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# The Turkish Version of Intuitive Eating Scale-3 Adapted for Pregnant Women: Validity and Reliability Study

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## Abstract

# Purpose

Pregnancy can affect maternal-fetal nutritional outcomes by altering eating patterns owing to physiological and psychosocial changes. Intuitive eating, which focuses on sensitivity to internal hunger and satiety cues, offers a theoretical and measurable framework for evaluating nutritional self-regulation during pregnancy. The aim of this study is to validate the Intuitive Eating Scale 3 (IES-3) in pregnant Turkish women.

# Methods

This methodological study was carried out in Türkiye between January and March 2025 with the participation of 123 pregnant women. The translation process for IES-3 was carried out using a forward-backward translation, and its comprehensibility was examined based on expert evaluations. Exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were used to determine and confirm the factorial structure of IES-3. Model fit was evaluated using CFI, TLI, RMSEA, and SRMR. Internal consistency was assessed using the Cronbach's alpha coefficient and test-retest reliability were re-evaluated after 3 weeks.

# Results

The mean age of the pregnant women was 29.2 ± 4.22 years. The Kaiser-Meyer-Olkin (KMO) sample adequacy was 0.69, and Bartlett's sphericity test was statistically significant ($p < 0.001$). The results showed that the scale has a four-factor structure explaining 66.0% of the total variance. CFA showed that the four-factor structure of IES-3 provided a good fit in pregnant women (AGFI = 0.88, GFI = 0.92, TLI = 0.95, and RMSEA = 0.06). The Cronbach's alpha coefficients was 0.70 for the total scale and 0.75–0.84 for the sub-dimensions.

# Conclusions

The findings indicate that the IES-3 is a valid and reliable measurement tool for assessing intuitive eating behavior among Turkish pregnant women.

## Introduction

Inadequate or excessive weight gain during pregnancy is associated with adverse health outcomes such as gestational diabetes, fetal macrosomia, pregnancy-related hypertension, premature births, fetal growth and developmental retardation, neonatal hypoglycemia, and obesity in infancy and childhood [1]. Identifying poor dietary habits in the early stages of pregnancy is important for controlling adverse

health outcomes through appropriate interventions. Excessive weight gain and obesity during pregnancy affect the long-term health of both mother and newborn, highlighting the need for evidence-based weight management counseling [2].

Eating behavior encompasses many aspects related to food, ranging from an individual's food choices and eating habits to their attitudes towards dieting [3]. In recent years, approaches focusing on adaptive eating behaviors have come to the forefront among non-pregnant women. The results of these studies show that intuitive eating is associated with lower body mass index (BMI), reduced dieting behavior, reduced eating psychopathology, and reduced food-related guilt and anxiety. Furthermore, women with higher levels of intuitive eating have been reported to exhibit increased body satisfaction, reduced emotional eating, and higher overall psychological well-being. These findings highlight intuitive eating as an important approach supporting a healthy and sustainable eating pattern in non-pregnant women [4–11]. Consistent with positive findings in non-pregnant women, a limited number of studies in lactating women report that intuitive eating provides significant benefits during lactation. Higher levels of intuitive eating among breastfeeding mothers have been reported to be associated with healthier eating patterns, lower levels of food restriction, reduced anxiety about body weight, and a more positive body image. Furthermore, it is suggested that intuitive eating can support mothers' psychological well-being by reducing emotional eating behaviors and eating-related guilt, which are common in the postpartum period [12–17]. These findings demonstrate that intuitive eating is important not only during the pre-pregnancy period but also during the postpartum and breastfeeding periods, serving as a healthy and sustainable nutritional approach. Therefore, this behavior should also be evaluated during pregnancy.

Intuitive eating (IE), unlike the traditional weight-focused, restrictive dietary approach, is a nutritional approach based on recognizing and trusting the internal biological signals from one's body. IE is an adaptive nutrition approach that regulates both emotional eating and restrictive dieting practices, based on an individual's internal body signals. Unlike traditional diets, this approach relies on interpreting internal cues that guide the quantity and timing of food intake. IE has three distinct features: (1) relying on internal hunger and fullness cues to determine when to start and stop eating; (2) non-restrictive eating; and (3) eating for physical rather than emotional reasons [18, 19]. Clinical dietitians Evelyn Tribole and Elyse Resch [20] suggest that rigid eating rules that disregard “body wisdom” (i.e. hunger/fullness cues) lead to preoccupation with food and loss of control over eating, which is then driven by emotions and external cues. In contrast, intuitive eating normalizes eating behavior and reduces food-related anxiety by allowing individuals to reconnect with their bodies.

