

Research Paper:

The Structural Equation Modeling of the Relationship Between Spirituality and Psychological Wellbeing Mediated by Spiritual Health

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ABSTRACT

Background and Objectives: Spirituality is an individual's effort and searches for meaning and purpose in life. Spirituality includes the connection with religious beliefs and some of the chosen beliefs, values, and duties that give meaning to life to achieve the desired perfection. This study aimed to model the structural equations of the relationship between spirituality and psychological wellbeing mediated by spiritual health.

Methods: This was a descriptive and correlational study, especially of cause-effect modeling. The statistical population included students of higher education centers in Sanandaj City, Iran, in 2018. Of them, 464 subjects were selected as the research sample by cluster random sampling approach. Measurement tools included researcher-made spirituality questionnaires (2020), Ryff's Scales of Psychological Well-Being (1980), and the Spiritual Well-Being Scale (Paloutzian & Ellison, 1983).

Results: Data analysis was performed using Cronbach's alpha coefficient, heuristic factor analysis, and confirmatory factor analysis by structural equation modeling. The results on the model of the relationship between spirituality, psychological well-being, and spiritual health indicated the acceptable desirability of the indicators of goodness of fit of the model ($P \leq 0.01$). Other results suggested that higher levels of spirituality were associated with psychological well-being and spiritual health.

Conclusion: The present research data revealed an overlap between spirituality, psychological well-being, and spiritual health. Spirituality positively affected psychological wellbeing and spiritual health concerning individual and social adjustment.

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Introduction

Spirituality as a multidimensional structure [1]. It has a wide range of definitions that have changed over time depending on the attitudes or worldviews of different populations [2]. These definitions were initially related to religiosity; however, in recent decades, its meaning is more widespread and includes other concepts, such as purpose and meaning in life, communication with others, peace, harmony, and Psychological Wellbeing (PWB) [3]. Various definitions were provided by researchers in the research literature. In these definitions, there is a theme from belief in a unified world to the need for meaning and purpose; a sense of belonging; a relationship with oneself, others, and the environment; excellence, and sanctity [4]. Attempts to define this ambiguous word have turned spirituality into a universal word that can be established in almost all stages and aspects of life [5, 6]. An aspect related to spirituality is PWB; studies emphasize the overlap between PWB and the aspects of spirituality [7]. Ryff addresses PWB as “the pursuit of perfection in the realization of one’s true potential” and the feeling of wellbeing as a positive feeling and a sense of general satisfaction with life in various areas of family, work, and so on [8]. According to Ryff’s model, PWB consists of the following 6 factors: self-acceptance, positive relationships with others, autonomy, purposeful life, personal growth, and mastery of the environment [9]. There has been a growing approach to the literature that recognizes the importance of spirituality, religion, and its role in biopsychological health and PWB [10-13]. The main hypothesis is that exposure to spiritual and philosophical ideas positively affects psychological health and PWB [14]. Despite differences in the definitions of spirituality, studies supported that spirituality is a predictor and pioneer in positive psychological and mental health outcomes [15]. Research revealed that spirituality is an essential and effective component in improving coping ability and promoting mental health [16], as well as reducing anxiety [17] and stress [18]. Another concept related to spirituality and PWB is Spiritual Health (SH). SH is a multidimensional structure, referring to a relationship with God and a sense of purpose in life and life satisfaction [19]. Spirituality becomes a state of being; however, SH becomes a state of having; it indicates a sense of acceptance, positive emotions, morality, and interaction with a ruling and superior holy power, others, and self [20].

Evidence suggested that SH and its dimensions, i.e., religious and existential health were positively and significantly related to PWB [21-24]. It seems that having different aspects of health, including SH, can improve individuals’ confrontations. SH is associated with psy-

chosocial adjustment, effective coping skills, and resilience to stress and life crises; concurrently, it increases individuals’ mental health. Therefore, when SH is endangered, the subject may experience loneliness, depression, and the loss of meaning in life [25-27]. Individuals with strong SH can effectively adapt to their problems [28]. Other domestic and international studies also signified that spirituality and education can be effective at improving SH, spiritual care, and PWB in students [29, 30]. The literature highlighted that research variables are paired between a specific sample or a particular cultural context; however, it has never been comprehensively studied as a model of structural equations. Such data can play a role in enriching the limited relevant research. Considering the existing literature, the present study aimed to use the structural equation modeling technique to examine spirituality, PWB, and SH. Accordingly, the main purpose of the present study was to explore the fitness of the proposed model with the observed data for PWB in students.

