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

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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%). Furthermore, there was a negative and nonsignificant relationship between aggression with resiliency (r = −122%). In addition, there was no significant correlation between the aggression and spirituality (r = 0.05%). 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.
example, it observed that spirituality has been associated with low levels of depression, antisocial behaviors, and suicide.\cite{5}

Today, the scientific research has been conducted to obtain the spirituality and its relationship with other psychological and sociological structures.\cite{6} According to one study that was carried out in recent years, one of the variables related to spirituality is resilience;\cite{7} resilience or the ability to recover and return to a state of emergency in encounter to terrible conditions of life.\cite{8} This structure helps people to successfully adapt in the unfavorable conditions of life.\cite{9} Resilience had a dynamic nature, in which its intensity varies from time to time.\cite{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.\cite{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.\cite{12} Greeff and Loubser,\cite{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 the quality of communication with God and awareness 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.\cite{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 in 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.\cite{21}

## 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 ± 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.\cite{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.\cite{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                | Means±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            |

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.
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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. 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.

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. The study of Hamid et al. showed a positive correlation between mental health, spiritual intelligence, and resilience. 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.
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 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.

Acknowledgment

We would like to thank all the students who have actively participated and helped us patiently in this study.

Ethical considerations

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

Financial support and sponsorship

The study was financially supported by the Ilam University of Medical Sciences, Iran.

Conflicts of interest

There are no conflicts of interest.

References

1. Memaryan N, Rassouli M, Mehrabi M. Spirituality concept by health professionals in Iran: A qualitative study. Evid Based Complement Alternat Med 2016; 2016:1-9.
2. Naghavi A. Qualitative study of spirituality and resilience from the perspective of Iranian immigrant women in Melbourne (Australia). Iran J Psychiatry Clin Psychol 2016; 21:281-96.
3. Azarnik S, Seddigh R, Keshavarz-Akhlaghi AA, Memaryan N. Educational resources of psychiatry residency about spirituality in Iran: A qualitative study. Iran J Psychiatry Clin Psychol 2016; 21:175-86.
4. Clark M. Psychotherapy and spirituality: Crossing the line between therapy and religion, by William West. Int J Psychother 2001; 6:234-6.
5. MacDonald DA, Holland D. Spirituality and boredom proneness. Pers Individ Differ 2002; 32:1113-9.
6. Hood RW Jr., Hill PC, Spilka B. The Psychology of Religion: An
Empirical Approach. Guilford: Guilford Publications; 2018.

7. Hashemi L JB. Study of relationship between spiritual transcendence and resilience. J Educ Psychol 2011; 8:123-42.

8. Prince-Embury S, Saklofske DH, Vesely AK. Measures of Resiliency. Measures of Personality and Social Psychological Constructs. Florida: Elsevier; 2015. p. 290-321.

9. Langer N. Resiliency and spirituality: Foundations of strengths perspective counseling with the elderly. Educ Gerontol 2004; 30:611-7.

10. Waller MA. Resilience in ecosystemic context: Evolution of the concept. Am J Orthopsychiatry 2001; 71:290-7.

11. Elias H, Krauss SE, Aishah S. A review study on spiritual intelligence, adolescence and spiritual intelligence, factors that may contribute to individual differences in spiritual intelligence, and the related theories. Int J Psychol Stud 2010; 2:179.

12. Hamid N, Babamiri M, Dehghani M. The relationship between mental health, spiritual intelligence with resiliency in student of Kermanshah University of Medical Sciences. Jentashapir J Health Res 2012; 3:331-338.

13. Greeff AP, Loubser K. Spirituality as a resiliency quality in Xhosa-speaking families in South Africa. J Relig Health 2008; 47:288-301.

14. Black JM, Hawks JH, Keene AM. Medical-surgical Nursing: Clinical Management for Positive Outcomes. Winningham: Saunders Elsevier; 2009.

15. Maddux J. Self-efficacy: The power of believing you can. In: Snyder CR, Lopez SJ, editors. Handbook of Positive Psychology. New York: Oxford University Press; 2002. p. 277-87.

16. Smith B. Spiritual Intelligence: Definitions and Measurements. Course Paper for. 2013.

17. Yang KP, Wu XJ. Spiritual intelligence of nurses in two Chinese social systems: A cross-sectional comparison study. J Nurs Res 2009; 17:189-98.

18. Johnson SJ, Batey M, Holdsworth L. Personality and health: The mediating role of trait emotional intelligence and work locus of control. Pers Individ Differ 2009; 47:470-5.

19. Horton TG. The relationship between extrinsic religiosity, intrinsic religiosity, and spiritual maturity to life satisfaction and coping resources. Unpublished doctoral dissertation. Stillwater, OK: Oklahoma State University. 2000.

20. Knabb JJ, Pelletier J. Effects of parental divorce on God image among young adults at a Christian university. Marriage and Family Review. 2013 Apr 1; 49 (3):231-50.

21. Hall TW, Edwards KJ. The spiritual assessment inventory: A theistic model and measure for assessing spiritual development. J Sci Study Relig 2002; 41:341-57.

22. Buss AH, Perry M. The aggression questionnaire. J Pers Soc Psychol 1992; 63:452-9.

23. Connor KM, Davidson JR. Development of a new resilience scale: The Connor-Davidson resilience scale (CD-RISC). Depress Anxiety 2003; 18:76-82.

24. Samani S, Jokar B, Sahragard N. Effects of resilience on mental health and life satisfaction. Iran J Psychiatry Clin Psychol 2007; 13:290-5.

25. Arslan G. Psychological maltreatment, emotional and behavioral problems in adolescents: The mediating role of resilience and self-esteem. Child Abuse Neglect 2016; 52:200-9.

26. Denson TF, DeWall CN, Finkel EJ. Self-control and aggression. Curr Dir Psychol Sci 2012; 21:20-5.

27. Hashemi LJ. Study of Relationship between spiritual transcendence and resilience. J Educ Psychol Stud 2011; 8:123-42.

28. Behroozi H, Zadeh MZ, Kakhki AS. The relationship between spiritual intelligence and aggression among male teen soccer players. Sport Psychol Stud 2012; 6:81-94.

29. King DB, DeCicco TL. A viable model and self-report measure of spiritual intelligence. Int J Transpers Stud 2009; 8:28.

30. Hosseini M, Zardoshtiyen S, Karimi J. Explain The relationship between spiritual intelligence and aggression with mediating role of resiliency in between Asian kung fu workers. Sci J Organ Behav Manage Sport Stud 2018; 5:55-62.