

The Psychometric Properties of the Turkish Versions of the Brief Hopelessness Scale with Positive and Negative Valence among Adolescents

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ABSTRACT

Introduction: The present study aims to evaluate the psychometric properties of the Turkish versions of the Brief Hopelessness Scale with positive and negative valence, Brief-H-Pos and Brief-H-Neg, in adolescents who presented to child and adolescent psychiatry outpatient clinics.

Method: The study sample consisted of 248 adolescents aged 12 to 17 years who presented to child and adolescent psychiatry outpatient clinics in two urban centers: Adana and İstanbul. To assess concurrent validity, Pearson's correlation coefficients were calculated to examine the relationships among the Brief-H-Pos, Brief-H-Neg, Beck Hopelessness Scale (BHS), and Beck Depression Inventory (BDI) scores. Reliability was evaluated using Cronbach's alpha, the Spearman-Brown coefficient, and item-total correlations. Receiver Operating Characteristic (ROC) curve analyses were conducted to determine the diagnostic utility of the Brief-H-Pos and Brief-H-Neg in identifying adolescents with suicidal ideation.

Results: Both the Brief-H-Pos ($r = 0.674$) and Brief-H-Neg ($r = 0.703$) demonstrated strong correlations with BDI scores. Additionally, the Brief-H-

Pos ($r = 0.745$) and Brief-H-Neg ($r = 0.753$) were highly correlated with the BHS, supporting convergent validity. The internal consistency of the Brief-H-Pos was acceptable, with both Cronbach's alpha and the Spearman-Brown coefficient equal to 0.826. Cronbach's alpha for the Brief-H-Neg was 0.816, and the Spearman-Brown coefficient was 0.778. The area under the curve (AUC) for the Brief-H-Pos and Brief-H-Neg was 0.745 and 0.780, indicating good discriminative capacity. DeLong's test showed that there was no significant difference between the AUC values of the Brief-H-Pos, Brief-H-Neg, and BHS, suggesting comparable discriminative ability.

Conclusion: Both Brief-H-Pos and Brief-H-Neg are valid and reliable instruments for assessing hopelessness in Turkish adolescents. These results also suggest that both brief instruments demonstrate comparable diagnostic capability to the BHS in identifying suicidal ideation, despite their reduced length.

Keywords: Adolescents, Brief-H-Neg, Brief-H-Pos, hopelessness, reliability, validity

Cite this article as: Arıcı Gürbüz A, Bozduman Çelebi S, İnce N, Binokay H, Akdağ B, Güneş S et al. The Psychometric Properties of the Turkish Versions of the Brief Hopelessness Scale with Positive and Negative Valence among Adolescents. Arch Neuropsychiatry 2026;63:302–307. doi: 10.29399/npa.29189

INTRODUCTION

Adolescence represents a critical developmental period marked by substantial physical, emotional, and social changes, as well as the formation of identity and interpersonal relationships (1,2). However, this stage is often accompanied by stressors such as academic pressure, bullying, and familial conflict (3,4). In the contemporary era, adolescents are also increasingly exposed to global crises—including climate change, pandemics, armed conflict, and economic instability—largely due to the ubiquity of social media and ease of access to information (5). These multifaceted stressors may render adolescents more susceptible to mental health challenges and contribute to a pervasive sense of hopelessness as they contemplate their future (6,7).

Highlights

- Brief-H-Pos and Brief-H-Neg are practical tools for measuring hopelessness.
- Brief-H-Pos and Brief-H-Neg effectively assess hopelessness in Turkish adolescents.
- They show similar diagnostic ability to the BHS in identifying suicidal ideation.

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Received: 09.07.2025, **Accepted:** 04.09.2025, **Available Online Date:** 25.12.2025

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Hopelessness is a future-oriented mental state characterized by negative expectations, where the individual perceives positive outcomes as unlikely and adverse outcomes as inevitable (8). It also includes the belief that a person feels helpless to influence outcomes and is unable to prevent adverse events (9). Understanding hopelessness during adolescence is particularly important, as it is closely associated with increased risk for a range of mental health issues, including depression (10). Adolescents experiencing hopelessness are more likely to disengage from school, isolate socially, or engage in high-risk behaviors such as substance use, all of which may further reinforce their feelings of despair (11,12). Moreover, hopelessness has been conceptualized as a cognitive vulnerability that may lead adolescents to view suicide as a solution to seemingly insurmountable problems (13). Indeed, numerous studies have identified hopelessness as a strong predictor of suicidal ideation in adolescent populations (14).