During pregnancy, intuitive eating behaviors have been shown to be related to body weight, weight gain during pregnancy, and nutritional quality [17, 21, 22]. Higher levels of IE during pregnancy are associated with decreased dieting behaviors, while high BMI and eating psychopathology are major determinants of dieting [6]. These findings suggest that supporting IE during pregnancy is an important clinical goal to prevent unnecessary nutritional restrictions and to strengthen maternal and infant health. However, pregnancy is a special period during which eating behaviors may be perceived differently due to increased nutritional requirements, food safety concerns, and physiological changes [23]. Therefore, it is

important to evaluate intuitive eating behaviors in pregnant women using valid and reliable measurement tools.

Studies evaluating intuitive eating behaviors during pregnancy are limited. However, the current literature shows that research mainly focuses on previous versions of the Intuitive Eating Scale [24, 25]. In particular, studies examining the validity and reliability of the IES-2 in pregnant women have indicated that the scale generally possesses acceptable psychometric properties [26, 27]. However, it has been reported that increased food safety concerns and physiological changes during pregnancy may affect the perception of certain items [28]. Accordingly, some researchers have suggested using adapted scale versions that include pregnancy-specific explanations. No studies have evaluated the psychometric properties of the Intuitive Eating Scale-3 (IES-3), a more recent and improved tool for measuring intuitive eating during pregnancy. These results highlight the need for a valid and reliable measurement tool to assess intuitive eating behaviors during pregnancy based on current criteria. The IES-3 is an updated, improved measurement instrument that assesses intuitive eating behaviors across four sub-dimensions. However, no studies in Turkey have evaluated the validity of the IES-3 in pregnant women. Therefore, the aim of this study is to evaluate the validity and reliability of IES-3 [29] among Turkish pregnant women.

## Methods

# Study design and population

The study was conducted on 123 pregnant women receiving prenatal care at obstetrics and gynecology clinics in Türkiye. Individuals with single pregnancies and aged between 18 and 40 years were included in this study. We excluded women with neurological or psychological illnesses, those younger than 18 years, those following restrictive diets, or those with pregnancy-related complications. Written informed consent was obtained from all participants who met the inclusion criteria before they participated in the study.

The research was planned and implemented based on the Declaration of Helsinki. Ethics committee approval was obtained from the Health Sciences Scientific Research and Publication Ethics Board of Çankırı Karatekin University (Date: 4 December 2024, Meeting No: 17, Approval Code: 3937b5016f3147c7). The STROBE checklist was used as the basis for reporting the study.

## Data collection

The data for this study were collected from pregnant women via face-to-face interviews and an online survey form between January and March 2025. The survey was prepared using Google Forms and sent to each participant via WhatsApp as a personalized link. Participants completed the survey online by opening the survey link on their mobile devices. This method was chosen to reduce data entry errors and to allow participants to respond to the survey at their convenience.

The data collection form consisted of three sections. The first section included questions to determine the sociodemographic characteristics of the participants, such as age, gestational week, number of pregnancies, pregnancy order, and whether they had a chronic disease diagnosis. In the second section, women's eating habits (number of main meals and snack consumption) were recorded. The final section included the items of the IES-3.

## Anthropometry

Body weight and height data were obtained by pregnant women providing researchers with records of measurements taken by healthcare professionals during routine examinations. BMI was calculated by dividing an individual's body weight in kilograms by the square of their height in meters. The BMI values were evaluated based on the World Health Organization (WHO) classification; 18.5–24.9 kg/m² was classified as normal weight, 25.0–29.9 kg/m² as overweight, and 30.0–34.9 kg/m² as grade 1 obesity [30].

## Intuitive Eating Scale-3

Intuitive Eating Scale-3 was developed by Tylka et al. [29] to assess intuitive eating and contains twelve items and four subscales: Unconditional Permission to Eat (UPE), Eating for Physical Reasons (EPR), Reliance on Hunger and Satiety Cues (RHSC), and Body-Food Choice Congruence (BFCC). Each item on the scale was evaluated using a five-point Likert scale, and the total score was calculated as the average of the scores obtained from the twelve items. There is no established cut-off point to distinguish between high and low intuitive feeding.