Methods

The present study was applied concerning the purpose and correlational respecting the collection and analysis of the data; especially causal modeling technique or structural equation modeling. The statistical population of the study included all students of governmental and non-governmental higher education centers in Sanandaj City, Iran, in 2018. The study sample included 464 individuals (247 females & 217 males) from different educational levels.

Applying multistage random cluster and class sampling unit methods, the study participants were selected. First, 3 universities (Kurdistan, Azad, & Medical Sciences) were selected from 8 higher education centers. Then, 4 faculties from each university and 6 classes from each faculty were considered; the selected students were entered into the study after expressing their informed consent. Structural equation models have been proposed in various approaches. Moler (1996) suggests that the free parameters of the model should be considered to determine the sample size. He states the minimum and maximum ratio of a sample size to free parameter to equal 5 to one and 20 to one [31]. Therefore, in the present model, for sampling adequacy, the minimum and maximum required sample equaled 210 and 840 subjects. Accordingly, 464 subjects were selected as the research sample. Structural equations were used to study the model and factor analysis, confirmation, and model development. In this statistical method, initially, the steps of confirmatory factor analysis were performed for the questionnaires. Besides, we considered that, in the confirmatory

factor analysis, if the fit indices present the desired value, the structure is approved, otherwise, we have examined the covariance-variance error among the questions. In confirmatory factor analysis, the Chi-squared value of the degree of freedom, the fit of absolute fit indices, and relative fit indices should be addressed in the analyses. Relative indices include Normed Fit Index (NFI), Comparative Fit Index (CFI), Goodness of Fit Index (GFI), and Incremental Fit Index (IFI), indicating the degree of agreement of the obtained model with the desired model. If the Chi-squared value is not significant, it signifies the difference between the model and the desired model. Another absolute fit index for examining the variance-covariance ratio of data is called the Root Mean Square Error of Approximation (RMSEA). Studies documented that for RMSEA, the value of 0.06-0.08 is good and ≤ 0.06 is excellent; for the relative indices of the same value, ≥ 0.90 is suitable [32].

Spirituality Questionnaire: This questionnaire was developed by the researcher. This tool includes 29 items with the dimensions of spiritual experiences and religious experiences [4]. The first dimension (spiritual experiences) includes 4 factors; spiritual effort, a pervasive worldview of compassionate self-concept, supportive and benevolent ethics, and tolerance. Moreover, the second dimension (religious experiences) addresses two factors; religious commitment and religious participation. The tool is answered on a Likert-type scale (strongly agree, agree, disagree, & strongly disagree). The factor of spiritual effort (including questions 1-4), covers the active effort to answer the basic questions of life; the extent to which individuals are seriously involved in the basic questions of life and attempt to find a personal and conscious answer to the meaning and purpose of life. The worldview factor (questions 5-9) manifests a universal perspective that promotes selfishness and ethnicity. The factor of compassionate self-concept (questions 10-15) reflects how critical the well-being of others is, how willing they are to help those who are suffering. The factor of tolerance (questions 16-19) assesses the mental capacity that enables a subject to maintain calmness and sobriety, especially in difficult situations. The factor of religious commitment (questions 20-26) is a criterion that indicates the degree of commitment and dependence on religious principles as well as religious participation (questions 27-29), an objective criterion specifying the extent to which the subject practically adheres to religious duties, such as prayer, fasting, and participating in religious ceremonies. The Cronbach's alpha coefficient method was used to calculate the reliability of the questionnaire. The reliability of the questionnaire for the confirmed dimensions in factor analysis, including spiritual

experiences and religious experiences, and the whole questionnaire was computed to be 0.88, 0.90, and 0.92, respectively [4].

Ryff's Scales of Psychological Well-Being: This tool was designed by Ryff in 1998. It consists of 18 items and 6 subscales; self-acceptance, positive relationship with others, autonomy, purposeful life, personal growth, and the mastery of the environment. The validity and reliability of this scale were reported in several appropriate studies. Dierendonck reported the internal consistency of the subscales as appropriate and the relevant Cronbach's alpha coefficients to range between 0.77 and 0.90 [33]. The validity of the Persian version of the questionnaire was obtained as 0.87 based on the expressive and Kochaki's study (2008) [34].

