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Research Article

The Turkish Adaptation of the Psychological Emptiness Scale: A Validity and Reliability Study

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Abstract

The current study aims to adapt the Psychological Emptiness Scale (PES) into Turkish and evaluate its psychometric properties to establish a valid and reliable measurement tool. Feelings of emptiness are linked to mental health issues and the risk of suicide; however, research on this phenomenon is still limited. The Confirmatory Factor Analysis (CFA) results supported a two-factor structure of the scale, consisting of "nothingness" and "detachment." The fit indices (χ^2/df = 4.892, RMSEA = .074, SRMR = .041, CFI = .925) and factor loadings (.567–.771) indicate a good model fit. Internal consistency values were α = .890 for nothingness, α = .910 for detachment, and α = .947 for the total scale. Convergent validity analyses demonstrated significant correlations between the PES and factors such as loneliness (r = .655), borderline symptoms (r = .792), and life satisfaction (r = −.568). Additionally, skewness and kurtosis values suggested that the scale is appropriate for parametric analyses. The findings highlight the effectiveness of the PES as a tool for assessing psychological emptiness in individuals. Future studies are recommended to evaluate the scale in different samples and conduct cross-validation research.

Keywords:
Psychological emptiness • Measurement tool • Validity • Reliability • Turkish adaptation

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Introduction

Psychological emptiness is a complex and distressing emotional state characterized by deep dissatisfaction, a sense of purposelessness, and feelings of loneliness. This condition can be observed in various psychiatric disorders, particularly borderline personality disorder, as well as depression, narcissistic personality disorder, and schizophrenia. It is also associated with non-suicidal self-injurious behaviors (D'Agostino et al., 2020). Deutsch (1942) defined psychological emptiness as "a state in which all inner experience is excluded" and described individuals who experience this feeling as moving through life lacking vital energy, much like a technically skilled actor who fails to bring the necessary spark to their performance.

These individuals are described as exhibiting a "chameleon-like" tendency, masking their inner emptiness by maintaining interpersonal adaptability and deceptiveness. Psychological emptiness can feel like a hunger that causes restlessness or leads to addictive behaviors. When this emptiness is combined with feelings of death, nothingness, meaninglessness, or isolation, it can create a persistent backdrop of depression. Sometimes, these feelings may arise sharply due to shame or loss, but they can also occur without any specific trigger. In severe cases, a sense of meaninglessness may dampen a person's sense of responsibility, pushing them toward an existential void. Significant childhood trauma may leave behind an "unnameable and inexpressible deep inner hell" (Wurmser, 2003).

Psychological emptiness is commonly associated with loneliness, uncertainty, hopelessness, helplessness, and disconnection in everyday language, often accompanied by self-harm or suicidal thoughts (Peteet, 2011; Blasco-Fontecilla et al., 2013). Meaninglessness is regarded as a core existential issue that adversely affects both psychological and physical well-being (Frankl, 2017). Existential psychologists such as Sartre, Rollo May, and Viktor Frankl have conceptualized this phenomenon as a consequence of modernity, whereas Jung associated psychological emptiness with structural fragmentation within the self (Duncan & Brooks-Gunn, 2000).

While existential emptiness reflects disruptions in one's relationship with life, psychological emptiness pertains to one's relationship with oneself. Additionally, existential emptiness is considered to have a more intellectual and spiritual dimension (Frankl, 2017; Hazell, 1984). The experience of emptiness is deeply distressing for many individuals, leading them to addictions, impulsive behaviors, or violence as a means of avoiding awareness. However, under suitable conditions, this experience may also provide an opportunity for freedom, personal growth, and spontaneity (Hazell, 1984). Contemporary expressions such as "My life has no meaning" illustrate the loss of life's purpose, which in turn drives individuals into emptiness, hopelessness, boredom, and apathy (Frankl, 2017).

Although there is evidence that the experience of emptiness can be observed across multiple diagnostic categories, the literature has predominantly conceptualized this phenomenon as a feature of Borderline Personality Disorder (BPD) (American Psychiatric Association [APA], 2013). However, Herron and Sani (2022) adopted a broader perspective, defining emptiness as a distressing and existential experience that manifests across various diagnostic groups.

The development of assessment tools for measuring psychological emptiness has been limited due to narrow conceptualizations in the literature. Emptiness has often been evaluated using single items embedded within BPD measures, thereby overlooking the complex phenomenological structure of this experience. For instance, instruments such as the Experienced Levels of Emptiness Scale, the Emptiness Scale, and the Sense of Emptiness Scale have primarily focused on individuals diagnosed with BPD (Blasco-Fontecilla et al., 2016; Hazell, 1984; Ermiş-Demirtaş, 2018; Herron et al., 2024).

