



Measuring Contemplation-Based Spiritual Development: Conceptualization and Psychometric Analysis

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Abstract

This study aimed to develop a valid and reliable scale to measure individuals' contemplation-based spiritual development levels. Following literature review and conceptual framework development, an initial item pool was created. Expert opinions informed content evaluation, resulting in an 11-item draft form. In the 40-person pilot, no item showed a statistically significant mean difference between the two administrations. For the main application, data were collected from two independent adult samples aged 18–65: 357 participants for exploratory analysis and 409 for confirmatory factor analysis. The analyses led to the removal of four items across exploratory analysis and CFA model refinement, resulting in a final 7-item scale. The revised exploratory analysis supported a unidimensional seven-item structure, with KMO = .875 and 46.4% of the total variance explained. Internal consistency was good (Cronbach's α = .849; McDonald's ω = .855). CFA in the separate confirmatory sample supported the one-factor structure, with standardized factor loadings ranging from .519 to .816 and model fit indices of CFI = .972, TLI = .958, SRMR = .031, RMSEA = .080, 95% CI [.057, .105]. In conclusion, the 7-item Contemplation-Based Spiritual Development Scale is a psychometrically sound instrument for research in the psychology of religion and spirituality.

Keywords:

psychology of religion • contemplation • spirituality • spiritual development • wisdom

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Introduction

Recent studies on individuals' spiritual well-being highlight the importance of considering both their spiritual orientations and searches for meaning (Emmons, 1999; Pargament, 2007). Within positive psychology, spirituality is recognized as an important psychological resource that complements cognitive and emotional processes in promoting well-being (Steger et al., 2006). Spirituality broadly refers to an inner orientation through which individuals experience meaning and purpose, establish connections with realities beyond themselves and draw upon inner resources that contribute to their understanding of life (Neal, 2013; Ondeck, 2002). In this context, spirituality can be understood as an orientation that shapes how individuals interpret themselves, their experiences and their relationship with the transcendent. Its association with meaning, purpose and personal orientation highlights its significance for understanding human experience (King & Boyatzis, 2004).

Although closely related to spirituality, spiritual development represents a more specific conceptual domain encompassing existential meaning, inner awareness, self-transcendence and orientation toward a higher purpose (Russo-Netzer, 2018). Benson et al. (2003) conceptualize spiritual development in relation to the integration of the self into broader existential and sacred systems, emphasizing the importance of self-transcendence. Individuals may differ in their levels of spiritual and religious maturity, which can be understood from different perspectives on spiritual development (Peck, 1998). Within certain spiritual traditions, the alignment of the conscious self with the divine is also regarded as a central aspect of spiritual development (Peck, 1978).

Spiritual development has been examined from different but complementary theoretical perspectives. Some scholars emphasize existential meaning and purpose (Atchley, 1997; Emmons, 1999; Steger et al., 2006), whereas others highlight self-transcendence and the relationship between the individual and a broader sacred reality (Benson et al., 2003; Elkins et al., 1988). Other perspectives address spiritual development in relation to meaning-making, existential questioning and the relationship between individual consciousness and spiritual understanding (Fowler, 1981; Russo-Netzer, 2018; Wilber, 1980). Collectively, these perspectives provide a foundation for understanding spiritual development in terms of existential meaning, spiritual awareness, self-transcendence and integration. These theoretical perspectives provide a basis for examining the relationship between contemplation and spiritual development

Contemplation and Contemplation-Based Spiritual Development

Within this framework, contemplation represents a cognitive-spiritual activity associated with various aspects of spiritual life. In the Islamic intellectual tradition, contemplation is expressed through *tefek্কür*, an Arabic term referring to profound thought and the search for meaning through sustained mental attention (Akgün, 2019). In the present study, “contemplation” is used as the functional English equivalent of *tefek্কür* and refers to an intentional cognitive-spiritual process involving deep reflection, meaning-making and orientation toward existential and divine realities. This usage encompasses both the cognitive and spiritual dimensions of *tefek্কür*. Conceptually, contemplation involves the intentional movement of the mind and heart from the known toward the unknown in search of meaning (Al-Isfahani, 2019; Al-Jurjani, 2021). It entails generating ideas, making comparisons and reconstructing meanings (Akarsu, 2022; Bolay, 2018; Keklik, 1996), thereby enabling new knowledge and understanding beyond merely reflecting on existing information (Tekingür, 2022).

The Quran emphasizes contemplation through calls to reflect upon creation, the self, and existence (Kur’an Yolu meâli, 2025; Zâriyat 51:20–21; A’râf 7:179; En’âm 6:50). Within Islamic thought, contemplation therefore extends beyond ordinary reasoning to reflection deepened by faith and directed toward existential truth, self-knowledge, creation and a conscious relationship with the divine (Karaca, 2018; Tanrıverdi, 2018). In the Sufi tradition, it is further understood as an inner journey associated with awakening the heart and purifying the soul (Ibn Arabi, 2012). Thus, contemplation differs from ordinary thought in both its depth and orientation: it involves not only cognitive reflection but also the interpretation of the self and existence within a broader spiritual framework.

Contemplation also has conceptual parallels with psychological processes such as self-reflection, mindfulness, insight, and existential thinking (Bauer, 2024; Hart, 2004; Shapiro et al., 2011). It has been described as an internal process grounded in attention and awareness and associated with increased self-awareness and mental calmness (Hart, 2004). As a systematic means of cultivating awareness (Read, 2019), contemplation may enable individuals to pause, turn inward and engage more intentionally with questions concerning existence and meaning (Han, 2024). These characteristics provide an important conceptual bridge between contemplation as a cognitive-spiritual practice and the positive characteristics of spiritual life.

On this basis, contemplation-based spiritual development is defined in the present study in terms of positive spiritual characteristics and perceived outcomes

associated with contemplation. These include existential meaning and purpose, perceived connection with the divine, positive emotional experiences, inner peace, perceived coping benefits, wisdom and orientation toward virtues. This definition distinguishes the construct from both spirituality in general and contemplation alone. Spirituality refers to the broader orientation toward meaning, purpose and transcendence, whereas spiritual development encompasses existential meaning, spiritual awareness, self-transcendence and integration. Contemplation represents a cognitive and spiritual activity associated with these aspects of spiritual life.

Conceptualization of the Construct Measured by the Scale

The theoretical literature suggests that positive spiritual characteristics associated with contemplation may appear across several interconnected areas of spiritual life. Classical Islamic and contemporary spiritual perspectives, for example, describe contemplation as a practice of awareness through which individuals deepen self-knowledge, transcend egoistic tendencies, and orient themselves toward the divine (Al-Ghazali, 2021; Ibn Arabi, 2012). The relationship between self-discovery and divine knowledge is reflected in the saying, “Who knows himself knows his Lord” (Schaya, 1978, p. 153). Through such inward reflection, individuals may develop greater awareness while reconstructing meaning and moral direction in their lives (Merton, 1998). Contemplation may thus contribute to existential meaning and purpose while strengthening the individual’s relationship with the divine.

Wisdom and virtuous orientation constitute another aspect of spiritual life associated with contemplation. Contemplation on the self and the world may facilitate the translation of moral knowledge into virtuous action (Sözen, 2018). Wisdom, in this context, involves the balanced and appropriate application of knowledge rather than its mere acquisition (Tokur & Özışık, 2023). Ibn Arabi (2012) similarly associates wisdom with giving everything its appropriate measure. By enabling individuals to approach the contradictions and difficulties of life from a broader perspective, contemplation may contribute to this form of spiritual understanding (Candan, 2023). In the context of the present scale, these characteristics are particularly reflected in the interpretation of life events within a meaningful spiritual framework and in an orientation toward virtues such as gratitude, humility and altruism.