Spiritual Well-Being Scale (SWBS): This tool was designed by Paloutzian and Ellison in 1983. This questionnaire consists of 20 items that include 10 questions of religious health and 10 other questions of existential health; finally, the total score of spiritual health is obtained from the sum of these scores. The Cronbach's alpha coefficient of the religious and existential health and the whole scale was reported as 0.91, 0.91, and 0.93, respectively [35]. The validity of the questionnaire was confirmed after translation into Persian through the content validity method. Besides, the reliability of the questionnaire was calculated using Cronbach's alpha as 0.82 [36].

Results

The demographic characteristics of the study subjects and the descriptive information of the research variables are presented in Tables 1 and 2. Before presenting the structural equation model, simple correlation coefficients are manifested in Tables 3 and 4. Table 3 indicates that SH ($r=0.58$), religious health ($r=0.56$), and existential health ($r=0.48$) presented a positive and significant relationship with spirituality. Furthermore, the dimensions of PWB, such as self-acceptance ($r=0.36$), positive relationships with others ($r=0.27$), self-efficacy ($r=0.25$), and mastery of the environment ($r=0.50$), purposeful life ($r=0.23$), and personal growth ($r=0.42$), as well as PWB ($r=0.52$) provided a positive and significant relationship with spirituality.

Table 4 suggests that the dimensions of PWB, such as self-acceptance ($r=0.57$), positive relationships with others ($r=0.30$), self-efficacy ($r=0.22$), and mastery of the environment ($r=0.53$), purposeful living ($r=0.23$) and personal growth ($r=0.46$) as well as PWB ($r=0.59$) presented a positive and significant relationship with SH.

Table 1. The demographic characteristics of the study subjects

Variable		No. (%)
Gender	Male	217(46.8)
	Female	247(53.2)
Age category, y	<20	128(27.7)
	21-25	233(50.4)
	26-30	44(9.5)
	≥31	57(12.3)
Educational level	Associate degree	41(11.31)
	Undergraduate	365(79.5)
	Masters	53(9.19)
Major	Humanities	170(36.7)
	Nursing	89(19.2)
	Educational Science	99(21.4)
	Engineering	71(15.3)
	Science	30(6.5)
	Agriculture	4(0.9)
University of study	Azad Aslami	209(45.3)
	Medical Sciences	141(30.6)
	Kurdistan	111(24.1)

Structural equation modeling is among the most appropriate multivariate analysis approaches. By this method, the acceptability of theoretical models in a specific community can be tested using correlation, non-experimental, and experimental data. Initially, the factor structure of the questionnaires was examined. The review process included the following: the measurement models were first drawn on the emus graphic screen. Accordingly, the main variables were plotted as hidden; for each of them, the desired dimensions were considered as the observed variables. The results of factor analysis were reported in the tools section; the relevant data indicated an acceptable fit of the measured models. In confirmatory factor analysis, 4 components were identified for the dimension of spiritual experiences. The component of spiritual effort with 5 indicators, pervasive worldview with 4 indicators, compassionate self-concept, supportive and benevolent ethics with 6 indicators, and tolerance with 4 indicators, as well as the dimension of religious experi-

ences with 1 subject and 10 indicators, were included in the model. Furthermore, in the Psychological Well-being Scale, after confirmatory factor analysis, this questionnaire presented 6 components. The components of self-acceptance, positive relationships with others, self-efficacy, mastery of the environment, purposeful living, and personal growth were individually entered into the model with 3 indicators. The Spiritual Health Scale was entered into the model with 2 components of existential health and religious health, each with 10 indicators. By analyzing and modifying the model, appropriate fit indices were obtained, i.e., fitted in [Tables 5](#) and [6](#) of the estimates and goodness fit indices. Moreover, the final model is presented in [Figure 1](#). The goodness-of-fit indices data of the model ([Table 2](#)) revealed that the obtained Chi-squared value was significant concerning the degree of freedom ($P \geq 0.01$). This Chi-squared value was not a valid indicator. If the Chi-squared value is divided by the degree of freedom, a more valid index is obtained.