To address these limitations, Price et al. (2022) created the Subjective Emptiness Scale, which views emptiness as a transdiagnostic experience. The scale showed high internal consistency, although its items were mainly derived from the experiences reported by individuals diagnosed with BPD.

In this context, the Psychological Emptiness Scale (PES), created by Herron et al. (2024), was designed using a broader sample and did not rely on a unidimensional structure. During the PES development, a definition of emptiness was established based on participants' lived experiences. This definition was further validated by a separate group of participants whose experiences closely matched the initial definition.

This study aims to adapt the Psychological Emptiness Scale for Turkish speakers and to conduct validity and reliability analyses. The adaptation of the scale is expected to enhance the multidimensional assessment of individuals' psychological emptiness and provide a reliable measurement tool for exploring its associations with psychological processes. To achieve this goal, the study will focus on ensuring the scale's linguistic and cultural adaptation, examining its structural validity, and evaluating its psychometric properties.

Method

Research Design

This study was designed according to measurement instrument development procedures, employing data collection and analysis methods suited to this framework. This study aimed to assess both linguistic and conceptual equivalence, as well as the

cultural adaptation of the measurement tool used during the scale adaptation process. Methodological studies involve systematic procedures that test how applicable a measurement tool is across different cultures or languages (Boateng et al., 2018). These studies utilize validity and reliability analyses to ensure that the measurement tools are accurate and consistent. This research examined construct validity, internal consistency, and convergent validity using Confirmatory Factor Analysis (CFA) and Cronbach's Alpha coefficient as statistical techniques (Field, 2018). In this study, all reporting procedures were conducted in accordance with the American Psychological Association (APA) Style. As emphasized in the APA Publication Manual, using clear, unbiased, and consistent language is essential in scientific writing. The manual aims to guide authors in selecting "titles, tables, figures, language, and style that ensure strong, concise, and elegant scientific communication" (APA, 2022). Therefore, all tables, references, and in-text citations in this article were formatted based on APA 7 guidelines.

Translation Process

Permission and Translation. The adaptation process of the scale began with obtaining permission from the original author (Herron et al., 2024). The first step of the adaptation process, translation, was carried out by two independent translators who were informed about the methodology of scale adaptation (Coster & Mancini, 2015).

One of the translators was provided with contextual information regarding the scale's cultural background, whereas the other was deliberately kept uninformed to ensure a natural and unbiased translation (Beaton et al., 2007). Both translators considered cultural, psychological, and linguistic differences between the source and target languages to ensure that the translation conformed to the grammar and cultural structure of the target language (Turkish) (International Test Commission [ITC], 2018). The scale was carefully adapted to maintain conceptual equivalence, with a particular focus on clarity and simplicity to enhance comprehensibility.

Semantic Equivalence and Integration of Translations. Following the translation process, each item on the scale was analyzed in terms of linguistic and cultural context. The sentence structure of the scale was adjusted to align with Turkish grammatical rules.

After completing the translation process, the independent translations produced by both translators were compared, and the researchers created a final unified version. During this process, semantic, idiomatic, conceptual, linguistic, and contextual differences between the translations were carefully evaluated. To enhance the clarity and comprehensibility of the scale, consensus was reached on the wording of the items.Sentences containing complex or difficult-to-understand expressions were simplified, whereas overly simplified translations were revised to ensure content accuracy (Borsa et al., 2012).

Back Translation. Once the final version of the scale was established, the back translation phase was initiated. Two independent translators, who had no prior involvement in the initial translation process, translated the final Turkish version of the scale back into the original language.

At this stage, the original scale and its back-translated version were compared, and each item was analyzed in detail to identify potential semantic shifts. Particular attention was given to ensuring that the back translation remained faithful to the original text while preserving the scale's cultural context (Cantürk Çapık, Gözüm, & Aksayan, 2018).

Expert Panel. To enhance the accuracy of the adaptation process, a panel of subject-matter experts was convened to evaluate the items of the scale. During the panel, the cultural and linguistic alignment of the scale was thoroughly reviewed to ensure its suitability for the target population. Additionally, the clarity and comprehensibility of the items were assessed from the perspective of the intended audience (Survey Research Center [SRC], 2016).

Pilot Study. The adapted scale was subjected to a pilot study with the target group. Throughout this process, we evaluated the scale's comprehensibility, ease of administration, and cultural appropriateness, making necessary revisions based on participant feedback (Borsa et al., 2012).