## The Translation Procedure and Adaptation

Permission to adapt the Intuitive Eating Scale 3 into Turkish and conduct its validity and reliability study was obtained via email from Tylka [29] the original developer of the scale. The translation process of the scale from English to Turkish was carried out by two researchers from the Department of Nutrition and Dietetics, and a final version was developed by comparing the translations. Then, a back-translation was performed by a statistics researcher who was unfamiliar with the text, and this version was evaluated by translators whose native language was English. The final version was sent to five nutrition and dietetics researchers. They evaluated the items on a four-point Likert scale for appropriateness, clarity, and scope. The item-level content validity index (I-CVI) was found to be 0.80. In line with expert opinion, the items were revised to improve cultural fit and comprehensibility, and the final version was piloted with 20 pregnant women to verify their comprehensibility and social appropriateness.

**Statistical Analysis**

Descriptive statistics (mean, standard deviation, frequency, and percentage distributions) were used in the analysis of the data. The Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of sphericity were applied to determine the suitability of the data for EFA. Confirmatory factor analysis (CFA) was applied to evaluate the construct validity of the scale, and model fit was assessed using fit indices such as CFI, TLI, RMSEA, and SRMR. Internal consistency reliability was calculated using Cronbach's alpha coefficient. To assess criterion validity, the correlations between scale scores and relevant variables were analyzed. All analyses were performed using the Statistical Package for the Social Sciences (SPSS) version 25.0 and R version 4.1.3.

## Results

The sociodemographic and general characteristics of the 123 pregnant women who participated are shown in Table 1. The mean age of pregnant women participating in the study was 29.2 ± 4.22 years, and the mean gestational age was 26.4 ± 9.87 weeks. While 41.5% of the participants were employed, 58.5% were unemployed.

Table 1
Sociodemographic and general characteristics of women (n = 123).

| **Variables** | **Mean ± SD** | |
|---|---|---|
| Age (years) | 29.2 ± 4.22 | |
| Gestational age (weeks) | 26.4 ± 9.87 | |
| Pregestational BMI (kg/m$^2$) | 23.7 ± 3.79 | |
| | **n** | **%** |
| **Schooling** | | |
| Secondary- high school | 28 | 22.8 |
| Undergraduate school | 78 | 63.4 |
| Graduate school | 17 | 13.8 |
| **Employment status** | | |
| Unemployment | 51 | 41.5 |
| Employment | 72 | 58.5 |
| **Number of main meals** | | |
| 2 meals | 48 | 39.0 |
| 3 meals | 75 | 61.0 |
| **Snack consumption** | | |
| Yes | 108 | 87.8 |
| No | 15 | 12.2 |
| BMI: Body mass index, SD: Standard deviation | | |

## Construct Validity Analysis

Factor analysis results support construct validity, with factor loadings ranging from 0.396 to 0.856 for each item, and all items exceeding the acceptable threshold (≥ 0.40). These results indicate that a suitable sample was available for the analysis (Table 2).

Table 2
Item Statistics of the Intuitive Eating Scale 3

| Items | | Factor Loading |
|---|---|---|
| **1.** | **I give myself the freedom to eat foods that I enjoy the taste of, without judgment.** | **0.666** |
| 2. | I allow myself to eat foods that taste good, without guilt. | 0.809 |
| 3. | I eat foods that give me pleasure, without feeling ashamed about it. | 0.724 |
| 4. | I eat when I am physically hungry more so than when I am feeling distressed. | 0.481 |
| 5. | I generally eat to provide nourishment and fuel for my body more than to relieve emotional distress. | 0.396 |
| 6. | My main ways of coping with distressing thoughts and feelings don’t involve food. | 0.697 |
| 7. | I generally rely on my body’s hunger signals to tell me when to eat. | 0.647 |
| 8. | I generally rely on signals that my body is comfortably full to tell me when to stop eating. | 0.803 |
| 9. | I pay attention to my body to tell me when, what, and how much to eat. | 0.775 |
| 10. | I prefer foods that give me lasting energy. | 0.660 |
| 11. | I choose foods that help my body perform the best it can, both physically and mentally. | 0.856 |
| 12. | I eat foods that feel good in my body. | 0.807 |
| SD: Standard deviation | | |