Various validated instruments have been developed to assess hopelessness, including the Beck Hopelessness Scale (BHS) (15), the General Hopelessness Scale (16), and the State-Trait Hopelessness Scale (17). Although these tools are psychometrically robust, their length can limit their practical utility, particularly in time-constrained settings. To address this limitation, Aish and Wasserman (18) developed a brief four-item version of the BHS and further suggested that item 7 of the original scale (“My future seems dark to me”) alone might sufficiently capture the core dimensions of hopelessness, including a perceived absence of light at the end of the tunnel and a foreboding sense of an uncertain future. Perczel Forintos et al. (19) also proposed a four-item scale that combined three items highly correlated with the total score from the BHS and one item from the Beck Depression Inventory, reflecting hopelessness. Furthermore, Everson et al. (20,21) introduced a two-item measure of hopelessness, Brief Hopelessness Scale with Negative Valence (The Brief-H-Neg), which has been employed in multiple cardiovascular studies. The items include: “The future seems to me to be hopeless, and I can’t believe that things are changing for the better,” and “I feel that it is impossible to reach the goals I would like to strive for.” Given that negatively worded items may evoke distress, Fraser et al. (22) developed a positively valenced version of the tool, the Brief-H-Pos. This version includes reworded items such as “The future seems to me to be hopeful, and I believe that things are changing for the better,” and “I feel that it is possible to reach the goals I would like to strive for.”

The established link between hopelessness and adverse clinical outcomes, including depression and suicide attempts, underscores the need for reliable and efficient tools to assess hopelessness in adolescents. Although widely used instruments offer strong psychometric properties, their length may limit their utility in clinical and research settings. Therefore, assessing hopelessness using two items can be reasonable, assuming these items exhibit acceptable psychometric properties. The present study aims to evaluate the reliability and validity of two such instruments—the Brief-H-Pos and Brief-H-Neg—within a psychiatric outpatient sample of Turkish adolescents.

METHODS

Participants

The study sample consisted of 248 adolescents aged 12 to 17 years who presented to child and adolescent psychiatry outpatient clinics in two urban centers: Adana and Istanbul. Diagnostic evaluations were conducted through face-to-face clinical interviews based on the criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) from August to October 2024. Exclusion criteria included a clinical diagnosis of psychosis, autism spectrum disorder, intellectual disability, or substance use, as well as refusal to participate in the study.

Procedure

Before translating the Brief-H-Pos and Brief-H-Neg into Turkish, the corresponding author of the development study (L.F.) was contacted by email to request permission to conduct this study. The Turkish translation and cultural adaptation of the original English versions of the Brief-H-Pos and Brief-H-Neg scales were carried out in accordance with established cross-cultural adaptation guidelines. Three native Turkish speakers independently translated the instruments from English to Turkish. These forward translations were compared both to one another and to the original English versions. After resolving any discrepancies through consensus, the translations were synthesized into a single preliminary Turkish version. This version was then back-translated into English by two native English speakers who were fluent in Turkish and unfamiliar with the constructs measured by the scales. An expert committee reviewed all versions to ensure semantic, idiomatic, experiential, and conceptual equivalence between the Turkish and English forms. Following this review, a draft version was finalized and pilot-tested with 20 adolescents. Feedback from this process informed the development of the final Turkish versions of the Brief-H-Pos and Brief-H-Neg scales.