The pilot study was conducted with a group of 50 university students, whose ages ranged from 18 to 25. The study assessed the understandability of the scale, the time required for administration, and the cultural relevance of the items. During the pilot study, participants reported that some items were ambiguous, while certain expressions could be made more comprehensible in everyday language.

Based on this feedback, several items were revised to enhance linguistic and conceptual clarity. These changes were made to enhance the scale's validity, reliability, and psychometric properties, ensuring it is suitable for the target population. As a result of these systematic procedures, the scale was adapted both linguistically and culturally, strengthening the content validity of the Turkish version (Cantürk Çapık, Gözüm, & Aksayan, 2018).

Development of the Preliminary Turkish Version and Psychometric Evaluation. After completing all required revisions, the preliminary Turkish version of the scale has been finalized. The scale was administered to a nationwide sample of 710 participants in Turkey, and validity and reliability analyses were conducted. In the reliability analysis, the Cronbach's alpha coefficient was found to be 0.95, indicating high internal consistency.

Study Group

After obtaining ethical approval (Selçuk University Faculty of Education Ethics Committee Report, 10.07.2024-E.789472), data were collected using Google Forms. The inclusion criteria for participation were being over 18 years old and experiencing a sense of emptiness at any point in life. Individuals diagnosed with a severe mental disorder with psychotic features (such as schizophrenia, bipolar disorder, or schizoaffective disorder) or those who reported never having experienced emptiness were excluded from the study. Initially, participants were asked whether they had ever experienced emptiness, and following the definition provided by Herron and Sani (2022), emptiness was explained as a psychological experience. Participants who answered "yes" gave their written informed consent before taking part in the study. The study involved 710 individuals from 59 cities across Türkiye. Among the participants, 534 (75.2%) were women and 176 (24.8%) were men. In terms of age distribution, 397 participants (56.0%) were aged between 18 and 22 years, 139 participants (19.6%) were aged between 23 and 27 years, 53 participants (7.5%) were aged between 28 and 32 years, 33 participants (4.7%) were aged between 33 and 37 years, and 88 participants (12.3%) were aged between 38 and 62 years.

Measurement Instruments

At the beginning of the scale, participants were asked demographic questions regarding their age, gender, place of residence, and occupation. Following this, they were asked whether they had ever experienced suicidal thoughts, attempted suicide, or engaged in self-harming behavior at any point in their lives. Participants could answer these questions using one of three options: "yes," "no," or "prefer not to say."

After collecting data on whether participants had ever been diagnosed with a personality disorder, we then administered the following scales. These instruments were specifically chosen because they align well with the experience of emptiness, ensuring that the results will provide a comprehensive measure of psychological emptiness.

Psychological Emptiness Scale. The Psychological Emptiness Scale (PES) is a 19-item instrument developed to measure the experience of emptiness (Herron, Saunders, Sani, & Feigenbaum, 2024). The scale was developed based on a validated definition of emptiness and consists of items that capture three core conceptual domains and nine components.

Participants are asked to assess their experiences related to emptiness over the past month using a four-point Likert scale: "never," "sometimes," "often," and "always." This time frame was chosen considering the chronic and persistent nature of the experience of emptiness.

To evaluate the psychometric properties of the scale, the 768-person sample was randomly split into two groups. Exploratory Factor Analysis (EFA) conducted on the first half of the sample revealed a two-factor structure. These factors were labeled "Nothingness" and "Detachment."

The items within each factor were analyzed using Item Response Theory (IRT), and items with low information values were removed from the scale. The first factor (nothingness) reflects an individual's perceived lack of meaning and purpose in life, while the second factor (detachment) represents a sense of disconnection from oneself and the surrounding environment.

To assess the face validity of the scale, clinicians specializing in the experience of emptiness provided feedback, evaluating the importance of each item. Based on these evaluations, items that were clinically recommended but psychometrically meaningful were retained, resulting in a finalized 19-item version of the scale. The revised and shortened PES was then tested in the second sample group using Confirmatory Factor Analysis (CFA). The two-factor structure demonstrated acceptable model fit indices, and the covariance between the two factors was found to be high. The internal consistency of the 19-item PES was assessed using Cronbach's alpha, which indicated high reliability ($\alpha = 0.95$). The test-retest reliability was also found to be high, confirming the scale's temporal stability. The validity of the scale was evaluated by examining its associations with other well-being measures, including psychological distress, life satisfaction, loneliness, and personality disorder traits. Analyses conducted on the full sample revealed strong positive correlations between total emptiness scores and psychological distress ($r = .758$, $p < .001$) as well as loneliness ($r = .731$, $p < .001$). Additionally, a strong negative correlation was observed between total emptiness scores and life satisfaction ($r = -0.644$, $p < .001$). The PES is a valid and reliable 19-item, two-factor scale for assessing the experience of emptiness. The two factors, labeled "nothingness" and "detachment," provide a detailed and comprehensive evaluation of individuals' experiences of emptiness (Herron et al., 2024).