Contemplation may also contribute to the emotional and adaptive aspects of spiritual development. By enabling individuals to observe and consciously interpret their internal experiences (Zolla, 1978), contemplation may facilitate awareness and regulation of emotional responses. Pargament (2007) suggests that when the sacred

occupies a central position in an individual's life, thoughts, emotions and behaviors may become reorganized within a more coherent life framework. This integration may contribute to a stronger sense of meaning, inner direction, spiritual satisfaction and inner peace (Schaya, 1978). Similarly, confronting emotions such as loneliness, anger and jealousy through contemplation may contribute to spiritual balance (Smelcer, 2020) and to greater self-awareness and spiritual integrity (Lhalungpa, 1978; Zolla, 1978). Within the present scale, these emotional and adaptive aspects are reflected in participants' endorsement of positive emotional experiences, inner peace and perceived benefits in coping with difficult life events.

The positive spiritual characteristics associated with contemplation may further extend to interpersonal and moral life. Contemplative awareness may support identity formation and relationships with others (Merton, 1998). Prayer and contemplation may encourage compassion and understanding toward others (Smelcer, 2020), deepen love and relational meaning (Merton, 1998) and strengthen religious-moral values such as gratitude and piety (Decharneux, 2023). Contemplation may also facilitate the translation of Quranic principles such as justice, mercy, truthfulness, tolerance and love into everyday life (Sözen, 2018). Through dialogue, listening and sharing, this orientation may extend from individual transformation to social relationships (Peperzak, 2006). These perspectives provide a theoretical basis for understanding orientation toward gratitude, humility, altruism and other virtues as moral characteristics associated with contemplation-based spiritual development.

Drawing on this theoretical framework, contemplation-based spiritual development is operationalized in the present scale through individuals' endorsement of positive spiritual beliefs and perceived benefits associated with contemplation. The scale addresses interconnected aspects of spiritual life, including the interpretation of life events within a meaningful spiritual framework, perceived purpose, beliefs concerning one's relationship with God, positive emotional experiences, inner peace, perceived coping benefits and orientation toward virtues. These aspects represent related content areas within a single construct rather than independent subdimensions. Accordingly, higher scores on the scale indicate stronger endorsement of the positive spiritual characteristics individuals associate with contemplation and the benefits they believe contemplation provides in their spiritual lives.

In recent years, interest in measuring spiritual development and transformation has increased, particularly in the context of illness, trauma and crisis (Shaw et al., 2005). Cole et al. (2008), for example, developed the Spiritual Transformation Scale

to assess spiritual changes following profound life upheavals and identified not only spiritual growth but also spiritual decline as a dimension of spiritual transformation. Such negative spiritual experiences may involve existential emptiness, guilt, anger, spiritual alienation, or conflicts concerning sacred matters such as God, fate or justice (Exline et al., 2014; Park et al., 2024). The consequences of meaning-making depend partly on the nature and outcome of this process, as unresolved searches for meaning may be associated with poorer adjustment (Park, 2010). Contemplation may therefore contribute to either spiritual conflict or spiritual growth depending on individual and contextual factors (Wilt et al., 2016).

The present study focuses on aspects of contemplation associated with positive spiritual development rather than spiritual decline. However, no instrument specifically designed to assess the positive spiritual characteristics and perceived benefits associated with contemplation was identified in the literature reviewed for the present study. Therefore, the present study aims to develop a psychometrically sound scale for assessing this construct. By clearly distinguishing contemplation, spirituality, spiritual development and contemplation-based spiritual development, the study seeks to provide both a conceptually grounded and empirically testable framework for this construct. Theoretically, this framework may contribute to the conceptualization and empirical study of contemplation not merely as a cognitive activity, but as a cognitive-spiritual process associated with positive manifestations of spiritual development. From a practical perspective, the scale may provide researchers and practitioners with a systematic means of assessing contemplation-based spiritual development across research, spiritual counseling, mental health and psychoeducational contexts.

Method

Research Model

In this study, a quantitative research method was employed to develop a valid and reliable instrument for measuring individuals' levels of contemplation-based spiritual development. The quantitative method involves working with measurable data and conducting statistical analyses (Neuman, 2020; Stockemer & Bordeleau, 2023). The study was structured within a methodological approach appropriate for the scale development process. First, a literature review was conducted and an item pool was created. The content validity of the items was evaluated based on expert opinions, and the items were then tested in a pilot study. Subsequently, construct validity was examined through Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) conducted on large samples.

Participants and Sampling Process

Participants were selected through convenience sampling, a non-probability method commonly used in scale development studies for its accessibility and ability to reach large samples (Creswell & Creswell, 2018; Hair et al., 2019). This method was preferred due to time and accessibility constraints and the need for independent samples across exploratory and confirmatory stages (Bornstein et al., 2013). The study involved three independent samples: 40 participants aged 18–65 for the pilot study, 357 for EFA and 409 for CFA. Participation was voluntary, with inclusion criteria of being aged 18 or older and providing informed consent. Using separate samples for EFA and CFA reduced sample dependency and strengthened the reliability of the psychometric findings. Demographic characteristics of the EFA sample ($n = 357$) are presented in Table 1.

Table 1

Frequency and Percentage Distributions of Participants' Demographic Information (EFA Group)

Variable	Category	n	%
Gender	Female	233	65.3
	Male	124	34.7
Marital Status	Single	82	23.0
	Married	259	72.5
	Divorced	16	4.5
Education Level	Primary School	15	4.2
	Secondary School	83	23.2
	University	226	63.3
	Postgraduate	33	9.2

According to Table 1, data were collected from 357 people to test the construct validity of the research. The majority of the data were collected from females (65.3%) in terms of gender, married individuals (72.5%) in terms of marital status and university graduates (63.3%) in terms of education level. The ages of the research participants range from 18 to 65 years.

After the Exploratory Factor Analysis, Confirmatory Factor Analysis was applied to test the model fit indices of the scale. In this context, the information of the participants in the third sample group is also presented in Table 2 below.

Table 2
Frequency and Percentage Distributions of Participants' Demographic Information (CFA Group)

Variable	Category	n	%
Gender	Female	267	65.3
	Male	142	34.7
Marital Status	Single	99	24.2
	Married	291	71.1
	Divorced	19	4.6
Education Level	Primary School	16	3.9
	Secondary School	94	23.0
	University	263	64.3
	Postgraduate	36	8.8

According to Table 2, data were collected from 409 people to test the model fit indices of the research with Confirmatory Factor Analysis. The majority of the data were collected from females (65.3%) in terms of gender, married individuals (71.1%) in terms of marital status and university graduates (64.3%) in terms of education level. The ages of the research participants range from 18 to 65 years.

Data Collection Tool and Development Process

The scale presented in this study is a revised and further developed version of the Contemplation Scale originally developed in Köroğlu's (2024) master's thesis. Based on psychometric analyses and theoretical re-evaluation, the original 11-item scale was restructured by removing four items, resulting in a new seven-item instrument entitled the Contemplation-Based Spiritual Development Scale. In this study, the Contemplation-Based Spiritual Development Scale, a five-point Likert-type scale developed by the researchers, was used as the data collection instrument. The items on the scale are structured with statements rated from 1 to 5, where 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree and 5 = Strongly Agree. The scale development process was carried out using a systematic approach consisting of six main stages (DeVellis, 2014; Tezbaşaran, 1996).