## Reliability Analysis

The Cronbach's alpha coefficient for the IES-3 was found to be 0.70, indicating that the scale has an acceptably reliable level. Item–total correlations ranged from 0.029 to 0.529. Most items demonstrated correlations above the commonly accepted threshold of 0.30, suggesting that they adequately contributed to the total scale score. However, item 4 had a notably low item–total correlation (0.029), which may indicate that this item is inconsistent with the overall scale and could be reviewed or revised in future applications. The “Cronbach’s α coefficient if item deleted” values ranged from 0.645 to 0.734, indicating that removing any single item would not substantially increase the overall reliability. This further supports the internal consistency of the scale, although the item with the lowest correlation may warrant attention (Table 3).

Table 3
Internal consistency of the Intuitive Eating Scale 3

| Items | Corrected item-total correlation | Cronbach's α if item deleted | Cronbach's α |
|---|---|---|---|
| 1. | 0.226 | 0.692 | 0.70 |
| 2. | 0.420 | 0.659 | |
| 3. | 0.446 | 0.655 | |
| 4. | 0.029 | 0.734 | |
| 5. | 0.304 | 0.678 | |
| 6. | 0.203 | 0.696 | |
| 7. | 0.429 | 0.661 | |
| 8. | 0.529 | 0.645 | |
| 9. | 0.513 | 0.650 | |
| 10. | 0.399 | 0.665 | |
| 11. | 0.350 | 0.673 | |
| 12. | 0.330 | 0.675 | |

A principal components analysis was conducted to examine the factor structure of the twelve-item scale. The analysis revealed four factors with eigenvalues greater than 1, which collectively explained 69.01% of the total variance. Specifically, Factor 1 accounted for 27.23%, Factor 2 for 20.72%, Factor 3 for 12.16%, and Factor 4 for 8.90% of the variance. After varimax rotation, the variance explained by each factor was more evenly distributed, with a cumulative variance explained of 69.01% (Factor 1 = 18.95%, Factor 2 = 18.69%, Factor 3 = 18.54%, and Factor 4 = 12.83%). These results support a four-factor structure, suggesting that each factor represents a distinct and meaningful dimension of the construct (Table 4).

Table 4
Factor analysis of Intuitive Eating Scale 3

| Factor | Eigenvalue | Percent of Variance | Cumulative % | Percent of Variance (Rotated) | Cumulative % (Rotated) |
|---|---|---|---|---|---|
| 1 | 3.268 | 27.23 | 27.23 | 18.95 | 18.95 |
| 2 | 2.487 | 20.72 | 47.95 | 18.69 | 37.64 |
| 3 | 1.460 | 12.16 | 60.11 | 18.54 | 56.18 |
| 4 | 1.068 | 8.90 | 69.01 | 12.83 | 69.01 |
| 5 | 0.957 | 7.98 | 76.99 | - | - |
| 6 | 0.638 | 5.32 | 82.31 | - | - |
| 7 | 0.531 | 4.42 | 86.73 | - | - |
| 8 | 0.445 | 3.71 | 90.43 | - | - |
| 9 | 0.423 | 3.53 | 93.96 | - | - |
| 10 | 0.311 | 2.59 | 96.55 | - | - |
| 11 | 0.215 | 1.79 | 98.34 | | |
| 12 | 0.199 | 1.655 | 100 | | |

Confirmatory factor analysis of the total scale and its subdimensions is presented in Fig. 1. Items with factor loadings below 0.30 were not excluded from the scale. Following factor rotation, items 10–12 clustered in the first factor, items 1–3 in the second, items 7–9 in the third, and items 4–6 in the fourth.

The loadings ranged from 0.66 to 0.94 in the first factor, from 0.58 to 0.77 in the second, from 0.64 to 0.87 in the third, and from − 0.32 to 0.96 in the fourth. Low correlations (r = -0.07 to 0.35) were observed between the factors. These results confirm the four-factor structure of the scale. The factors are named as follows: F1, “body-food choice congruence”; F2: “unconditional permission to eat”; F3: “reliance on hunger and satiety cues”; and F4: “eating for physical reasons”. he goodness-of-fit indices of the scale, along with their acceptable values, are presented in Table 5. The goodness-of-fit indices for the confirmatory factor analysis showed that the $\chi^2/df$ ratio was 1.375, which is within acceptable limits (< 5). The GFI (0.919), AGFI (0.868), CFI (0.963), and TLI (0.950) values, reflecting model fit, were also found to be at acceptable levels. The RMSEA value of 0.055 indicates that the model exhibits a moderately acceptable fit, while the NFI value (0.882) was found to be slightly below the recommended threshold. All fit indices except NFI indicate that the model has an acceptable level of fit.