Turkish Version of the Satisfaction with Life Scale. The Satisfaction with Life Scale (SWLS) is a self-report instrument developed to assess individuals' general life satisfaction. Originally developed by Diener et al. (1985), the scale measures how individuals evaluate their overall life satisfaction and is widely used in research on happiness and subjective well-being. The SWLS consists of five items and follows a unidimensional structure. Participants respond to each item using a 7-point Likert scale, ranging from "strongly disagree" (1) to "strongly agree" (7). The scale enables individuals to rate their life satisfaction as high or low, with scoring based on the total sum of responses. The adaptation process of the Turkish version involved several steps to ensure its validity and reliability. First, the scale was translated into Turkish with permission, and then a back-translation method was used to evaluate

its consistency with the original version. Experts in educational sciences reviewed the Turkish form to enhance its accuracy, resulting in a refined Turkish version. To assess the validity of the Turkish SWLS, Confirmatory Factor Analysis (CFA) was conducted (Akın & Yalnız, 2015). The analysis confirmed a good model fit for the five-item unidimensional structure, with fit indices such as RMSEA = .080, CFI = .98, and GFI = .98, demonstrating strong model compatibility. For reliability, the internal consistency coefficient (Cronbach's alpha) was calculated as .73, indicating that the scale is a reliable measurement tool. Item-total correlation coefficients ranged from .31 to .61, confirming that the items have strong discriminative power. The Satisfaction with Life Scale is recognized as a valid and reliable instrument for assessing individuals' overall life satisfaction. Studies conducted in Turkey have demonstrated that the Turkish version of the scale is sufficiently effective in evaluating life satisfaction (Akın & Yalnız, 2015).

RULS-6 Loneliness Scale (6-Item Short Form). The RULS-6 Loneliness Scale is the Turkish adaptation of the six-item UCLA Loneliness Scale (RULS-6), revised by Wongpakaran et al. (2020) and adapted using Rasch analysis to measure loneliness levels (Inanç & Eksi, 2022). The study sample included 327 university students, aged 18 to 28, who were selected using convenience sampling. Among the participants, 69.4% were women, and 30.6% were men, with a mean age of 26.2. For validity analysis, Confirmatory Factor Analysis (CFA) was conducted to assess construct validity, confirming that the single-factor structure of the scale remained intact within the Turkish student sample. In assessing convergent validity, correlation analyses were performed between RULS-6 and UCLA LS3, revealing a significant positive correlation ($r = 0.79$, $p < 0.01$). For reliability assessment, internal consistency was calculated, yielding a Cronbach's alpha coefficient of 0.84, indicating a high level of reliability. Item analysis was conducted by examining item-total correlations and 27% upper-lower group differences, with t-test results confirming statistical significance for all items ($p < 0.01$). Item-total correlation values ranged from 0.75 to 0.89, demonstrating that each item effectively represents similar behavioral traits and contributes to the internal consistency of the scale. In conclusion, this study supports that RULS-6 is a valid, reliable, and time-efficient instrument for measuring university students' loneliness levels. Future research may further explore the validity and reliability of the scale in more specific and diverse samples (Inanç & Eksi, 2022).

Borderline Severity Assessment Scale (BSAS). The Borderline Severity Assessment Scale (BSAS) is a 15-item self-report instrument developed by Pfohl et al. (2009). The validity, reliability, and factor structure of the scale were examined in a Turkish sample (Akın, 2016). The sample consisted of 306 university students from Hasan Kalyoncu University, including 201 women and 105 men. The internal consistency of the Turkish BSAS was evaluated using Cronbach's alpha reliability analysis. The Cronbach's