In the first stage, a comprehensive literature review on the subject was conducted. During this process, previous academic studies and existing scales related to the concepts of contemplation and spiritual development were examined (Ardelt, 2003; Baltes & Staudinger, 2000; Cole et al., 2008; Ekşi & Kardaş, 2017; Exline et al., 2014; Keldal, 2015; Keskinöğlu et al., 2019; Park et al., 2024; Sarıçam, 2014; Şimşek & Kocayörük, 2013; Thomas et al., 2019; Webster, 2003). The review revealed no valid and reliable scale directly measuring the construct.

In the second stage, an initial pool of 25 items was generated based on the conceptual content identified in the literature. Contemplation was conceptualized not merely as a cognitive activity involving reflective thought, but also as a cognitive-spiritual process that may contribute to various aspects of individuals' spiritual development. Accordingly, the items were formulated to operationalize theoretically identified manifestations of contemplation-based spiritual development, including meaning and purpose, connection with the divine, positive emotional orientation, inner peace, coping with difficult life events and orientation toward virtues. For example, the search for wisdom was represented by the item "I believe that there is wisdom behind every event I experience," sense of purpose by "Contemplation gives me a sense of purpose regarding my life," and connection with the divine by "Contemplation strengthens my relationship with God." Emotional and adaptive manifestations were represented by items addressing inner peace and coping with difficult life events, while moral development was represented by orientation toward virtues such as gratitude, humility and altruism. These conceptual areas were not treated as independent subdimensions, but as theoretically distinguishable yet interrelated manifestations of the common construct of contemplation-based spiritual development. Thus, the items were designed to represent different developmental manifestations of contemplation within a single holistic construct. Table 3 presents each item of the final scale along with the conceptual manifestation of contemplation-based spiritual development it is intended to represent as derived from the literature.

Table 3

Items of the Contemplation-Based Spiritual Development Scale and the Conceptual Manifestations They Represent

Item no	Item content (English)	Conceptual manifestation
4	I believe that there is wisdom behind every event I experience.	Search for Wisdom
6	Contemplation gives me a sense of purpose regarding my life.	Sense of Purpose
7	Contemplation strengthens my relationship with God.	Connection with the Divine
8	Contemplation helps me view life with more positive emotions.	Emotional Regulation
9	When I contemplate, I feel more peaceful internally.	Inner Peace
10	Contemplation helps me cope more easily with difficult life events.	Spiritual Coping
11	Contemplation guides me toward virtues such as gratitude, humility and altruism.	Orientation Toward Virtues

In the third stage, expert opinions were obtained from six academics to evaluate the content validity of the initial 25-item draft scale developed through the literature review and conceptual framework. The experts represented six academic fields: educational sciences, Quranic exegesis (tafsir), Islamic philosophy, religious

education, history of philosophy and psychology of religion. The selection of experts considered both their experience in scale development and measurement and evaluation and their academic expertise in the theological, philosophical and psychological foundations of contemplation and spiritual development. This multidisciplinary approach aimed to ensure that the draft items were evaluated from both methodological and conceptual perspectives. An expert evaluation form was prepared with three response options for each item: “Appropriate,” “Inappropriate” and “Requires Revision.” Additionally, space was provided alongside each item for experts to explain their evaluations, suggest necessary modifications and propose alternative wording. Experts were asked to evaluate the items in terms of their relevance to the conceptual framework of contemplation-based spiritual development, content appropriateness, linguistic clarity and semantic coherence. The experts’ evaluations and written recommendations were reviewed in conjunction with the study’s conceptual framework. Decisions regarding item retention, revision or elimination were made based on this qualitative assessment. Accordingly, some items were removed, while others were revised to improve their linguistic clarity and conceptual accuracy. Following this process, the initial 25-item pool was reduced to an 11-item pilot form.

In the fourth stage, a pilot study was conducted by administering the 11-item scale to 40 participants with a two-week interval. Paired-samples tests found no statistically significant mean difference for any item between the two administrations.

In the fifth stage, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were performed to evaluate the construct validity of the scale. EFA was applied to the data obtained from the first application while CFA was applied to the data from the second application obtained from a different working group. The first application involved 357 participants and the second involved 409 participants.

In the sixth and final stage, reliability and validity analyses were conducted to evaluate the scale’s psychometric properties. Internal consistency and reliability were assessed using Cronbach’s alpha, item-total correlations, split-half reliability and Spearman–Brown and Guttman coefficients. Convergent validity was examined using Average Variance Extracted (AVE) and Composite Reliability (CR), while Hotelling’s T^2 test was used to examine whether mean responses differed across the retained items. Item discrimination was evaluated through corrected item–total correlations and upper–lower 27% group comparisons.

Data Collection Process

Ethics committee approval for this study was obtained from Ankara Hacı Bayram Veli University according to decision number E-11054618-302.08.01-171564, dated 16.03.2023. Data were collected from adults aged 18–65 residing in Ankara between September 15, 2023 and January 15, 2024. Participation was voluntary and all participants were informed about the purpose, scope and confidentiality of the study and provided informed consent. For the pilot study, data were initially collected from 40 participants on September 15, 2023 and the scale was re-administered electronically to the same participants two weeks later. The main data collection began on October 1, 2023. The scale form, including demographic questions, was administered online via Google Forms and the survey link was distributed via WhatsApp to potential participants who met the inclusion criteria.

Data Analysis

Data analyses were conducted using SPSS 22, AMOS 22, and jamovi. Prior to the main analyses, the datasets were screened for missing data and outliers. The psychometric evaluation of the scale was conducted using complementary procedures based on Classical Test Theory, factor-analytic methods, measurement invariance analysis, and polytomous Rasch modeling.

Construct validity was examined using exploratory factor analysis (EFA) and confirmatory factor analysis (CFA). Following the item-refinement process, the factor structure of the final seven-item form was re-examined in the exploratory sample ($N = 357$) using minimum residual (MINRES) extraction. Sampling adequacy and factorability were evaluated using the Kaiser–Meyer–Olkin (KMO) measure and Bartlett’s test of sphericity. The resulting one-factor structure was subsequently evaluated by CFA using the separate CFA sample ($N = 409$). Although the exploratory and confirmatory analyses were conducted on separate samples, the same CFA sample was used during the item-refinement stage and for the subsequent evaluation of the final seven-item CFA model.

Prior to CFA, multivariate normality was evaluated using Mardia’s multivariate skewness and kurtosis statistics. Because the results indicated a violation of multivariate normality, the final one-factor CFA was estimated using maximum likelihood (ML) with 5,000 bootstrap resamples. Adjusted bias-corrected 95% bootstrap confidence intervals were obtained for the parameter estimates. The reported global model-fit indices were derived from the standard ML solution rather than from a bootstrap-based fit test. Model fit was evaluated using the chi-square statistic (χ^2), Comparative Fit Index (CFI), Tucker–Lewis Index (TLI), Standardized

Root Mean Square Residual (SRMR), and Root Mean Square Error of Approximation (RMSEA) with its 95% confidence interval. Convergent validity was additionally examined using Average Variance Extracted (AVE) and Composite Reliability (CR).

Measurement invariance across gender was examined through multi-group CFA in a sequential series of configural, metric, scalar, and strict invariance models. Successive models were compared primarily using changes in CFI (Δ CFI) and RMSEA (Δ RMSEA), together with the overall pattern of model-fit indices. Internal consistency was evaluated using Cronbach's alpha and McDonald's omega. Additional reliability and item analyses included corrected item-total correlations, squared multiple correlations, Cronbach's alpha if item deleted, split-half reliability, the Spearman-Brown coefficient, and the Guttman Split-Half coefficient. Hotelling's T^2 test was used solely to examine whether mean responses differed across the seven retained items and was not interpreted as an indicator of inattentive responding or response bias.