Instruments

Brief Hopelessness Scale with Negative Valence (The Brief-H-Neg)

assesses hopelessness through two negatively worded statements: “The future seems to me to be hopeless, and I can’t believe that things are changing for the better,” and “I feel that it is impossible to reach the goals I would like to strive for.” Each item is rated on a 5-point Likert scale, where “1 = absolutely disagree” and “5 = absolutely agree.” Total scores similarly range from 2 to 10, with higher scores indicating greater levels of hopelessness (22). Fraser et al. (2014) reported that the scale is a valid and reliable tool for postmenopausal women, with an r value of 0.93 with BHS and a Cronbach’s alpha of 0.80 (22).

Brief Hopelessness Scale with Positive Valence (The Brief-H-Pos)

was developed by rephrasing the negatively worded statements from the Brief-H-Neg into positive formulations: “The future seems to me to be hopeful, and I believe that things are changing for the better,” and “I feel that it is possible to reach the goals I would like to strive for.” Responses are recorded on a 5-point Likert scale, ranging from “1 = absolutely agree” to “5 = absolutely disagree.” Total scores range from 2 to 10, with higher scores reflecting greater hopelessness (22). Fraser et al. (2014) validated the scale using a community sample of postmenopausal women, demonstrating good convergent validity ($r = 0.87$ with BHS) and internal consistency (Cronbach’s alpha = 0.77) (22).

The Beck Hopelessness Scale (BHS) is a widely used instrument for measuring hopelessness (15). It comprises 20 items, such as “My future seems dark to me” and “In the future, I expect to succeed in what concerns me most.” Respondents are asked to indicate whether each statement is “true” or “false” based on their expectations about life and the future over the past week. Responses are scored dichotomously, with optimistic statements assigned a score of “0” and pessimistic statements a score of “1.” The total score is the sum of all pessimistic responses, ranging from 0 to 20. The BHS has demonstrated strong reliability and validity in Turkish populations (23).

The Beck Depression Inventory (BDI) consists of 21 items designed to assess the severity of depressive symptoms (24). Each item is rated on a 4-point Likert scale from “0” to “3.” Total scores range from 0 to 63, with higher scores reflecting more severe depressive symptoms. The BDI has been validated as a reliable and appropriate tool for assessing depression among Turkish adolescents (25).

Suicidal ideation was measured using an item from the BDI (26). The response options are: “I have no thoughts of killing myself,” “I have thoughts of killing myself but do not act on them,” “I would like to kill

myself," and "I would kill myself if I had the chance." For analysis purposes, responses were dichotomized: "I have no thoughts of killing myself" was coded as "0 = absence of suicidal ideation," while all other responses were coded as "1 = presence of suicidal ideation" (26).

Statistical Analysis

All statistical analyses were performed using SPSS version 29.0 and Jamovi version 2.6.44.0. The dataset was first examined for missing values; no missing data were identified. Data distribution was assessed using skewness and kurtosis values, complemented by visual inspection of box plots and histograms to evaluate normality. To assess concurrent validity, Pearson's correlation coefficients were calculated to examine the relationships among the Brief-H-Pos, Brief-H-Neg, BHS, and BDI scores. Internal consistency reliability was evaluated using Cronbach's alpha, the Spearman-Brown coefficient, and item-total correlation analyses. Receiver operating characteristic (ROC) curve analyses were conducted to determine the diagnostic utility of the Brief-H-Pos and Brief-H-Neg in identifying adolescents with suicidal ideation. Differences in the area under the curve (AUC) values among the BHS, Brief-H-Pos, and Brief-H-Neg were examined using DeLong's test. Statistical significance was set at $p < 0.05$.

Ethics

Permission was obtained from the Adana City Training and Research Hospital Scientific Research Ethics Committee (approval number: 15.08.2024/110), and Helsinki Declaration rules were followed to conduct this study. All participants and their parents provided informed consent.

RESULTS

The mean age of participants was 14.87 years (SD = 1.82), and 65.3% were female. Among the total sample, 90.7% (n = 225) had been receiving psychiatric follow-up for at least one diagnosed condition. The most prevalent diagnosis was attention-deficit/hyperactivity disorder (39.5%, n = 98), followed by anxiety disorders (32.7%, n = 81), depressive disorder (31.9%, n = 79), oppositional defiant disorder (11.7%, n = 29), conduct disorder (6.0%, n = 15), obsessive-compulsive disorder (3.2%, n = 8), and tic disorder (0.4%, n = 1). A total of 65 participants (26.2%) had comorbid diagnoses.