The goodness-of-fit indices for the scale and the accepted threshold values for these indices are shown in Table 5. According to the findings, the $\chi^2/df$ ratio is 1.375, which is within the acceptable range (< 5). Furthermore, the GFI (0.919), AGFI (0.868), CFI (0.963), and TLI (0.950) values were found to meet the recommended acceptable levels. While the RMSEA value of 0.055 suggests that the model has a

moderately acceptable fit, the NFI value (0.882) was found to be slightly below the commonly recommended threshold. In the overall assessment, all fit indices except the NFI value indicate that the model fit is at an acceptable level. The model fit indices showed a root mean square residual (RMSR) of 0.077, and the chi-square test was significant ($\chi^2(48) = 66.05$, $p = 0.043$). The internal consistency of the scale, as measured by Cronbach's α, was 0.70. These findings indicate that the scale has acceptable model fit and internal consistency. Both exploratory and confirmatory factor analyses support the four-factor structure of the IES-3, confirming that the items cluster meaningfully into distinct dimensions.

Table 5
Confirmatory factor analysis of Intuitive Eating Scale 3

| Fit indices | Values of | Acceptable value |
|---|---|---|
| $\chi^2$/df | 1.375 | < 5 |
| GFI | 0.919 | 0.90 ≤ GFI ≤ 0.95 |
| AGFI | 0.868 | 0.85 ≤ AGFI ≤ 0.90 |
| CFI | 0.963 | 0.90 ≤ CFI ≤ 0.95 |
| NFI | 0.8818 | 0.90 ≤ NFI ≤ 0.95 |
| RMSEA | 0.055 | 0.05 ≤ RMSEA ≤ 0.10 |
| TLI | 0.9497 | 0.90 ≤ TLI ≤ 0.95 |

GFI: Goodness-of-Fit Index, AGFI: Adjusted Goodness-of-Fit Index, CFI: Comparative Fit Index, NFI: Normed Fit Index, RMSEA: Root Mean Square Error of Estimation, TLI: Tucker– Lewis Index.

Test-retest reliability was assessed using the intraclass correlation coefficient (ICC) following re-administration of the scale, and a paired t-test was used to examine the scale's unidimensionality (Table 6). The scale was initially administered to 63 participants, but only 27 were available for the retest. No significant difference was found between the test and retest scores ($p > 0.05$), indicating that the measurement is consistent over time. Cronbach's α for the total score was 0.70, indicating that the scale's internal consistency is at an acceptable level. The test–retest ICC was 0.955 (95% CI: 0.905–0.979), indicating high reliability, and was statistically significant ($p < 0.001$). Additionally, the test–retest correlation, $r = 0.964$ ($p < 0.001$), demonstrated high stability for measurements administered two weeks apart.

Table 6
Test–retest reliability of the Intuitive Eating Scale 3

| Variable | Cronbach's α | Test (X̄±SD) | Retest (X̄±SD) | p value (t-test) | ICC (%95 CI) | r | p value (correlation) |
|---|---|---|---|---|---|---|---|
| Total score | 0.70 | 3.5 ± 0.48 | 3.4 ± 0.40 | 0.167 | 0.955 (0.905–0.979) | 0.964 | < 0.001 |

ICC: Intraclass correlation coefficient, CI: Confidence interval, GA: SD: Standard deviation

# Discussion

This study investigated the validity and reliability of the IES-3 among pregnant women. Furthermore, this study is the first to validate the IES-3 among pregnant women in Türkiye, and it represents a significant scientific contribution to the use of the scale in this population. Our findings demonstrate that the four-factor structure of the IES-3 is valid in pregnant women and that measurement reliability is acceptable.