Item discrimination was further examined by comparing lower- and upper-scoring groups formed from the total score of the final seven-item scale. Because ties occurred at the intended 27% cutoff points, all participants tied at the respective cutoff scores were retained within their corresponding groups rather than being arbitrarily separated. As the upper group exhibited zero variance on the individual items, Welch's independent-samples t tests were used without assuming equal variances. These comparisons were treated as supplementary item-analysis evidence because group membership was based on a total score containing the same items being compared, resulting in part-whole dependency.

Finally, polytomous Rasch analysis was conducted on the final seven-item form using the snowIRT module in jamovi to complement the Classical Test Theory findings. For this analysis, the original response categories coded from 1 (Strongly Disagree) to 5 (Strongly Agree) were linearly recoded to 0–4 to meet the coding requirement of the polytomous Rasch model while preserving their ordering and substantive meaning. The Rating Scale Model (RSM) was compared with the less restrictive Partial Credit Model (PCM) using a likelihood-ratio test and information criteria (AIC and BIC). Model evaluation extended beyond item-fit statistics and included item-location estimates, Infit and Outfit mean-square statistics, person reliability, response-category functioning, threshold ordering, and person-item targeting. These analyses were used to evaluate item functioning, category performance, measurement precision, and potential upper-end targeting limitations.

Results

Pilot Application Results

Analyses conducted on the data collected with a two-week interval for the pilot study evaluated whether the scale items provided consistent measurements at two different time points.

Table 4

Comparison of Pilot Study Data Between Pre-Test and Post-Test

Item	Pre-test (M ± SD)	Post-test (M ± SD)	t	p
Item 1	4.63 ± 0.77	4.56 ± 0.94	0.315	.754
Item 2	4.63 ± 0.74	4.60 ± 0.81	0.144	.886
Item 3	4.50 ± 0.85	4.48 ± 0.85	0.132	.895
Item 4	4.53 ± 0.82	4.55 ± 0.85	-0.135	.893
Item 5	4.48 ± 0.85	4.55 ± 0.88	-0.389	.698
Item 6	4.45 ± 0.81	4.53 ± 0.88	-0.396	.693
Item 7	4.53 ± 0.75	4.60 ± 0.87	-0.412	.681
Item 8	4.33 ± 0.92	4.55 ± 0.85	-1.141	.257
Item 9	4.35 ± 0.86	4.48 ± 0.91	-0.632	.529
Item 10	4.33 ± 0.86	4.48 ± 0.82	-0.801	.426
Item 11	4.30 ± 0.94	4.60 ± 0.78	-1.556	.124

As shown in Table 4, no statistically significant differences were observed between the pre-test and post-test scores for any of the 11 items. The paired-samples t-test values ranged from -1.556 to 0.315 , while the p values ranged from $.124$ to $.895$, with all values remaining above the $.05$ significance level. These findings indicate that no statistically significant mean changes were observed between the two administrations. Because test–retest correlations or intraclass correlation coefficients were not calculated, these results should not be interpreted as direct evidence of test–retest reliability.

Construct Validity

In this study, Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to assess the construct validity of the developed scale. Construct validity defined as the degree to which a scale reflects the theoretical construct it aims to measure is considered the primary validity type for evaluating psychological or abstract concepts (Büyüköztürk et al., 2024; Netemeyer et al., 2003). EFA was used to identify how items group into underlying dimensions while CFA was applied to test how well the hypothesized model fits the data (Tabachnick & Fidell, 2013). Together, these analyses provided complementary evidence supporting the scale’s construct validity.

Exploratory factor analysis (EFA).

Table 5
Exploratory Factor Analysis Results for the Final Seven-Item Scale

Items		Factor Loading	Uniqueness
Item 4	I believe that there is wisdom behind every event I experience.	.477	.773
Item 6	Contemplation gives me a sense of purpose regarding my life.	.649	.578
Item 7	Contemplation strengthens my relationship with God.	.531	.718
Item 8	Contemplation helps me view life with more positive emotions.	.741	.450
Item 9	When I contemplate, I feel more peaceful internally.	.798	.362
Item 10	Contemplation helps me cope more easily with difficult life events.	.772	.404
Item 11	Contemplation guides me toward virtues such as gratitude, humility and altruism.	.732	.465

Note. Extraction method = minimum residual (MINRES). KMO = .875; Bartlett’s $\chi^2(21) = 949, p < .001$. The single-factor solution accounted for 46.4% of the total variance.

As shown in Table 5, the standardized factor loadings of the seven retained items ranged from .477 to .798. Item 9 exhibited the highest factor loading ($\lambda = .798$), followed by Item 10 ($\lambda = .772$) and Item 8 ($\lambda = .741$), whereas Item 4 had the lowest loading ($\lambda = .477$). Uniqueness values ranged from .362 to .773. The single-factor MINRES solution accounted for 46.4% of the total variance. In addition, the KMO value of .875 and the statistically significant Bartlett’s test of sphericity, $\chi^2(21) = 949, p < .001$, indicated that the data were suitable for factor analysis. Overall, the pattern of factor loadings provided support for representing the seven retained items within a single-factor structure.

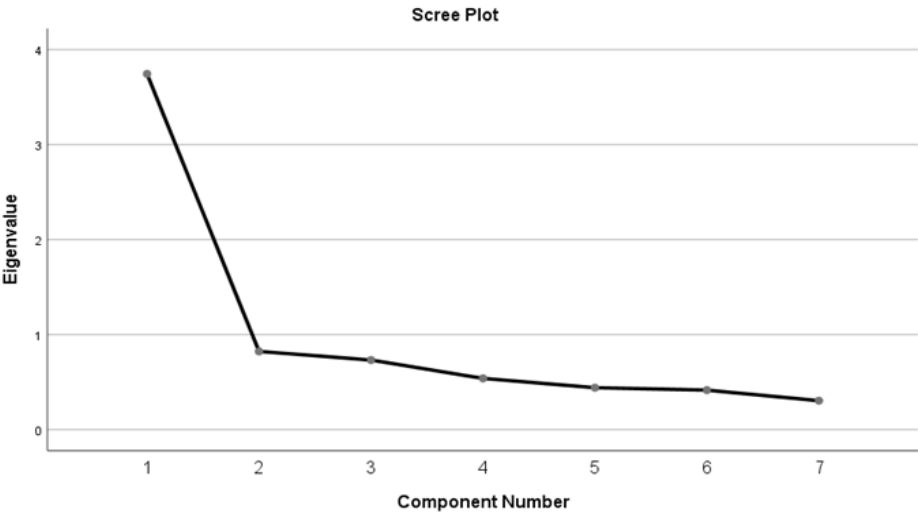
The initial CFA indicated inadequate model fit ($\chi^2/df = 7.207, RMSEA = .123, CFI = .926, GFI = .914, AGFI = .845$). Therefore, modification indices were

examined to identify potential sources of model misfit. The highest modification index was observed between the error terms of Item 5 and Item 6 ($MI = 69.506$). Item 5 assessed a sense of meaning in life, whereas Item 6 assessed a sense of purpose in life, indicating substantial conceptual overlap between the two items. Considering both the statistical evidence and the conceptual overlap between the two items, Item 5 was removed. Because this item removal changed the composition of the scale, the factor structure of the resulting seven-item form was re-examined rather than relying on the earlier 11-item solution.