The mean total score for the Brief-H-Pos was 4.81 (SD = 2.42). The mean scores for Item 1 and Item 2 were 2.57 (SD = 1.34) and 2.24 (SD = 1.28), respectively. A significant positive correlation was observed between the two items ($r = 0.703$). Item-total correlations were 0.926 for Item 1 and .919 for Item 2. The internal consistency of the Brief-H-Pos was acceptable, with both Cronbach's α and the Spearman-Brown coefficient equal to 0.826 (Table 1).

For the Brief-H-Neg, the mean total score was 5.09 (SD = 2.60). The mean scores for Item 1 and Item 2 were 2.77 (SD = 1.42) and 2.32 (SD = 1.40), respectively. The correlation between the two items was also statistically significant ($r = 0.690$). The item-total correlations were 0.920 for Item 1 and 0.918 for Item 2. Cronbach's α for the Brief-H-Neg was 0.816, and the Spearman-Brown coefficient was 0.778 (Table 2).

Pearson's correlation coefficients for the study variables are presented in Table 3. As expected, BHS scores were positively correlated with depressive symptoms as measured by the BDI ($r=0.716, p<0.001$). Both the Brief-H-Pos ($r=0.674, p<0.001$) and Brief-H-Neg ($r=0.703, p<0.001$) demonstrated strong correlations with BDI scores, supporting their associations with depressive symptomatology. Additionally, the Brief-H-Pos ($r=0.745, p<0.001$) and Brief-H-Neg ($r=0.753, p<0.001$) were highly correlated with the BHS, further supporting convergent validity. The correlation between the two brief scales was also strong ($r=0.879, p<0.001$), indicating consistency in the measurement of hopelessness.

ROC curve analyses were conducted to evaluate the ability of the Brief-H-Pos and Brief-H-Neg to distinguish adolescents with suicidal ideation from those without. The AUC for the Brief-H-Pos was 0.745 (95% CI: 0.682-0.807, $p<0.001$), indicating good discriminative capacity. A cut-off score of 5 on the Brief-H-Pos yielded the optimal balance between sensitivity and specificity (Youden's J = 0.365), with sensitivity of 0.735 and specificity of 0.630. For the Brief-H-Neg, the AUC was 0.780 (95% CI: 0.722-0.837, $p<0.001$), also demonstrating strong discriminatory performance. The optimal cut-off score was likewise 5 (Youden's J = 0.431), with sensitivity of 0.843 and specificity of 0.588 (Figure 1).

Table 1. Descriptive statistics, reliability, and correlations for Brief-H-Pos

	M	SD	1	2	3
Item 1: "The future seems to me to be hopeful, and I believe that things are changing for the better."	2.57	1.34	–		
Item 2: "I feel that it is possible to reach the goals I would like to strive for."	2.24	1.28	0.703***	–	
Brief-H-Pos (total)	4.81	2.42	0.926***	0.919***	–
Cronbach's alpha	0.821				
Spearman-Brown coefficient	0.826				

*** $p < 0.001$, M: Mean, SD: Standard deviation

Table 2. Descriptive statistics, reliability, and correlations for Brief-H-Neg

	M	SD	1	2	3
Item 1: "The future seems to me to be hopeless, and I can't believe that things are changing for the better."	2.72	1.42	–		
Item 2: "I feel that it is impossible to reach the goals I would like to strive for."	2.32	1.40	0.690***	–	
Brief-H-Neg (total)	5.09	2.60	0.920***	0.918***	–
Cronbach's alpha	0.816				
Spearman-Brown coefficient	0.778				

*** $p < 0.001$, M: Mean, SD: Standard deviation

Table 3. Pearson's correlations among scale scores

	1	2	3	4
1. BDI	–			
2. BHS	0.716***	–		
3. Brief-H-Pos	0.674**	0.745***	–	
4. Brief-H-Neg	0.703***	0.753***	0.879***	–