The intuitive eating approach is emerging as a potential alternative to traditional nutritional interventions in managing weight gain during pregnancy [31]. The most commonly used measurement tool for this, IES-2, has methodological differences related to its length, scope limitations, and item structure [32]. To address these shortcomings, the IES-3 was developed, and its psychometric properties were evaluated in a sample of adults in the United States. In our study, EFA results confirmed the four sub-dimensional structure of the original form of the scale: UPE, EPR, RHSC, and BFCC, which encompass four core behavioral dimensions. The original literature on IES-3 also indicates that the same four-factor structure has been confirmed in various samples. Tylka et al. reported that IES-3 has both a general intuitive eating factor and these four specific sub-dimensions [29]. The validation of the sub-dimensions indicates that the scale adequately reflects the core behavioral components of intuitive eating in the context of pregnancy. This finding is consistent with results indicating that the original IES-3 comprises both a general intuitive eating factor and four specific sub-dimensions.

In validation studies of intuitive eating scales in pregnant women, it has been noted that some items in the form may be interpreted differently [25–27]. In the study conducted by Paterson et al. [25] with pregnant women, the content validity of IES-2 was evaluated in pregnant women, and it was revealed that items related to food safety, in particular, could have different meanings in the context of pregnancy. Therefore, the researchers developed a pregnancy-adapted version of the scale (IES-Pregnancy) and demonstrated that its test-retest reliability was high (r = 0.79). This finding supports the need for targeted assessment of intuitive eating behaviors during pregnancy. However, there are no studies in the literature that validate IES-3 in pregnant women; all studies in the current conducted in the pregnant population focus on IES-2 [26, 27]. Therefore, our study is the first in the international literature to perform validity and reliability analyses of the IES-3 among pregnant women. This contribution to the study of IES-3, which provides a more up-to-date, shorter, and more robust factor structure, fills an important gap in available tools for use during pregnancy. Furthermore, the validation of the four-factor

structure in our study supports discussion of aspects of previous IES-2 studies requiring adaptation during pregnancy (e.g., interpretation of food safety and dietary restrictions) and demonstrates that the more current structure of IES-3 is understandable and applicable to pregnant women. The findings indicate that IES-3 is a suitable tool, both methodologically and practically, for assessing intuitive eating behaviors during pregnancy and that it fills a significant gap in existing measurement tools.

Our CFA findings indicate that the IES-3 exhibits good model fit in Turkish pregnant women (AGFI = 0.88; GFI = 0.92; TLI = 0.95; RMSEA = 0.06). The literature reports that IES-3 shows good model fit across various age groups and cultural samples. For example, Tylka et al. reported that the scale maintained multigroup invariance in different populations and showed no measurement bias with respect to age, sex, and BMI. Our findings indicate that the scale also maintains its structural validity in the group of pregnant women. The finding that similar fit indicators were obtained in our sample of pregnant women demonstrates that IES-3 maintains its structural validity during a period of intense physiological and behavioral change, such as pregnancy. This finding supports the idea that the core components of intuitive eating are significant and measurable during pregnancy; it also strengthens the evidence for the applicability of IES-3 not only to the general adult population but also to specific groups.

In our study, the Cronbach's alpha coefficient was 0.70 for the entire scale and ranged from 0.79 to 0.86 for the sub-dimensions. High internal consistency values have also been reported in previous psychometric evaluations of the IES-3. For example, in the original evaluation by Tylka et al., the reliability of the sub-dimensions of the scale was reported to be high. I n terms of test-retest reliability, intuitive eating scales have been shown to be stable in pregnant women. Paterson et al. [22] reported that intuitive eating measurements remained quite stable over a five-week period in pregnant women (r = 0.79). The similarity of the Cronbach's alpha values obtained in our study with these findings suggests that IES-3 can provide consistent measurements across different cultural and specific populations.

Pregnancy is recognized as a special period in which eating behaviors are heavily influenced by physiological, psychological, and cultural factors. The literature suggests that intuitive eating behaviors may be associated with healthy weight gain, improved nutritional quality, and a more positive body image during pregnancy. Therefore, developing valid measurement tools for pregnant populations is crucial. The IES-3 scale has been translated for adult populations and is used across different cultures. In this context, our study makes a novel contribution to the literature by testing the scale among Turkish pregnant women.