Table 2. The descriptive information of the research variables

Characteristic	N	Min.	Max.	Mean±SD
Spirituality	463	28	98	54.18±14.149
Spiritual effort	463	4	15	7.62±2.389
Comprehensive worldview	463	4	19	8.74±2.862
Compassionate self-concept, supportive and benevolent ethics	463	5	21	10.38±3.441
Patience	463	1	16	7.63±2.405
Religious experiences	463	10	40	19.81±6.812
Spiritual health	464	20	120	53.74±18.335
Religious health	464	11	66	30.05±11.879
Existential health	464	9	54	23.69±9.000
Psychological well-being	464	19	93	49.84±11.776
Self-acceptance	464	3	18	8.63±3.081
Positive relationships with others	464	3	18	8.56±3.051
Self-efficacy	464	2	18	8.64±2.999
Mastery of the environment	464	3	18	8.06±2.842
Objective life	464	2	18	8.25±2.647
Personal growth	464	3	18	7.70±3.269

Table 3. Simple correlation coefficients between the dimensions of spiritual health and spirituality

Dimensions of Spiritual Health	Spirituality
Spiritual health	0.58**
Religious health	0.56**
Existential health	0.48**
Psychological well-being	0.52**
Self-acceptance	0.36**
Positive relationships with others	0.27**
Self-efficacy	0.25**
Mastery of the environment	0.50**
Purposeful life	0.23**
Individual growth	0.42**

**The significance level

Table 4. The simple correlation coefficients between the dimensions of psychological well-being and spiritual health

Dimensions of Psychological Well-Being	Spiritual Health
Psychological well-being	0.59**
Self-Acceptance	0.57**
Positive relationships with others	0.30**
Self-Efficacy	0.22**
Mastery of the environment	0.53**
Purposeful life	0.23**
Individual growth	0.46**

**The significance level



The value obtained from the division of Chi-squared on the degree of freedom equaled 2.46, indicating a good fit of the model. This is because a value of <3 is a good indicator for the fit of the model. Furthermore, the root

of the mean squared error for the model was measured to be 0.06; this index equaled <0.05 for good models and <0.08 for acceptable models, and >0.10 for weak models. Adjusted Goodness of Fit Index (AGFI) for the

Table 5. The estimates and general specifications of the presented model

Paths	Non-Standard Estimates	Standard Estimates	t	P
Spirituality ← spiritual health	1.028	0.834	6.226	0.001
Spirituality ← Experiences of spirituality	0.693	0.742	7.092	0.001
Spirituality ← Psychological well-being	0.331	0.191	3.356	0.001
Spirituality health ← Psychological well-being	0.757	0.538	3.498	0.001
Experience spirituality ← spiritual effort	0.521	0.660	6.222	0.001
Experience spirituality ← worldview	1.000	0.905	5.132	0.001
Experience the spirituality ← self-concept	0.906	0.907	7.035	0.001
Experience spirituality ← tolerance	0.599	0.702	6.140	0.001
Spirituality ← Religious experiences	1.000	0.837	5.159	0.001
Psychological well-being ← self-acceptance	1.000	1.050	6.342	0.001
Psychological well-being ← Communication with others	0.231	0.644	4.350	0.001
Psychological well-being ← self-awareness	0.074	0.757	4.880	0.001
Psychological well-being ← mastery of the environment	1.163	1.091	9.320	0.001
Psychological well-being ← purposeful living	0.389	0.807	4.059	0.001
Psychological well-being ← personal growth	0.920	0.939	8.372	0.001
Spiritual health ← Religious health	0.988	0.903	5.982	0.001
Spiritual health ← Existential health	1.000	0.857	7.40	0.001



Table 6. The goodness of fit indicators of the model of spirituality and psychological well-being

Index	df	χ^2	χ^2/df	P	RSMEA	NFI	IFI	AGFI	CFI
Amounts	2127	5224.687	2.46	0.001	0.06	0.84	0.84	0.93	0.82

model was 0.93, Normed Fit Index (NFI) was 0.84, and Comparative Fit Index (CFI) was 0.82. These values equal ≥ 0.90 for goodness models and 0.80 for acceptable models, i.e., acceptable in the present model [37]. According to the indicators, this model presented an acceptable model fit.