*** $p < 0.001$, BDI: Beck Depression Inventory, BHS: Beck Hopelessness Scale

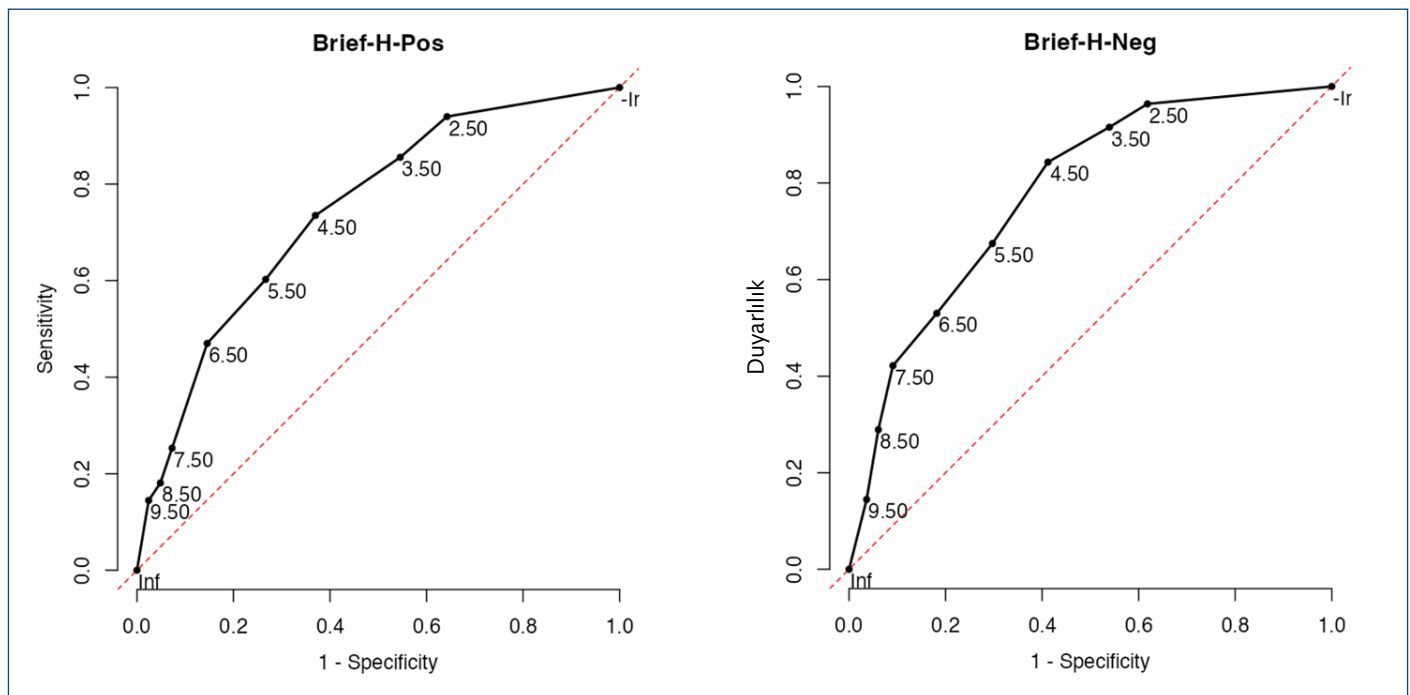


Figure 1. Results of receiver operating characteristic (ROC) analyses conducted to evaluate the ability of Brief-H-Pos (AUC = 0.745, cut-off=5) and Brief-H-Neg (AUC = 0.780, cut-off=5) to distinguish adolescents with suicidal ideation from those without suicidal ideation. (AUC: area under the curve)

Finally, DeLong's test was used to compare the AUC values of the Brief-H-Pos and Brief-H-Neg with that of the BHS, a validated reference measure for suicidal ideation. No significant difference was found between the Brief-H-Pos (AUC = 0.745) and the BHS (AUC = 0.748) ($Z = 0.143, p = 0.886$), suggesting comparable discriminative ability. Similarly, the difference between the Brief-H-Neg (AUC = 0.780) and the BHS was not statistically significant ($Z = -1.187, p = 0.235$).

