Inventory (SAI). The items in this subscale measured spiritual behaviors and attitudes of subjects with an exaggerated amount, and it is assumed that often religious people did not enough spiritual experience. In the new version of the SAI, there are a total of 54 items available, in which only seven items are in two parts and the remaining 40 are in one part. Cronbach's alpha coefficient for intercorrelation of knowledge was 0.95, disappointment 0.90, real acceptance 0.83, magnification 0.73, instability 0.84, and influence control 0.77.^[21]

Buss and Perry Aggression Questionnaire

Aggression Questionnaire (AQ) is a self-report instrument that consists of 29 phrases and 4 subscales,

which include physical aggression (PA – 9 items), verbal aggression (VA 5 items), anger (A 7 items), and hostility (H 8 items). Participants rated their response to each item of the AQ on a five-point scale that ranged from 1 (extremely uncharacteristic of me) to 5 (extremely characteristic of me). The total score for aggression is obtained with the total score of subscales.

The reliability and validity of AQ was investigated and approved. Results of the retest coefficient for four subscales (with a 9-week interval) were 0.80–0.72, and the correlation between the four subscales was 0.38–0.49. The internal validity of AQ by Cronbach's alpha coefficient for subscales, including PA 0.82, VA 0.81, anger 0.83, and hostility 0.80, was shown in the previous section.^[22]

Connor and Davidson Resilience Scale (2003)

The Connor and Davidson Resilience Scale (CD-RIS) has 25 items and aims to measure the resilience in different individuals. The response spectrum is 5° Likert (totally false = 0 to quite right = 4). The total score 0–100 of CD-RIS is obtained from sum scores in all items. The higher score was showed a better resilience in participants. The cutpoint for CD-RIS is 50. Scores above 50 indicate resilience in tried individuals; the results of the preliminary study regarding the psychometric properties of this scale have confirmed its reliability and validity,^[23] and in Samani *et al.* study that conducted in university students, the reliability was 0.93, also validity was tested by test creators in various normal and at-risk groups.^[24]

Statistical analysis

In this study, bivariate analysis was used to determine the directionality correlation between the study variables by SPSS version 20.0 (IBM Corp., Armonk, NY, USA). Afterward, path analysis was performed on the research model. The path analysis and SEM were conducted using SmartPLS (GmbH Boenningstedt, Hamburg, Germany) software.

Results

Of the total 182 (response rate was 0.91) participants in the study, the highest participation rate was observed in men – 108 (59.3%), 18–28 years ages group – 75 (41.2%), undergraduate degree – 94 (51.6%), and state occupation – 75 (41.2%) [Table 1].

The mean ± SD aggression in students was 80.71 ± 19.44. The mean verbal aberration was 14.36 ± 27.44 that was less than PA and anger and hostility. The mean general spiritual health in students was 182.72 ± 31.64, among subscales the awareness of God had the highest score 73.21 ± 14.83 and disappointments 19.99 ± 7.33 have had the lowest score. The mean ± SD of resiliency in students was 66.84 ± 18.16 [Table 2].

Table 1: Frequency distribution and percentage of participants' demographic variables

Variables	Frequency (%)
Gender	
Male	108 (59.3)
Female	74 (40.7)
Age	
18-28	75 (41.2)
29-38	61 (33.5)
39-49	30 (16.5)
Above 49	16 (8.8)
Education	
Assistant	88 (48.4)
Masters	94 (51.6)
Job	
Free	40 (22)
Governmental	75 (41.2)
Unemployed	67 (36.8)

Table 2: Mean and standard deviation of aggression, spiritual, and resilient dimensions

Source	Mean±SD	Minimum-maximum
Aggression		
Physical aggression	22.3±7.81	9-41
Verbal aggression	14.36±4.27	5-44
Anger	21.63±6.92	7-78
Hostility	22.30±6.07	8-35
Spiritual health		
Awareness of god	73.21±14.83	32-128
Realistic acceptance	25.40±7.60	7-85
Disappointment	17.83±7.81	7-35
Grandiosity	19.94±6.05	7-35
Impression management	28.03±7.33	11-61
Instability	18.36±7.36	5-97
Resilient	66.84±18.16	1-100

SD=Standard deviation

Based on the results, spiritual well-being had a positive and significant relationship with resilience ($r = 0.154$, $P = 0.038$, $n = 182$). In addition, the level of aggression has a negative and nonsignificant relationship with resiliency ($r = -0.122$, $P = 0.101$, $n = 181$). Furthermore, there was no significant relationship between the mean of aggression and spiritual well-being ($r = 0.005$, $P = 0.942$, $n = 181$) [Table 3].