Discussion

The present study results concerning modeling the relationship between spirituality and PWB, by the mediating role of SH indicated that PWB and its dimensions (self-acceptance, positive relationships with others, self-efficacy, mastery of the environment, purposeful life, &

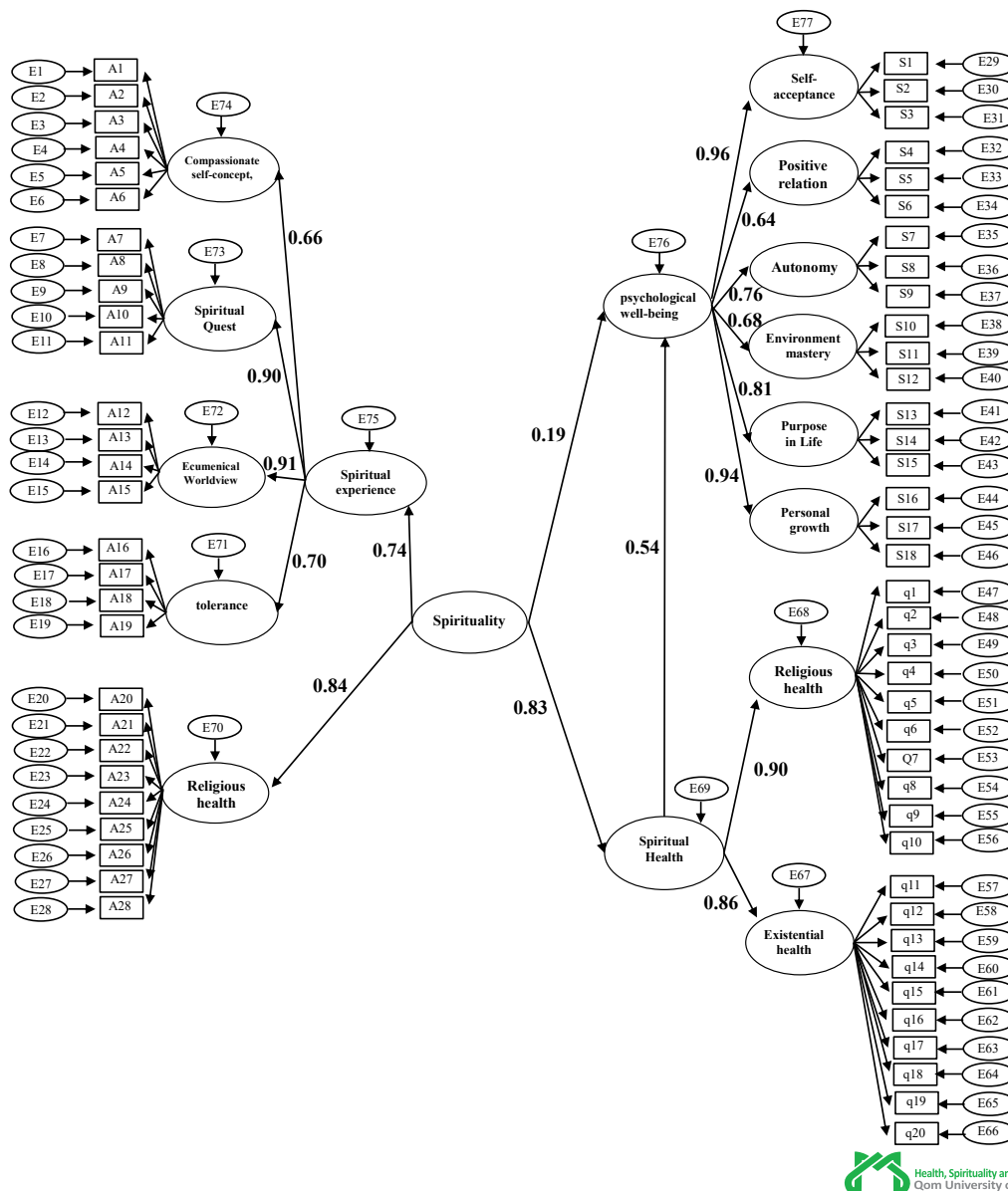


Figure 1. The structural equation model of the relationship between spirituality and psychological well-being considering the mediating role of health

personal growth), and spirituality presented a positive and significant relationship with SH. This finding is consistent with those of other researchers [3, 7, 13-10, 15]. Zarzycka and Zietek as well as Zarzycka and Puchalska emphasize that spirituality and religion are critical parts of life for numerous individuals; they can be important predictors of biopsychological health, PWB, and personal adjustment [12, 13]. In various definitions of spiritual texts related to spirituality, referring to concepts, such as striving and searching for meaning and purpose in life, finding addressed the mysteries of life, and developing a meaningful philosophy of life, compassionate self-concept, including criteria, like determining one's talent for some attributes, such as compassion, kindness, forgiveness, and a commitment to certain values, such as helping others in trouble, reducing suffering in others and the world, and turning the world into a better environment, as well as other components, such as a sense of calm, and the ability to find meaning in difficult situations; there is a strong sense of connection with all of humanity in this regard [4]. Therefore, spirituality includes connection with spiritual and religious beliefs, as well as some selected beliefs, values, and duties that give meaning to life; thus, they motivate individuals to reach the desired perfection. The relationship that grows through spirituality not only brings belief, hope, and peace to the individual but also empowers their PWB [4]. According to these research components defined for spirituality, the overlap between PWB and spirituality can be better understood [7].