Following item refinement, the factor structure of the final seven-item form was re-examined using exploratory factor analysis with minimum residual (MINRES) extraction. The Kaiser–Meyer–Olkin measure indicated good sampling adequacy ($KMO = .875$), and Bartlett’s test of sphericity was statistically significant, $\chi^2(21) = 949$, $p < .001$, confirming the suitability of the correlation matrix for factor analysis. In the one-factor solution, all retained items loaded meaningfully on the common factor, with factor loadings ranging from .477 to .798. Specifically, the factor loadings were .477 for Item 4, .649 for Item 6, .531 for Item 7, .741 for Item 8, .798 for Item 9, .772 for Item 10, and .732 for Item 11. The single factor accounted for 46.4% of the total variance. Overall, these findings supported a unidimensional representation of the retained seven items in the exploratory sample. The resulting one-factor structure was subsequently evaluated by CFA using the separate CFA sample ($N = 409$). Although the exploratory and confirmatory analyses were conducted on separate samples, the same CFA sample was used both during the item-refinement stage and for the subsequent evaluation of the final seven-item CFA model.

The scree plot is presented in Figure 1.

Figure 1
Scree Plot of the Contemplation-Based Spiritual Development Scale



The scree plot in Figure 1 shows a pronounced decrease between the first and second eigenvalues, consistent with the dominant component identified by PCA.

Table 6
Item Correlation Values

Item	I4	I6	I7	I8	I9	I10	I11
I4	—	.427	.270	.304	.339	.383	.311
I6	.427	—	.390	.427	.508	.460	.476
I7	.270	.390	—	.467	.375	.382	.347
I8	.304	.427	.467	—	.629	.546	.558
I9	.339	.508	.375	.629	—	.650	.583
I10	.383	.460	.382	.546	.650	—	.603
I11	.311	.476	.347	.558	.583	.603	—

According to Table 6, the correlation values between the items are presented. Accordingly, it is observed that the correlation values between the items range from .27 to .65. This indicates that the correlation values between the items are below .80. Thus, it can be stated that the items do not exhibit similarity to each other (Stevens, 2009; Tabachnick & Fidell, 2013).

Prior to conducting the CFA, multivariate normality was examined using Mardia's (1970) coefficient. The results indicated significant multivariate skewness

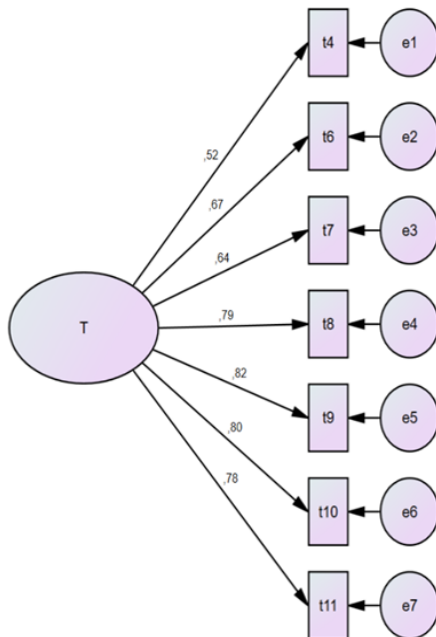
($b1p = 19.73$, $p < .001$) and kurtosis ($b2p = 113.70$, $z = 45.70$, $p < .001$), indicating a violation of multivariate normality. Accordingly, the CFA was estimated using maximum likelihood with 5,000 bootstrap resamples, and adjusted bias-corrected 95% bootstrap confidence intervals were obtained for the parameter estimates. The global model-fit indices reported below were obtained from the ML solution, whereas bootstrap confidence intervals were used to evaluate the stability of the parameter estimates.

Therefore, the CFA was re-estimated using maximum likelihood estimation with 5,000 bootstrap resamples. Adjusted bias-corrected 95% bootstrap confidence intervals were requested for the parameter estimates. The bootstrap procedure was used to obtain more robust inference for the model parameters in the presence of multivariate non-normality. Model fit indices were obtained from the ML solution and are therefore reported separately from the bootstrap confidence intervals.

Confirmatory factor analysis.

Figure 2

Confirmatory Factor Analysis Results of the Contemplation-Based Spiritual Development Scale



Note. T = Contemplation-Based Spiritual Development.

As shown in Figure 2, confirmatory factor analysis (CFA) was conducted to evaluate the fit of the single-factor, seven-item Contemplation-Based Spiritual Development Scale in the separate CFA sample (N = 409). Because multivariate normality was violated, the model was estimated using maximum likelihood with 5,000 bootstrap resamples and adjusted bias-corrected 95% confidence intervals for the parameter estimates. The final one-factor model yielded $\chi^2(14) = 50.90$, $p < .001$, CFI = .972, TLI = .958, SRMR = .031 and RMSEA = .080, 95% CI [.057, .105]. The overall pattern of fit indices, together with the standardized factor loadings, provided support for the proposed one-factor measurement model.

Confirmatory factor analysis was conducted on the independent CFA sample (N = 409) to evaluate the one-factor structure of the final seven-item scale. Because multivariate normality was violated, maximum likelihood estimation was accompanied by 5,000 bootstrap resamples with adjusted bias-corrected 95% confidence intervals for the parameter estimates. The resulting CFA estimates and model-fit indices are presented in Table 7.

Table 7
Confirmatory Factor Analysis Results for the Final Seven-Item Scale

Item	Standardized Factor Loading
Item 4	.519
Item 6	.674
Item 7	.636
Item 8	.786
Item 9	.816
Item 10	.796
Item 11	.784

Note. $\chi^2(14) = 50.90$, $p < .001$; CFI = .972; TLI = .958; SRMR = .031; RMSEA = .080, 95% CI [.057, .105]. Parameter estimates were evaluated using 5,000 bootstrap resamples with adjusted bias-corrected 95% confidence intervals.

As shown in Table 7, the standardized factor loadings ranged from .519 to .816. Item 9 exhibited the strongest association with the latent construct ($\lambda = .816$), followed by Item 10 ($\lambda = .796$), whereas Item 4 showed the lowest loading ($\lambda = .519$). The bootstrap confidence intervals for all freely estimated factor loadings excluded zero. The model yielded CFI = .972, TLI = .958, SRMR = .031 and RMSEA = .080, 95% CI [.057, .105]. Taken together, the factor loadings and overall pattern of fit indices provided support for the proposed one-factor measurement model.

Measurement invariance across gender was examined sequentially at the configural, metric, scalar, and strict levels. The results of the measurement invariance analyses are presented in Table 8.

Table 8

Measurement Invariance Across Gender

Model	χ^2	df	CFI	TLI	RMSEA	SRMR	Δ CFI	Δ RMSEA
Configural	77.40	28	.964	.946	.093	.037	—	—
Metric	82.00	34	.965	.956	.083	.046	+.001	-.010
Scalar	85.60	40	.966	.965	.075	.047	+.001	-.008
Strict	109.00	47	.954	.959	.080	.052	-.012	+.005

Measurement invariance across gender was examined sequentially at the configural, metric, scalar and strict levels. As shown in Table 8, the configural model yielded CFI = .964, TLI = .946, RMSEA = .093 and SRMR = .037. Constraining factor loadings to equality across gender did not result in deterioration in model fit (metric model: CFI = .965, RMSEA = .083; Δ CFI = +.001, Δ RMSEA = -.010). Similarly, the scalar model, in which both factor loadings and item intercepts were constrained to equality, yielded CFI = .966 and RMSEA = .075 (Δ CFI = +.001, Δ RMSEA = -.008). These results supported metric and scalar invariance across gender. When residual variances were additionally constrained to equality, the strict model yielded CFI = .954 and RMSEA = .080, corresponding to Δ CFI = -.012 and Δ RMSEA = +.005 relative to the scalar model. Thus, evidence for strict invariance was comparatively less clear. Overall, the findings supported configural, metric, and scalar measurement invariance across gender, whereas strict invariance should be interpreted more cautiously.