According to our results, spirituality and aggression can predict about 20% of the changes in resilience in academic students. The results of the model confirm the relationship between spirituality and resilience. Based on the final model, the increase in the spirituality index has led to an increase in resilience ($r = 0.448$), whereas the aggression reduced the resilience in academic student ($r = -0.015$) [Figure 1].

The most important point of this study was to examine the mediating role of spirituality in increasing resilience

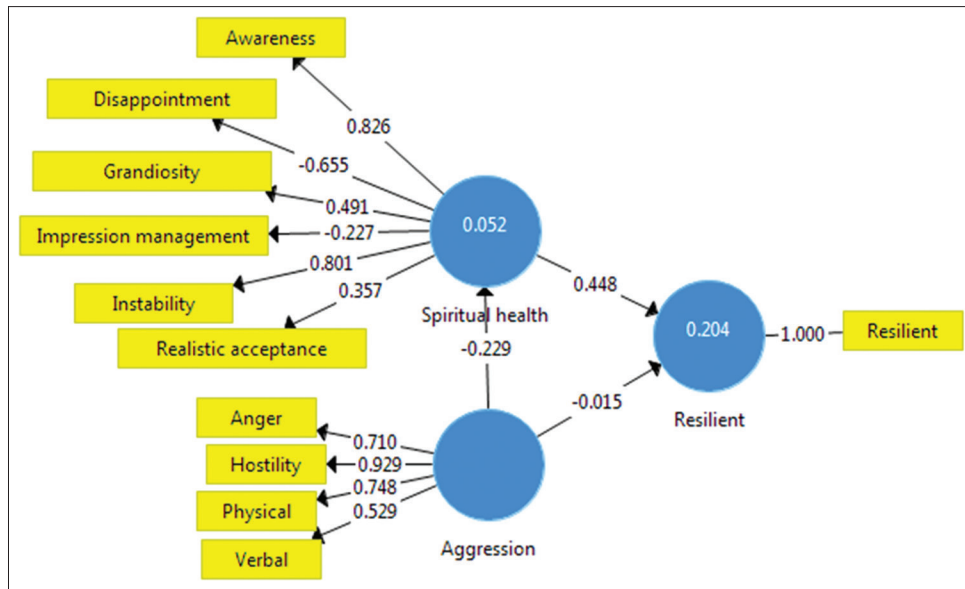


Figure 1: Model of the intermediate role of spirituality in the relationship between aggression and resilience in students

Table 3: Pearson’s correlation between aggression, spiritual, and resilient dimensions

Source	Spiritual health	Aggression	Resilient
Spiritual health			
Pearson’s correlation	1	0.005	0.154*
Significant (two tailed)		0.942	0.038
<i>n</i>	182	181	182
Aggression			
Pearson’s correlation	0.005	1	-0.122
Significant (two tailed)	0.942		0.101
<i>n</i>	181	181	181
Resilient			
Pearson’s correlation	0.154*	-0.122	1
Significant (two tailed)	0.038	0.101	
<i>n</i>	182	181	182

*Correlation is statistically significant at the 0.05 level (two tailed)

in academic students. We conducted the structural equation model analysis method to obtain the mediating role of spirituality in the relation between aggression and resilience. Accordingly, we found that spirituality reduces aggression and therefore increases the mean score of resilience in academic students ($r = -0.102$) [Table 4].

The fitting indicators of the model are shown in Table 5. Two important indicators in this model are goodness of fit index (GFI) and the root mean square error approximation (RMSEA) indices. GFI values for the model (0.94) indicate the suitability of the final model. The RMSEA index, which corresponds to the minimum sample requirement, is also evaluated according to the model (0.86).

Discussion

This study was conducted to investigate the relationship between aggression and individual resilience with the

mediating role of spirituality in academic students using the path analysis and SEM-conducted structural equation method.