Studies acknowledged that spirituality is a predictor and pioneer in positive psychological outcomes and mental health among individuals [15], i.e., strongly related to some aspects of PWB, such as optimism, gratitude, forgiveness, resilience, and kindness. Higher levels of spirituality and religion are associated with improved quality of life, as well as psychosocial and environmental relations, optimism, and happiness [15, 38]. In other words, individuals' PWB is affected by their level of self-awareness, optimism, and spirituality. The more self-aware, optimistic, and higher in spirituality individuals are, the more they feel wellbeing and satisfied [39]. Other results revealed that SH and its dimensions (religious & existential health), as a sub-concept of spirituality, are related to the components of spirituality [20]. The present study data suggested that SH was significantly correlated with PWB. This finding was consistent with those of Sharifian et al. [39], Hystad et al. [40], and Heckman and Clay [41]. In other words, SH, as an individual characteristic, can assist individuals to feel better about themselves and the world around them; therefore, they feel more satisfied and successful in life. Individuals with SH have a role model that sets an example in commitment, con-

trol, and struggle. Besides, these patterns lead to healthy positive outcomes that help them cope with problems and illnesses, and gain a sense of efficiency and control over the conditions [42]. SH is associated with positive psychological components, such as self-efficacy, resilience, hope, optimism, and hard work; these structures play an essential role in strengthening the psychological strength of individuals in various aspects of life and lead to becoming stronger and increasing competence; consequently, promoting individuals' PWB [20]. In general, the components of SH, apart from being related to PWB, also overlap with spirituality and religiosity. Moreover, they are achieved through a dynamic and harmonious process of cognition, emotion, action, and personal consequence [43]. Impairment in SH may lead to mental health conditions, such as loneliness, depression, and the loss of meaning in life, which in turn, can make life difficult [43]. A high SH leads to strengthening the psychological strength of individuals in various aspects of life; becoming stronger, increasing competence, consequently, promoting their PWB [20].

The limitations of this study consisted of the lack of clarity and uncertainty of the concepts with similar domains to the concept of spirituality, i.e., common and equivalent. It seems that we must first reach a general agreement in this area to facilitate each of them. Moreover, according to the prevailing local and cultural conditions, we can have comprehensive and at the same time acceptable definitions of these concepts.

Subsequent researchers are advised to test other dimensions and components of spirituality based on the literature on the subject of spirituality, and even other models of spirituality, especially indigenous and Islamic patterns, concerning their effect on student behavior. In the present study, only some variables were addressed. Future studies can examine other cognitive and emotional variables in a comprehensive and coherent model.

Conclusion

The current research results indicated that the place and importance of spirituality in mental health, PWB, and SH to enjoy a good and happy life is undeniable. According to the available findings, the existence and feeling of meaning in life act as a key that can signify health and wellbeing indicators, such as self-acceptance, positive relationship with others, autonomy, purposeful life, personal growth, and mastery of the environment in individuals' performance and encourage them to take positive actions. Accordingly, meaningful life is often considered an essential factor in PWB. The obtained

results can be considered at both theoretical and practical levels. At the theoretical level, the collected findings supported the assumptions of the models related to the relationship between research variables. At the applied level, the achieved results can be a suitable experimental basis for developing educational, intervention, and treatment programs.

Ethical Considerations

Compliance with ethical guidelines

All ethical principles are considered in this article. The participants were informed about the purpose of the research and its implementation stages. They were also assured about the confidentiality of their information. They were free to leave the study whenever they wished, and if desired, the research results would be available to them.

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Authors' contributions

Conceptualization and supervision: Ata Shakerian, Yahya Maroufi and Faezeh Nateghi; Methodology: Ata Shakerian and Yahya Maroufi; Review, writing - original draft, and writing - reviewing and editing: All Authors; Data collection, data analysis, financing and resources: Ata Shakerian.

Conflict of interest

The authors declared no conflict of interest.

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