DISCUSSION

The present study evaluated the psychometric properties of both the Brief-H-Pos and Brief-H-Neg scales within a psychiatric outpatient sample of Turkish adolescents. The findings underscore that the Brief-H-Pos and Brief-H-Neg are valid and reliable tools of hopelessness in this population. Additionally, both Brief-H-Pos and Brief-H-Neg provide diagnostic utility comparable to the BHS in identifying suicidal ideation despite their brevity.

Concurrent validity, a form of criterion validity, assesses whether a given instrument correlates strongly with other measures of the same construct when administered simultaneously (27). Pearson's correlation

analysis, commonly employed for this purpose, revealed that both the Brief-H-Pos and Brief-H-Neg demonstrated strong correlations with the BHS ($r = 0.745$ and 0.753 , respectively), indicating convergent validity. Additionally, both brief measures showed substantial correlations with the BDI ($r = 0.674$ and 0.703 , respectively), suggesting robust associations with depressive symptoms. These results are consistent with earlier research. Specifically, Fraser et al. (22) found strong positive correlations between both Brief-H-Pos ($r_s = 0.68$) and Brief-H-Neg scores ($r_s = 0.88$) and depressive symptoms. Collectively, these findings support the concurrent validity of the Brief-H-Pos and Brief-H-Neg as measures of hopelessness in Turkish adolescents.

Internal consistency, an important indicator of reliability, was assessed using Cronbach's alpha. According to standard guidelines, alpha values between 0.70 and 0.79 are considered satisfactory, while values ≥ 0.80 indicate high reliability (28). Although the Brief-H-Pos and Brief-H-Neg lack the multidimensional depth of the 20-item BHS (22), their internal consistency was found to be satisfactory, with alpha values of 0.826 and 0.816, respectively. These findings are consistent with previous research, which suggests good internal consistency for these instruments. For example, Ahmadbokuani et al. (29) reported that the Cronbach's

alpha coefficients for Brief-H-Pos and Brief-H-Neg were 0.72 and 0.78, respectively. Similarly, Fraser et al. (22) reported that the Brief-H-Pos and Brief-H-Neg are reliable tools for measuring hopelessness, with Cronbach's alpha values of 0.77 and 0.78, respectively. Given that both instruments consist of only two items, the reporting of Spearman-Brown coefficient is also recommended (30). The observed coefficients (0.826 for Brief-H-Pos and 0.778 for Brief-H-Neg) further confirm their reliability in assessing hopelessness.

The study also assessed the ability of the two brief measures to identify adolescents with suicidal ideation through ROC curve analyses. This method enabled a direct comparison with the BHS, a validated reference instrument. The AUC values for the Brief-H-Pos (0.745) and Brief-H-Neg (0.780) indicated good diagnostic accuracy (31), comparable to the AUC of the BHS (0.748). Although the Brief-H-Neg showed a slightly higher AUC, the differences among the three measures were not statistically significant. These results suggest that both brief instruments offer diagnostic capabilities similar to the BHS, despite their reduced length. Importantly, the comparable AUC values indicate that the Brief-H-Pos and Brief-H-Neg maintain a high level of discriminative validity. In clinical practice, this enhances their appeal as efficient screening tools for use in settings with limited time or resources, such as primary care, emergency departments, or large-scale mental health assessments. Their ease of administration, combined with demonstrated psychometric strength, highlights their potential utility in detecting hopelessness and related suicide risk in adolescents.

Despite these promising findings, several limitations should be acknowledged. First, the relatively small, female-dominated, and clinically based sample limits the generalizability of the results. Further research involving larger and more diverse populations is warranted to evaluate the psychometric properties of the Brief-H-Pos and Brief-H-Neg in gender-balanced, non-clinical, and community-based samples. Second, the present study did not assess test-retest reliability, leaving temporal stability unexamined. Third, the suitability of ultra-brief instruments—particularly those comprising only two items—for assessing complex psychological constructs remains a subject of debate (32). While ultra-brief scales can be advantageous in terms of feasibility, prior research has noted that increasing the number of items generally enhances construct representation and reliability (30). Nevertheless, previous work has proposed that even a single item from the BHS (“My future seems dark to me”) may be sufficient to capture core elements of hopelessness (18).