# Conclusion

Our findings demonstrate that IES-3 is a valid, reliable, and structurally stable measurement tool among Turkish pregnant women. Factor analysis revealed that the scale exhibits a four-factor structure. The Cronbach's alpha coefficient of 0.70 in the internal consistency analysis indicates that the scale is a reliable measurement tool in the Turkish pregnant women's population. Furthermore, the shorter length of IES-3 relative to IES-2 suggests greater ease of use in clinical applications.

Based on the findings of this study, the IES-3 can be used in clinical and field applications to assess intuitive eating behaviors during pregnancy. Because of the scale's concise, applicable, and reliable structure, screening of pregnant women's nutritional behaviors during prenatal monitoring and early identification of potential risk areas associated with intuitive eating may be possible. Assessment of the IES-3 sub-dimensions can contribute to the development of individualized nutritional counseling by dietitians and other health professionals and enable the planning of targeted interventions, especially for pregnant women who have difficulty recognizing emotional eating or hunger-satiety cues. Furthermore, the scale can be used as a guiding tool for creating educational programs that support healthy weight management during pregnancy, increase body awareness, and encourage the avoidance of unnecessary dietary restrictions. In this context, routine use of the IES-3 in pregnancy-specific nutritional assessments for clinical applications and further research is recommended.

# Declarations

### Ethics approval

This study was performed in line with the principles of the Declaration of Helsinki. Approval was granted by the Health Sciences Scientific Research and Publication Ethics Board of Çankırı Karatekin University (Date: 4 December 2024, Meeting No: 17, Approval Code: 3937b5016f3147c7).

### Consent to Participate

Prior to participation in the study, all participants were informed about the purpose and procedures of the research and their right to withdraw from the study at any time. In addition, written informed consent forms were obtained from all individuals who met the inclusion criteria before participating in the study.

### Consent for publication

Consent for publication was obtained from volunteered pregnant women.

### Availability of data and materials

The datasets generated and/or analyzed during the current study are available from the corresponding author upon reasonable request.

### Competing interests

The authors declare that they have no conflict of interest.

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### Authors' contributions

GEİ and ŞNE contributed to the conception. GGB, GŞB, SB, and YS collected data. PA contributed to all statistical analyses. GEİ, ŞNE, and YS wrote, reviewed, and edited the manuscript. All authors have read and agreed to the published version of the manuscript.

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# Figures

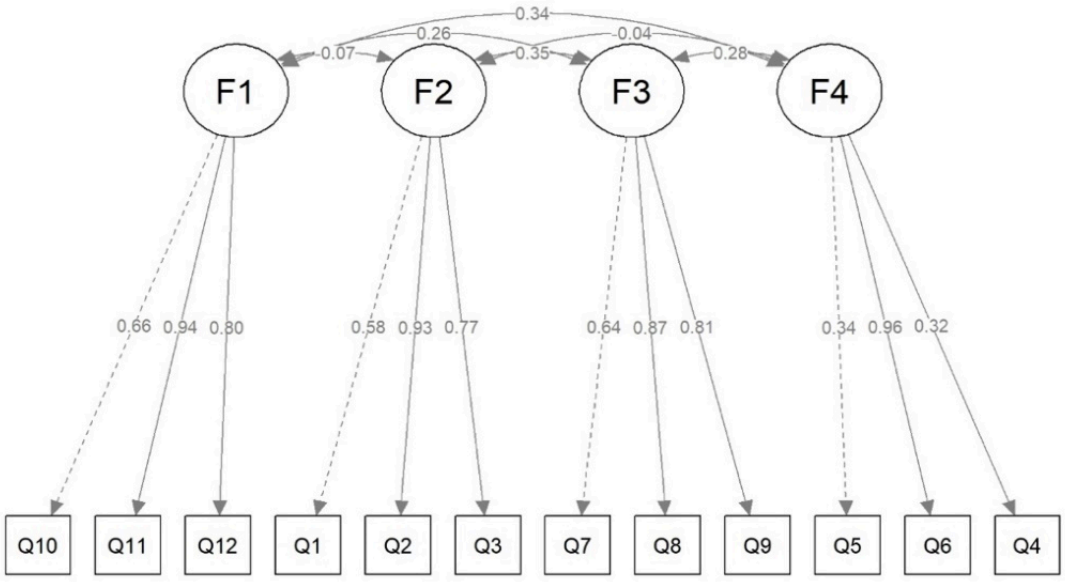



**Figure 1**

The confirmatory factor analysis