alpha coefficients for the subscales—Thoughts and Emotions, Negative Behaviors, and Positive Behaviors—were 0.80, 0.65, and 0.67, respectively. The overall internal consistency coefficient for the scale was 0.75, indicating that the scale is generally reliable. In test-retest analyses, the correlation coefficients for the subscales were 0.61 for thoughts and emotions, 0.50 for negative behaviors, and 0.51 for positive behaviors. These results suggest that the BSAS demonstrates temporal stability and consistency in measurement over time. As part of the validity studies, significant correlations were found between the BSAS and several psychological assessment tools. Specifically, significant correlations were observed between the Turkish BSAS and the Turkish Borderline Personality Scale (TBPS) ($r = 0.337$), Beck Depression Inventory (BDI) ($r = 0.460$), Pathological Attachment Scale (PAS) ($r = 0.337$), State Anxiety Scale ($r = 0.351$), and Trait Anxiety Scale ($r = 0.387$) ($p < 0.01$). These findings indicate that the Turkish version of the BSAS is a valid and reliable assessment tool for use in Turkish samples. The scale can be confidently used to assess borderline severity and related emotional and behavioral characteristics (Akın, 2016).

Data Analysis and Assumptions of Confirmatory Factor Analysis (CFA)

Before conducting Confirmatory Factor Analysis (CFA), a series of preliminary analyses were performed to ensure that the model met its fundamental assumptions.

Multivariate Outliers. Multivariate outliers in the dataset were examined using the Mahalanobis distance method. The critical threshold value (χ^2, $p < .001$) was determined to be 80.08, and a total of 62 observations were identified as multivariate outliers. This finding indicated the presence of outliers in the data. It was decided not to remove these outliers from the dataset, as removing excessive data might disrupt the factor structure of the scales.

Multivariate Normality. Mardia's skewness and kurtosis tests indicated that the dataset did not follow a multivariate normal distribution (Skewness Test = 40.90, Kurtosis Test = 122.42). Given the lack of multivariate normality, the Maximum Likelihood (ML) estimation method was deemed inappropriate for CFA.

Multicollinearity. To evaluate potential multicollinearity, the Variance Inflation Factor (VIF) and tolerance values were calculated. Some variables had VIF values ranging between 4 and 6. However, since the criteria VIF < 10 and tolerance > 0.1 were met, no severe multicollinearity issue was present in the dataset.

Selection of CFA Estimation Method. Following reviewer recommendations, the selection of the estimation method for CFA was explained. Since the dataset violated the normality assumption, the Robust Maximum Likelihood (MLM) estimation method—one of the robust estimation techniques—was chosen instead of the traditional ML method (Kline, 2018). The MLM method allows for a more

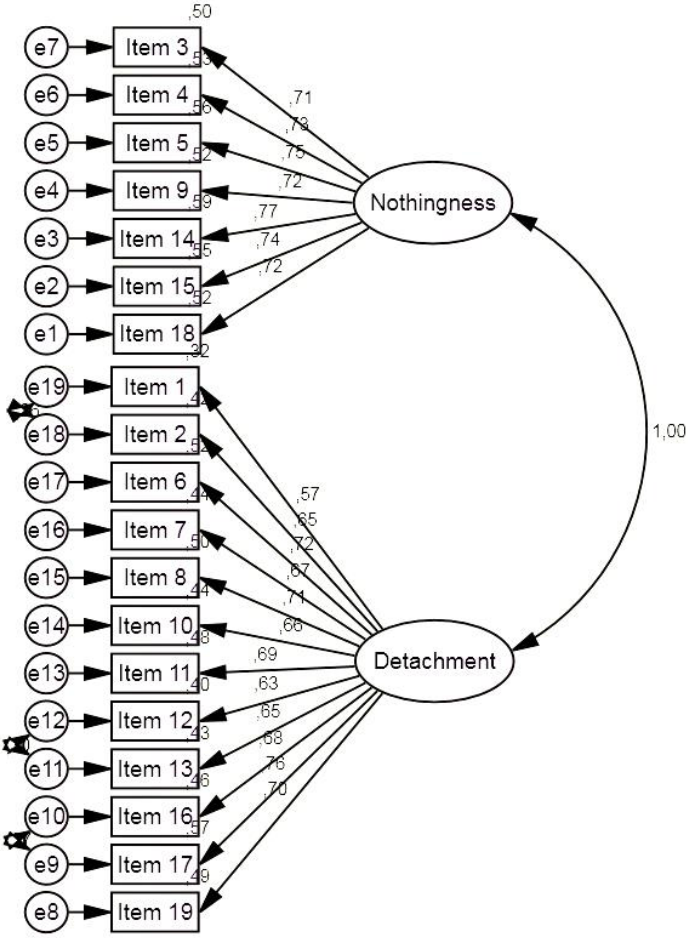
reliable assessment of model fit when the normality assumption is violated. CFA was conducted using the MLM estimation method, which adjusted the standard errors of model parameters and computed fit indices without being affected by non-normality issues. In conclusion, appropriate assumption tests were conducted for CFA, and outliers were retained in the analysis. Since the normality assumption was violated, Robust Maximum Likelihood (MLM) would be used for estimation.