Table 9 presents the item-location estimates and fit statistics obtained from the polytomous Rasch analysis. The RSM was compared with the less restrictive PCM to determine whether item-specific category parameters provided a significantly better representation of the data. The likelihood-ratio test indicated that the PCM did not provide a statistically significant improvement over the RSM, $\chi^2(18) = 21.20$, $p = .267$. Information criteria also favored the more parsimonious RSM (AIC = 2902, BIC = 2946) over the PCM (AIC = 2917, BIC = 3033). Accordingly, the RSM was retained as the primary model for item-level interpretation.

Table 9
Item Location and Fit Statistics for the Rating Scale Model

Item	Location	SE	Infit MNSQ	Outfit MNSQ
t4	-6.27	.138	1.479	1.456
t6	-5.87	.131	.939	1.066
t7	-7.68	.165	.885	.735
t8	-6.36	.139	.907	.732
t9	-6.58	.143	.816	.507
t10	-5.85	.131	.906	.776
t11	-6.16	.136	.854	.806

Note. SE = standard error; Infit = information-weighted mean-square statistic; Outfit = outlier-sensitive mean-square statistic; MNSQ = mean square. In Rasch measurement, item fit values between 0.50 and 1.50 are generally considered acceptable.

As shown in Table 9, item-location estimates ranged from -7.68 (Item 7) to -5.85 (Item 10). Infit mean-square statistics ranged from .816 to 1.479, while Outfit mean-square statistics ranged from .507 to 1.456. Person reliability was .600, indicating relatively limited differentiation of respondents along the latent continuum.

Examination of response-category functioning revealed a pronounced concentration in the highest response category. In the Rasch-coded data, Category 4 represented the highest response option and corresponded to Category 5 in the original 1–5 scoring system. The proportion of responses in this category ranged from 62.84% for Item 6 to 82.15% for Item 7. Lower response categories were sparsely represented or absent for several items; notably, responses to Item 7 occurred only in the two highest original response categories. Threshold-ordering diagnostics based on the PCM indicated ordered thresholds for Item 4, whereas the remaining six items exhibited at least one disordered threshold. These findings indicate uneven use of the response categories and substantial upper-end response concentration, consistent with a ceiling effect in the present sample.

Examination of the person–item distribution further indicated limited targeting at the upper end of the construct. Respondents were concentrated toward higher levels of the latent trait relative to the locations of the items. Together with the high frequency of responses in the maximum category, this pattern suggests that the seven-item form provides comparatively limited differentiation among respondents at the upper end of contemplation-based spiritual development. Accordingly, the

Rasch findings, particularly those concerning respondents with high trait levels, should be interpreted cautiously.

Convergent Validity

Table 10

Convergent Validity and Composite Reliability Results

	Number of items	AVE	CR
Contemplation-Based Spiritual Development	7	.52	.88

As shown in Table 10, convergent validity was assessed using the Average Variance Extracted (AVE) and Composite Reliability (CR) values, in line with the scale's unidimensional structure. The analysis revealed that the scale's AVE value is .52, which remains above the recommended threshold of .50. This finding indicates that the items constituting the scale sufficiently represent the related latent construct and that convergent validity is established (Fornell & Larcker, 1981). Furthermore, the CR value was calculated as .88, demonstrating that the scale possesses a high level of internal consistency and that the items consistently reflect the measured construct (Hair et al., 2010). In unidimensional measurement models, discriminant validity cannot be tested in the classical sense as it requires multiple latent constructs. When the obtained AVE and CR values are evaluated together, it can be concluded that the Contemplation-Based Spiritual Development Scale exhibits strong psychometric properties in terms of convergent validity and reliability.

Comparison of Item Mean Responses

Table 11 presents the results of Hotelling's T^2 test examining differences among the mean responses to the seven retained items.

Table 11

Hotelling's T^2 Test for Differences Among Item Mean Responses

Hotelling's T^2	F	df1	df2	p
110.497	18.158	6	351	< .001

The Hotelling's T^2 test indicated statistically significant differences among the mean responses to the seven scale items, Hotelling's $T^2 = 110.497$, $F(6, 351) = 18.158$, $p < .001$. This finding indicates that the item mean responses were not equal across the seven items. However, a significant Hotelling's T^2 result does not, by itself, provide evidence regarding inattentive responding or the absence of response bias. Accordingly, the present finding is interpreted solely as evidence of

differences among item mean responses, and no conclusions regarding response quality or response bias are drawn from this analysis.

Reliability Analysis

The reliability is a fundamental psychometric criterion indicating whether items consistently measure the same latent construct. Reliability is commonly assessed through internal consistency and split-half methods. Cronbach’s alpha assesses the interrelationship among items and their consistency with the total score, while the split-half method examines the correlation between the two halves to estimate overall test reliability (Cortina, 1993). In split-half analysis, this correlation is corrected using the Spearman-Brown and Guttman Split-Half coefficients; values of .70 or above indicate adequate reliability (Anastasi & Urbina, 1997). Together, these analyses provide evidence of the scale’s internal consistency and measurement stability.

Cronbach’s alpha internal consistency analysis.

Table 12
Results of Cronbach’s Alpha and McDonald’s Omega Internal Consistency Analysis for the Contemplation-Based Spiritual Development Scale

Scale	Number of items	Cronbach’s alpha	McDonald’s omega
Contemplation-Based Spiritual Development Scale	7	.849	.855

The internal consistency of the final seven-item scale was evaluated in the independent CFA sample using both Cronbach’s alpha and McDonald’s omega. The scale demonstrated good internal consistency, with Cronbach’s $\alpha = .849$ and McDonald’s $\omega = .855$. Corrected item–total correlations ranged from .448 to .719, indicating that all retained items contributed meaningfully to the total scale score. Deletion of individual items resulted in Cronbach’s alpha coefficients ranging from .811 to .854 and McDonald’s omega coefficients ranging from .819 to .857. Because removal of any individual item did not produce a substantively meaningful improvement in overall reliability, all seven items were retained.

Split-Half method. This analysis was conducted to evaluate the internal consistency of the two sub-halves of the scale and the overall level of reliability of the test.

Table 13*Split-Half Reliability Analysis Results*

Scale	Part	Number of items	Coefficient
Contemplation-Based Spiritual Development Scale	Part 1 (t4, t6, t7, t8)	4	.696
	Part 2 (t9, t10, t11)	3	.824
	Correlation between the two halves		.706
	Spearman–Brown coefficient (equal length)		.828
	Spearman–Brown coefficient (unequal length)		.830
	Guttman Split-Half coefficient		.827

The split-half reliability analysis results presented in Table 13 provide additional evidence supporting the internal consistency of the Contemplation-Based Spiritual Development Scale. When the scale items were divided into two sub-halves, the Cronbach’s alpha coefficient was calculated as .696 for the first part and .824 for the second part. The particularly high alpha value for the second half indicates that the items within that subset work together consistently.

The correlation coefficient between the two halves was .706, indicating a strong relationship between the two halves. The reliability coefficients obtained after applying the Spearman–Brown correction to this correlation (.828 and .830) are notably above the .70 threshold. Furthermore, the Guttman Split-Half coefficient calculated as .827 confirms that the scale exhibits a high level of split-half reliability.