Based on the results, there was a significant negative correlation between aggression and individual resilience. Arslan in his study determined this relationship and has reached the same findings in which he has found a reverse and significant relationship between resilience and aggression.^[25] Denson *et al.* in their study, to investigate the effects of self-control to aggression, found that self-control had a positive impact on reducing the aggression.^[26] Therefore, one of the strongest supporters of reducing the aggression in individuals is the enhancement of the level of resilience as a supportive mechanism that modifies the response of a person in risky positions.

In addition, the present study showed that there is a positive and significant relationship between spirituality and resilience in academic students, and the increase in mean scores of students’ spirituality has led to an increase in individual resilience in these groups. Hashemi and Jokar conducted a study to obtain the relationship between the spiritual excellence and resilience in students. They found similar results and a significant relationship between spiritual excellence and perseverance. They also showed that spiritual unity and spiritual link have played a major role in predicting the persistence in students.^[27] The study of Hamid *et al.* showed a positive correlation between mental health, spiritual intelligence, and resilience.^[12] So logically, spirituality plays a decisive role in improving the level of individual resilience. As spiritual experiences are effective in resilient growth, it also affects the experiences and context of life.

Table 4: Total effects of in final results

Effects	Source	Aggression	Resilient	Spiritual health
Total direct	Aggression	-	-0.0149	-0.2249
	Resilient	-	-	-
	Spiritual health	-	0.4478	-
Total indirect	Aggression	-	-0.1025	-
	Resilient	-	-	-
	Spiritual health	-	-	-

Table 5: Test of model fit

Fit index	Model in Figure 1	Recommended level
GFI	0.94	>0.90
AGFI	0.93	>0.91
RESEA	0.08	>0.07
CFI	1.0	>0.95
TLI	1.0	>0.95

GFI=Goodness of fit, AGFI=Adjusted goodness of fit, RMAES=Root mean square error of approximation, CFI=Comparative fit index, TLI=Tucker-Lewis index

In line with this finding, it can be said that spirituality goes through a process that one of its main axes is the proper knowledge of God and the existence of meaning and purpose in life is an introduction to resilience and adaptation to problems. Hence, if students have higher spirituality, then the meaning that they bring to themselves and the world around them is combined with a sense of worth and purposefulness, so that they have better tolerance to the hardships in owner life.

The other finding of this study that was that spirituality has a positive role in reducing the aggression in academic students. In other words, increasing the amount of spirituality in students, the mean of aggression has been reduced in students, as one of the personal and social harms in our society. This finding which is consistent with the research by Behroozi *et al.*, found a significant negative correlation between the overall score of spirituality and aggression.^[28] The study by King and DeCicco revealed a negative relationship between spiritual intelligence and aggression and hostility^[29] Hosseini *et al.*, in their study, to investigate the relationship between spiritual intelligence and aggression in adolescents also found similar results.^[30] According to the above-mentioned studies, it can be concluded that spirituality enhanced the positive coping reactions such as reducing stress in persons, and eventually it reduces the aggression and enhances the resilience.

Some important limitations should be mentioned in our study: first, the lack of control of some variables on aggression and resilience, for example, the economic status, and social status Second, since the study design was cross-sectional, the causal associations should be interpreted with caution and carefulness. To clarify the causal associations between the variables, longitudinal studies such as cohort studies are needed. Third, we used

the data from the self-reported data; self-reports have been suggested to be potential risk to bias.

The findings of this study could have important practical implications for university professors and university officials. The design of interventional programs based on spirituality and its application in aggressive and resilient conditions can be trained by teaching the adaptive application of spiritual information in a rational way, a good way to reduce the aggression and increase the resilience in academic students.

Conclusion

The results of the research show that spirituality is effective in increasing the individual resilience of students and also has a positive mediator role between aggression and resilience. In total, it can be said that based on the present study, spirituality and individual resilience have a negative and significant effect on aggression tendency. Therefore, planning to increase the spirituality and individual resilience in students can play an important role in decreasing the aggression and also help important organizations to prevent and intervene the social injuries in time.

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Ethical considerations

All individuals have participated in the study by expressing their oral satisfaction.

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Conflicts of interest

There are no conflicts of interest.

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