Results

The two-factor structure of the Psychological Emptiness Scale (PES) was tested using Confirmatory Factor Analysis (CFA). The model fit indices obtained from CFA were $\chi^2/df = 4.892$, RMSEA = .074, SRMR = .041, TLI = .914, IFI = .925, NFI =

Figure 1.

Model Developed for the CFA Analysis of the Psychological Emptiness Scale



.908, CFI = .925, AGFI = .858. The analysis results indicated that the tested CFA model demonstrated an adequate model fit. The factor loadings obtained from CFA were I1 = .567, I2 = .645, I3 = .711, I4 = .729, I5 = .748, I6 = .719, I7 = .666, I8 = .706, I9 = .719, I10 = .661, I11 = .691, I12 = .629, I13 = .654, I14 = .771, I15 = .740, I16 = .680, I17 = .757, I18 = .718, I19 = .697. The factor loadings were found to be sufficient, supporting the construct validity of the two-factor model.

Item Analysis

The Cronbach's Alpha coefficients were found to be .890 for the nothingness subscale, .910 for the detachment subscale, and .947 for the overall scale, indicating adequate internal consistency. The item-total correlation values of the scale items ranged from .558 to .749, demonstrating that the items contribute meaningfully to the overall construct. The skewness and kurtosis values for each item ranged between -.223 and 1.439, indicating that the data followed a normal distribution.

Table 1
Item Analysis of the Psychological Emptiness Scale

Item	Mean	Standard Deviation	Skewness	Kurtosis	Item-Total Correlation
Item 1	.934	.747	.738	.720	.558
Item 2	.872	.731	.659	.460	.637
Item 3	1.044	.791	.608	.194	.688
Item 4	.866	.813	.898	.590	.704
Item 5	.907	.835	.760	.125	.721
Item 6	1.063	.840	.553	-.165	.696
Item 7	.980	.826	.624	-.047	.643
Item 8	.866	.832	.830	.256	.680
Item 9	1.083	.906	.668	-.223	.695
Item 10	1.108	.865	.589	-.177	.641
Item 11	.959	.795	.597	.022	.678
Item 12	.952	.858	.750	.050	.623
Item 13	.837	.915	.928	.021	.645
Item 14	.780	.810	.931	.467	.749
Item 15	.625	.828	1.270	.949	.716
Item 16	.585	.757	1.305	1.439	.666
Item 17	.756	.857	1.015	.370	.747
Item 18	.944	.819	.737	.227	.697
Item 19	.908	.844	.796	.176	.677

Convergent Validity

To determine the convergent validity of the Psychological Emptiness Scale (PES), correlation analyses were conducted with the Loneliness Scale, Borderline Severity Assessment Scale, and Satisfaction with Life Scale. The results indicated that the nothingness subscale of the PES was significantly correlated with several factors: it had a correlation coefficient of $r = 0.622$ ($p < 0.001$) with loneliness, $r = 0.754$ ($p <$

0.001) with borderline severity, and r = -0.549 (p < 0.001) with life satisfaction. For the detachment subscale, correlations were found to be r = .649 (p < .001) with loneliness, r = .783 (p < .001) with borderline severity, and r = - .556 (p < .001) with life satisfaction. The total score of the PES was significantly correlated with loneliness (r = .655, p < .001), borderline severity (r = .792, p < .001), and life satisfaction (r = - .568, p < .001).

Table 2
Correlation Analyses Between Psychological Emptiness, Loneliness, Borderline Severity, and Life Satisfaction Scales

	Nothingness	Detachment	Psychological Emptiness
Loneliness	.622**	.649**	.655**
Borderline Severity	.754**	.783**	.792**
Life Satisfaction	-.549**	-.556**	-.568**

***p*<.001

According to the correlation analysis results presented in Table 2, a positive and strong relationship was found between the subdimensions of psychological emptiness (Nothingness, Detachment, and overall Psychological Emptiness) and loneliness (r = .622 to .655, p < .001). Similarly, strong positive correlations were also observed between the subdimensions of psychological emptiness and borderline severity (r = .754 to .792, p < .001). These results indicate that as psychological emptiness levels increase, tendencies toward loneliness and borderline severity also increase. Furthermore, significant negative correlations were found between the subdimensions of psychological emptiness and life satisfaction (r = -.549 to -.568, p < .001). This finding suggests that an increase in the feeling of psychological emptiness negatively impacts individuals' life satisfaction.