Item discriminatory power index.**Table 14**

Corrected Item–Total Correlations and Internal Consistency Statistics for the Seven-Item Scale (N = 357)

Item	Scale mean if item deleted	Scale variance if item deleted	Corrected item–total correlation	Squared multiple correlation	Cronbach's α if item deleted
4	28.40	4.785	.448	.232	.854
6	28.45	4.557	.608	.388	.828
7	28.22	5.298	.493	.274	.845
8	28.38	4.488	.663	.501	.819
9	28.36	4.460	.719	.567	.811
10	28.44	4.264	.699	.529	.813
11	28.40	4.493	.663	.477	.819

Note. Cronbach's α for the seven-item scale was .849. Corrected item–total correlations were calculated between each item and the sum of the remaining six items. All 357 participants were included.

As shown in Table 14, corrected item–total correlations ranged from .448 to .719, indicating positive associations between each item and the sum of the remaining six items. Cronbach's alpha for the seven-item scale was .849. Alpha coefficients following the deletion of individual items ranged from .811 to .854. Removing Item 4 increased alpha from .849 to .854, whereas removing any other item reduced the coefficient. The increase of .005 associated with deleting Item 4 was not considered sufficient, on its own, to justify item removal. Accordingly, the seven-item form was retained. These findings provide evidence of internal consistency and item–total coherence, but do not independently establish unidimensionality.

Table 15

Item Discrimination Analysis Based on Upper–Lower Group Comparisons (Independent Samples t-Test)

Item	Lower group M	Lower group SD	Upper group M	Upper group SD	Welch's t	df	p
4	4.32	.698	5.00	.000	–10.381	112	< .001
6	4.17	.498	5.00	.000	–17.747	112	< .001
7	4.66	.475	5.00	.000	–7.533	112	< .001
8	4.24	.587	5.00	.000	–13.790	112	< .001
9	4.24	.555	5.00	.000	–14.566	112	< .001
10	4.07	.546	5.00	.000	–18.079	112	< .001
11	4.21	.542	5.00	.000	–15.447	112	< .001

Note. The lower group comprised participants with total scores ≤ 32 ($n = 113$; 31.7% of the full sample), and the upper group comprised participants with total scores of 35 ($n = 167$; 46.8%). The intended lower and upper 27% groups were expanded to include all participants tied at the respective cutoff scores. Participants scoring 33–34 ($n = 77$) were excluded only from this comparison. Welch's t tests were used without assuming equal variances. Negative t values reflect subtraction of the upper-group mean from the lower-group mean. All p values are two-tailed.

Table 15 presents comparisons of the seven retained items between lower and upper total-score groups. To avoid splitting participants with identical scores at the intended percentile cutoffs, all tied observations were retained within their respective groups. This procedure resulted in a lower group of 113 participants with total scores of 32 or below and an upper group of 167 participants with total scores of 35. Welch's t tests indicated higher mean scores in the upper group for all seven items, with t values ranging from -18.079 to -7.533 (all $dfs = 112$, all $ps < .001$).

These comparisons require cautious interpretation. A total of 46.8% of participants obtained the maximum possible scale score, indicating a pronounced ceiling effect. Consequently, every item had a mean of 5.00 and a standard deviation of zero in the upper group. Furthermore, group membership was determined using a total score that included the items being compared, creating a part-whole dependency. The observed differences are therefore treated as supplementary item-analysis findings, alongside corrected item-total correlations, rather than as independent evidence of construct validity or discrimination across the full range of the construct.

Discussion

The Contemplation-Based Spiritual Development Scale developed in this study demonstrated satisfactory psychometric properties, supporting its validity and reliability as a seven-item measure. Exploratory factor analysis of the final seven-item form supported a unidimensional structure, with factor loadings ranging from .477 to .798 and the single factor accounting for 46.4% of the total variance. The KMO value of .875 and the significant Bartlett's test further supported the suitability of the data for factor analysis (Aksu et al., 2017). These findings suggest that the retained items converge around a common underlying construct despite reflecting different manifestations of contemplation-based spiritual development. This empirical structure is consistent with the theoretical conceptualization proposed in the present study. Existential, spiritual-relational, emotional-adaptive and moral manifestations may be conceptualized as interconnected aspects of contemplation-based spiritual development rather than as separate dimensions.

The unidimensional structure identified in the exploratory analysis was subsequently examined through confirmatory factor analysis using the separate CFA sample ($N = 409$). Standardized factor loadings ranged from .519 to .816, and the one-factor model yielded $\chi^2(14) = 50.90$, $p < .001$, CFI = .972, TLI = .958, SRMR = .031, and RMSEA = .080, 95% CI [.057, .105]. Because multivariate normality was violated, parameter estimates were additionally evaluated using 5,000 bootstrap resamples with adjusted bias-corrected 95% confidence intervals. The bootstrap confidence intervals for the freely estimated factor loadings did not include zero. Taken together, the factor loadings and overall pattern of model-fit indices supported the proposed one-factor structure. Conceptually, this finding is consistent with the view that the search for wisdom, sense of purpose, relationship with God, positive emotional orientation, inner peace, spiritual coping, and orientation toward virtues may function as interconnected manifestations of a common process of contemplation-based spiritual development.

The one-factor model yielded $\chi^2(14) = 50.90$, $p < .001$, CFI = .972, TLI = .958, SRMR = .031, and RMSEA = .080, 95% CI [.057, .105]. Standardized factor loadings ranged from .519 to .816. Bootstrap confidence intervals were obtained for the unstandardized parameter estimates using 5,000 resamples and adjusted bias-corrected 95% confidence intervals. The bootstrap confidence intervals for the freely estimated factor loadings did not include zero, providing additional support for the statistical stability of the factor-loading estimates.

Convergent validity and reliability analyses provided further support for the psychometric properties of the scale. The AVE value of .52 indicated acceptable convergent validity, while the CR value of .88 supported composite reliability (Fornell & Larcker, 1981; Hair et al., 2010). Internal consistency was further supported by Cronbach's $\alpha = .849$ and McDonald's $\omega = .855$, while corrected item-total correlations ranging from .448 to .719 indicated that each retained item contributed meaningfully to the total scale score. Overall, these findings indicate that the scale demonstrates satisfactory convergent validity and internal consistency.

Item-level analyses provided a more nuanced picture of the psychometric functioning of the scale. Corrected item-total correlations ranged from .448 to .719, indicating that each retained item contributed meaningfully to the total score. In the polytomous Rasch analysis, the RSM was retained over the PCM because the more complex PCM did not provide a statistically significant improvement in model fit. Although the Infit and Outfit statistics of the seven items remained within the examined fit range, the broader Rasch diagnostics identified important limitations. Person reliability was .600, indicating relatively limited differentiation among

respondents. In addition, responses were strongly concentrated in the highest category, lower categories were sparsely used, and threshold-ordering diagnostics indicated disordered thresholds for six of the seven items. The person-item distribution further showed limited targeting of respondents at the upper end of contemplation-based spiritual development. Taken together, these findings suggest that the scale may provide less precise differentiation among individuals with relatively high trait levels. Future research should therefore examine whether adding items targeted at higher trait levels and refining the response-category structure improves measurement precision and category functioning.