In conclusion, the findings from this study provide preliminary evidence supporting the reliability and validity of the Brief-H-Pos and Brief-H-Neg in Turkish adolescents. Further investigations are needed to address the current limitations and to establish the broader applicability of these brief instruments across different populations and cultural contexts, including adult and non-clinical adolescent groups in Türkiye.

Etik Kurul Onayı: Permission was obtained from the Adana City Training and Research Hospital Scientific Research Ethics Committee (approval number: 15.08.2024/110), and Helsinki Declaration rules were followed to conduct this study. All participants and their parents provided informed consent.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept- AAG, SBC, BA; Design- AAG, SBC, Ni; Supervision- BA, SG, LT; Resource- AAG, SBC, Ni; Materials- AAG, SBC, Ni; Data Collection and/or Processing- AAG, SBC, Ni; Analysis and/or Interpretation- HB, BA, SG, LT; Literature Search- AAG, SBC, HB, BA; Writing- AAG, SBC, HB, BA; Critical Reviews- SG, LT.

Conflict of Interest: The authors report no conflict of interest.

Financial Disclosure: This research did not receive a specific grant from any funding agency in the public, commercial, or not-for-profit sectors.

REFERENCES

1. Branje S, De Moor EL, Spitzer J, Becht AI. Dynamics of identity development in adolescence: A decade in review. *J Res Adolesc* 2021;31(4):908–927. [\[Crossref\]](#)
2. Petersen AC. The nature of biological–psychosocial interactions: The sample case of early adolescence. In: Lerner RM, Foch TT, editors. *Biological–psychosocial interactions in early adolescence*. Routledge; 2021. p.35–61.
3. Steare T, Muñoz CG, Sullivan A, Lewis G. The association between academic pressure and adolescent mental health problems: A systematic review. *J Affect Disord* 2023;339:302–317. [\[Crossref\]](#)
4. Han Z-Y, Ye Z-Y, Zhong B-L. School bullying and mental health among adolescents: a narrative review. *Transl Pediatr* 2025;14(3):463–472. [\[Crossref\]](#)
5. Kaman A, Devine J, Wirtz MA, Erhart M, Boecker M, Napp A-K, et al. Trajectories of mental health in children and adolescents during the COVID-19 pandemic: findings from the longitudinal COPSY study. *Child Adolesc Psychiatry Ment Health* 2024;18(1):89. [\[Crossref\]](#)
6. Takács J, Katona ZB, Ihász F. A large sample cross-sectional study on mental health challenges among adolescents and young adults during the COVID-19 pandemic at-risk group for loneliness and hopelessness during the COVID-19 pandemic. *J Affect Disord* 2023;325:770–777. [\[Crossref\]](#)
7. Sisk LM, Gee DG. Stress and adolescence: vulnerability and opportunity during a sensitive window of development. *Curr Opin Psychol* 2022;44:286–292. [\[Crossref\]](#)
8. Greene SM. The relationship between depression and hopelessness: Implications for current theories of depression. *Br J Psychiatry* 1989;154:650–659. [\[Crossref\]](#)
9. Gidron Y. Hopelessness. In: Gellman MD, editor. *Encyclopedia of Behavioral Medicine*. Springer, Cham; 2020. p.1085–1086.
10. Liu Q, Martin NC, Findling RL, Youngstrom EA, Garber J, Curry JF, et al. Hopelessness and depressive symptoms in children and adolescents: An integrative data analysis. *J Abnorm Psychol* 2021;130:594–607. [\[Crossref\]](#)
11. Uygun SD, Cop E, Uneri OS, Ozdel K, Atar E, Munir KM. Psychometric evaluation of the Turkish version of the Substance Use Risk Profile Scale in adolescents. *J Ethn Subst Abuse* 2021;20:379–394. [\[Crossref\]](#)
12. Çutuk ZA. Emotional expressivity, loneliness and hopelessness relationship in adolescents. *International Journal of Psychology and Educational Studies* 2021;8:51–60.
13. Pretorius TB, Padmanabhanunni A. A unidimensional short form of the Beck Hopelessness Scale (BHS-7) derived using item response theory. *Sci Rep* 2024;14:6021. [\[Crossref\]](#)
14. Wang X, Wang S. The bridge between cybervictimization and suicidal ideation among adolescents: A vicious cycle of hopelessness. *J Youth Adolesc* 2023;52:996–1009. [\[Crossref\]](#)
15. Beck AT, Weissman A, Lester D, Trexler L. The measurement of pessimism: the hopelessness scale. *J Consult Clin Psychol* 1974;42:861–865. [\[Crossref\]](#)
16. Drinkwater K, Donovan A, Dagnall N, Williams C. The General Hopelessness Scale: Development of a measure of hopelessness for non-clinical samples. *PLoS One* 2023;18:e0287016. [\[Crossref\]](#)
17. Dunn SL, Olamijulo GB, Fuglseth HL, Holden TP, Swieringa LL, Sit MJ, et al. The state–trait hopelessness scale: Development and testing. *West J Nurs Res* 2014;36:552–570. [\[Crossref\]](#)
18. Aish A-M, Wasserman D. Does Beck's Hopelessness Scale really measure several components? *Psychol Med* 2001;31:367–372. [\[Crossref\]](#)
19. Perczel Forintos D, Rózsa S, Pilling J, Kopp M. Proposal for a short version of the Beck Hopelessness Scale based on a national representative survey in Hungary. *Community Ment Health J* 2013;49:822–830. [\[Crossref\]](#)
20. Everson SA, Kaplan GA, Goldberg DE, Salonen JT. Hypertension incidence is predicted by high levels of hopelessness in Finnish men. *Hypertension* 2000;35:561–567. [\[Crossref\]](#)
21. Everson SA, Kaplan GA, Goldberg DE, Salonen R, Salonen JT. Hopelessness and 4-year progression of carotid atherosclerosis: the Kuopio ischemic heart disease risk factor study. *Arterioscler Thromb Vasc Biol* 1997;17:1490–1495. [\[Crossref\]](#)
22. Fraser L, Burnell M, Salter LC, Fourkala E-O, Kalsi J, Ryan A, et al. Identifying hopelessness in population research: a validation study of two brief measures of hopelessness. *BMJ Open* 2014;4:e005093. [\[Crossref\]](#)
23. Durak A, Palabıyıkoglu R. Beck Umutsuzluk Ölçeği geçerlilik çalışması [in Turkish]. *Kriz dergisi* 1994;2:311–319.
24. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psychiatry* 1961;4:561–571.
25. Hisli N. Beck Depresyon Envanteri'nin üniversite öğrencileri için geçerliği, güvenilirliği. *Psikoloji Dergisi* 1989;6:3-13.