In conclusion, psychological emptiness is positively and significantly related to loneliness and borderline severity, while it is negatively and significantly related to life satisfaction. This indicates that psychological emptiness may have a significant impact on individuals' emotional and behavioral states. For the Loneliness Scale, the CFA model fit indices obtained in this study were χ^2/df = 4.90, RMSEA = .074, SRMR = .019, TLI = 0.972, CFI = 0.985. The factor loadings of the scale items ranged from 0.64 to 0.81, and all loadings were found to be statistically significant. For the Borderline Severity Scale, the CFA model fit indices obtained in this study were χ^2/df = 4.60, RMSEA = .071, SRMR = .064, TLI = 0.903, CFI = 0.921. The factor loadings of the scale items ranged from 0.58 to 0.71, and all loadings were statistically significant. For the Satisfaction with Life Scale, the CFA model fit indices obtained in this study were χ^2/df = 0.72, RMSEA = .001, SRMR = .009, TLI = 1.000, CFI = 1.000. The factor loadings of the scale items ranged from 0.28 to 0.81, and all loadings were statistically significant.

Discussion

Testing the two-factor structure of the Psychological Emptiness Scale (PES) through Confirmatory Factor Analysis (CFA) is crucial for evaluating its construct validity. The findings generally indicate that the CFA model demonstrated an adequate fit, confirming the two-factor structure of the scale. When examining the model fit indices obtained from CFA, the χ^2/df ratio was found to be 4.892. Although this value is not within the excellent fit range, it falls within acceptable limits. The RMSEA value was .074, which is considered acceptable when it falls between .05 and .08 (Browne & Cudeck, 1993). This finding suggests that the model exhibits a good fit. The SRMR value was .041, which is considered excellent when it is below .05 (Hu & Bentler, 1999). This suggests that the model closely aligns with the observed data. The additional fit indices were as follows: TLI = .914, IFI = .925, NFI = .908, and CFI = .925. Typically, values above .90 indicate good model fit, and these results confirm that the model provides an acceptable level of fit. The AGFI value was .858, which is considered acceptable when it is above .80 (Byrne, 2010). This further supports the overall model fit. Evaluating the model fit indices collectively indicates that the two-factor structure of the Psychological Emptiness Scale is well-supported in terms of construct validity.

Factor loadings represent the strength of the relationship between an item and its respective factor. The results of Confirmatory Factor Analysis (CFA) indicate that the factor loadings ranged from .567 to .771. Factor loading greater than 0.50 is typically viewed as acceptable (Hair et al., 2010). This finding suggests that all items significantly contribute to the two-factor structure of the scale. Additionally, the high factor loadings confirm that the items align well with the construct they aim to measure. Based on the CFA results, the two-factor structure of the Psychological Emptiness Scale (PES) can be considered valid. The fit indices and factor loadings indicate that the model is at an acceptable level in terms of overall model fit and item-factor relationships. However, the relatively high χ^2/df value suggests that further improvements could be explored for the model. This may suggest a need to adapt certain items culturally or reformulate some of them (Marsh et al., 2004). The reliability analysis of the Psychological Emptiness Scale demonstrates that the scale exhibits high internal consistency, and its items align well with the construct they intend to measure. The Cronbach's Alpha results indicate a strong level of reliability for both the overall scale and its subdimensions. For the Nothingness subscale (α = .890), this value is generally considered acceptable if $\alpha > .70$, good if $\alpha > .80$, and excellent if $\alpha > .90$ (Nunnally & Bernstein, 1994). The α value for nothingness suggests an internal consistency between good and excellent. For the detachment subscale (α = .910), this value indicates a near-excellent reliability level, suggesting that the items within the subscale exhibit a strong internal relationship. For the overall scale (α = .947), this very high alpha value indicates that the scale is highly reliable,

with all items aligning well with the general construct. These Cronbach's Alpha values confirm the strong internal consistency of the scale, demonstrating that the measured constructs can be reliably assessed. Particularly, the high α value for the overall scale supports its applicability across different samples. The item-total correlation values ranged between .558 and .749, confirming that all items significantly contribute to the overall scale score. An r value greater than 0.30 typically indicates that the items are sufficiently discriminative (Field, 2018). These findings provide additional evidence that each item in the scale is valid and reliable.