Beyond these psychometric findings, the Contemplation-Based Spiritual Development Scale integrates cognitive processes with the dynamics of spiritual development. In this respect, it differs from many existing spiritual and psychological well-being scales. The “Ontological Well-Being Scale” developed by [Şimşek and Kocayörük \(2013\)](#) measures well-being by considering individuals’ lives as a project and through evaluations of the past, present, and future. It includes sub-dimensions such as nothingness, hope, regret and taking action. The “Warwick-Edinburgh Mental Well-Being Scale” adapted into Turkish by [Keldal \(2015\)](#) assesses individuals’ mental well-being through positive emotional and mental states. It includes elements such as optimism, feeling useful and relaxation. While these scales focus on individuals’ mental processes similarly to the Contemplation-Based Spiritual Development Scale, they place less emphasis on religious or spiritual elements. In contrast, the “Three-Factor Spiritual Well-Being Scale” developed by [Ekşi and Kardaş \(2017\)](#) also encompasses spiritual dimensions such as transcendence, harmony with nature and anomie. The “Spiritual Well-Being Scale” adapted into Turkish by [Sarıçam \(2014\)](#) evaluates individuals’ sense of control over their lives and their goals through the sub-dimensions of self-efficacy and life plan. The “Spiritual Index of Well-Being Scale” adapted by [Keskinoğlu et al. \(2019\)](#) is also aimed at assessing spiritual well-being through dimensions such as self-efficacy and life schema. Although the Contemplation-Based Spiritual Development Scale shares conceptual ground with spiritual well-being measures, particularly in terms of transcendence and meaning, the two constructs differ in their developmental focus. Spiritual well-being assesses the meaning and satisfaction individuals derive from their relationships with themselves, others, nature and God ([Fisher, 1998](#)), whereas contemplation-based spiritual development assesses the development that occurs through contemplation in processes of meaning-making, spiritual awareness and inner transformation.

In the international literature on related scales, “wisdom” emerges as a central theme, with various approaches developed to measure it. The “Three-Dimensional

Wisdom Scale” by [Ardelt \(2003\)](#) includes three dimensions: cognitive, reflective, and emotional. Among these, the cognitive and reflective aspects show strong connections with the Contemplation-Based Spiritual Development Scale. However, while Ardelt’s scale approaches wisdom through cognitive and emotional competencies, the Contemplation-Based Spiritual Development Scale additionally incorporates spiritual dimensions, such as the individual’s relationship with God and moral engagement with others. The “Berlin Wisdom Paradigm” developed by [Baltes and Staudinger \(2000\)](#) offers a broader definition, describing wisdom as the capacity to reflect deeply on life’s fundamental questions, derive meaning, and make informed decisions. Similarly, the “Self-Assessed Wisdom Scale” developed by [Webster \(2003\)](#) defines wisdom through five dimensions: emotional regulation, humor, critical life experiences, reflection, and openness to experience. The “San Diego Wisdom Scale,” developed by [Thomas et al. \(2019\)](#), includes six sub-dimensions: emotional regulation, social advising, decisiveness, insight, pro-social behavior and tolerance for divergent values. Although these measures conceptualize wisdom from different perspectives, they primarily emphasize cognitive, emotional, and social dimensions. In contrast, the Contemplation-Based Spiritual Development Scale incorporates spiritual elements, particularly the relationship with God, meaning-making and orientation toward virtues, alongside cognitive and emotional processes.

Implications

The findings suggest that the Contemplation-Based Spiritual Development Scale may provide spiritual counselors with a psychometrically sound instrument for assessing clients’ contemplation-based spiritual development. Since the scale addresses key aspects such as the search for wisdom, sense of purpose, relationship with God, inner peace, coping with life difficulties, positive emotional orientation and virtue-based attitudes, it may help counselors identify clients’ spiritual strengths and areas requiring further support. Such assessment may facilitate the formulation of individualized counseling goals and inform the selection of spiritually appropriate interventions according to clients’ developmental needs.

The Contemplation-Based Spiritual Development Scale may be useful for psychologists, counselors, psychiatrists and other mental health professionals in assessing the spiritual dimension of individuals. Within a holistic approach to mental health, consideration of spiritual factors may complement the biological, psychological and social dimensions traditionally addressed in assessment. In this regard, the scale may contribute to a broader biopsychosocial assessment

framework, particularly in counseling and mental health settings where spiritual and cultural sensitivity is relevant.

The Contemplation-Based Spiritual Development Scale may contribute to identifying individuals' needs and areas for development in psychoeducational programs focusing on contemplation and spiritual development. The aspects assessed by the scale may provide a useful framework for informing program content. Accordingly, activities that encourage reflection on gratitude, humility, altruism and meaning in life may be incorporated into such programs. The use of the scale before and after these programs may also provide information regarding potential changes in participants' contemplation-based spiritual development.

Limitations and Future Directions

The scale has some limitations. First, the scale focuses on the positive effects of contemplation and does not assess potential negative outcomes, such as excessive questioning, existential crises, spiritual conflict or crises of faith. Existing measures offer relevant perspectives on this limitation. The Religious and Spiritual Struggles Scale ([Exline et al., 2014](#)) assesses negative spiritual experiences involving conflicts with God, religious communities and divine justice. Similarly, the Theodical Struggling Scale ([Park et al., 2024](#)) assesses struggles concerning God's justice, love and power, particularly in the context of suffering, illustrating how theistic contemplation may be associated with faith or theodicy crises. The Spiritual Transformation Scale ([Cole et al., 2008](#)) addresses both spiritual growth and decline, providing a framework for considering positive and negative spiritual change. Thus, the development-focused unidimensional structure of the Contemplation-Based Spiritual Development Scale may not fully capture the potential for both positive and negative outcomes of contemplation. Future research could examine the inclusion of dimensions such as spiritual decline, excessive contemplation or meaning crises to provide a more comprehensive assessment of contemplation-based spiritual development. Such an expansion could provide a more functional assessment tool for spiritual counseling processes, psychoeducational interventions and therapeutic practices by enabling practitioners to identify both the strengths and challenges associated with individuals' spiritual development.

Second, the study relied on a convenience sample of adult volunteers, which may limit the generalizability of the findings. Replication studies using more diverse samples with different demographic, cultural and religious characteristics may provide stronger evidence for the generalizability and broader applicability of the

scale. In addition, evaluating the scale across different age groups and populations, such as individuals who have experienced trauma or major life stressors, may contribute to a better understanding of its applicability in spiritual counseling and mental health contexts.

Third, although the scale demonstrated satisfactory evidence of construct validity, convergent validity and reliability, criterion-related validity was not evaluated within the scope of the present study. Therefore, the relationships between scores obtained from the Contemplation-Based Spiritual Development Scale and relevant external criteria remain to be established. Future studies could examine criterion-related validity using relevant measures of constructs such as spiritual well-being, meaning in life, wisdom and psychological well-being. Such investigations may provide complementary evidence for the validity of the scale and further strengthen its psychometric foundation.

PUBLICATION NOTES

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Ethical approval. This research was conducted in accordance with ethical principles for research involving human participants. Ethical approval was granted by the Ethics Committee of Ankara Hacı Bayram Veli University (Decision No: E-11054618-302.08.01-171564; Date: 16.03.2023). Participation in the study was voluntary and informed consent was obtained from all participants prior to data collection. The scale presented in this study is a revised and further developed version of the Contemplation Scale originally developed in Gülvade Köroğlu's (2024) master's thesis entitled "The Relationship Between Contemplation and Spiritual Well-Being: A Study on Adults", conducted under the supervision of Prof. Dr. Saffet Kartopu.

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PUBLICATION NOTES (CONTINUED)

Authors' contribution. G.K. contributed to the conceptualization of the study, literature review, scale development, data collection, data analysis, interpretation of the findings and preparation of the manuscript. S.K. contributed to the conceptualization of the study, methodology, data analysis, supervision, interpretation of the findings and critical review of the manuscript. Both authors read and approved the final version of the manuscript.

Peer-review. Externally peer-reviewed.

Artificial Intelligence (AI) Usage Declaration. Artificial intelligence (AI) tools were used during the preparation of this study solely for the purposes of grammar checking, translation, or improving the flow of the text. All content was created and verified under the authors' responsibility, in accordance with scientific integrity and ethical standards.

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