26. Granö N, Oksanen J, Kallionpää S, Roine M. Specificity and sensitivity of the Beck Hopelessness Scale for suicidal ideation among adolescents entering early intervention service. *Nord J Psychiatry* 2017;71:72–76. [\[Crossref\]](#)
27. Gregory RJ. *Psychological testing: History, principles, and applications*. 7th ed. Pearson Education; 2015.
28. George D, Mallery P, editors. *IBM SPSS Statistics 25 step by step*. 15th ed. New York: Routledge; 2018.
29. Ahmadboukani S, Kivi HG, Kiani A, Rezaeisharif A. A structural test of the three-step theory (3ST) of suicide in the Iranian population: From ideation to action. *Health Sci Rep*. 2023;6:e1697. [\[Crossref\]](#)
30. Eisinga R, Grotenhuis M te, Pelzer B. The reliability of a two-item scale: Pearson, Cronbach, or Spearman-Brown? *Int J Public Health* 2013;58:637–642. [\[Crossref\]](#)
31. Mandrekar JN. Receiver operating characteristic curve in diagnostic test assessment. *J Thorac Oncol* 2010;5:1315–1316. [\[Crossref\]](#)
32. Allen MS, Iliescu D, Greiff S. Single item measures in psychological science. *European Journal of Psychological Assessment* 2022;38:1–5.