The skewness and kurtosis values ranged between −.223 and 1.439, which fall within the normal distribution range. Specifically, skewness and kurtosis values between −2 and +2 indicate that the distribution is normal and that the scale is suitable for parametric analyses (George & Mallery, 2016). This finding supports that the scale items are homogeneously distributed within the sample and conform to normal distribution assumptions.

These findings indicate that the Psychological Emptiness Scale (PES) has high reliability. The Cronbach's Alpha values obtained for the subscales and the overall scale confirm that the scale provides stable measurements, supporting its measurement reliability. Additionally, the sufficient level of item-total correlations serves as another key indicator of the content validity of the scale. The normality of skewness and kurtosis values further highlights the flexibility of the scale in data analysis. To assess the convergent validity of the PES, correlation analyses were conducted with the Loneliness, Borderline Severity, and Life Satisfaction Scales. The results indicate that the PES is meaningfully associated with various psychological constructs, supporting its validity in assessing the intended concepts. Examining the findings related to the Nothingness subscale, a strong positive correlation was found between Nothingness and Loneliness ($r = .622$, $p < .001$). This suggests that as individuals' sense of nothingness increases, their levels of loneliness also rise. This finding aligns with previous research, which frequently associates loneliness and feelings of emptiness as closely related constructs (Russell et al., 1980). Robust positive correlation was also found between nothingness and borderline severity ($r = .754$, $p < .001$), indicating that feelings of emptiness strongly overlap with borderline personality traits (Linehan, 1993). Additionally, a significant negative correlation was identified between Nothingness and Life Satisfaction ($r = −.549$, $p < .001$). This suggests that as feelings of emptiness increase, life satisfaction decreases, indicating that a sense of emptiness has a substantial negative impact on individuals' overall life satisfaction. Regarding the detachment subscale, a strong positive correlation was found between detachment and loneliness ($r = .649$, $p < .001$). The feeling of detachment may be a significant factor contributing to increased loneliness. In particular, detachment has been linked to difficulties in interpersonal attachment processes (Bowlby, 1982).

Robust correlation was observed between detachment and borderline severity (r = .783, p < .001). This finding supports the notion that feelings of detachment are closely related to borderline personality traits. Specifically, this result aligns with theories suggesting that separation anxiety is a core characteristic of individuals with borderline personality disorder.

A negative correlation was found between detachment and life satisfaction (r = -.556, p < .001). High feelings of detachment seem to significantly reduce overall life satisfaction, indicating that detachment has a negative impact on emotional well-being. When examining the total score of the Psychological Emptiness Scale (PBS), a positive correlation was found between total emptiness scores and loneliness (r=.655, p<.001r = .655, p < .001r=.655,p<.001), indicating that as individuals' feelings of emptiness increase, their experiences of loneliness intensify. Additionally, a robust correlation was observed between total emptiness scores and borderline severity (r=.792,p<.001r = .792, p < .001r=.792,p<.001), suggesting a deep connection between psychological emptiness and symptoms of borderline personality disorder. Furthermore, a negative correlation was identified between total emptiness scores and life satisfaction (r=−.568, p<.001r = -.568, p < .001r=−.568,p<.001), demonstrating that psychological emptiness significantly diminishes overall life satisfaction.

Conclusion

This study confirms the two-factor structure of the Psychological Emptiness Scale (PES) and strongly supports its construct validity. The factor structure of the scale has been consistently validated through Confirmatory Factor Analysis (CFA) findings, demonstrating high internal consistency and reliability. The results suggest that the scale is an appropriate tool for use across various cultural and demographic groups. Convergent validity analyses demonstrated significant relationships between the subscales and the total score of the Psychological Emptiness Scale (PES) with loneliness, borderline personality severity, and life satisfaction. Positive correlations indicate that psychological emptiness is strongly associated with loneliness and traits of borderline personality. In contrast, negative correlations confirm its detrimental impact on life satisfaction. These findings suggest that the PES can be effectively used to assess psychological well-being and may serve as a valuable tool in research and clinical settings, particularly when working with individuals experiencing loneliness or borderline personality symptoms. Future studies should focus on cross-validation across different samples to further evaluate the generalizability of the scale. Additionally, supporting construct validity through alternative methods, such as test-retest reliability, would strengthen the robustness of the findings. Research assessing the validity of the PES in diverse cultural and demographic contexts will enhance its applicability and generalizability. These results establish the Psychological Emptiness

Scale as a reliable and valid tool in psychological assessment processes. Further qualitative research could provide deeper insights into the underlying mechanisms of psychological emptiness, while cross-cultural comparative studies could contribute to evaluating the scale's validity and reliability in different cultural contexts.

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