



## Turkish version of the Intuitive Eating Scale-2: Validity and reliability among university students



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### ABSTRACT

Intuitive Eating is defined as "the dynamic process-integrating attunement of mind, body, and food". The purpose of this study was, therefore, adapt the IES-2 to the Turkish language and reliability and validity of IES-2 among Turkish populations. We also examined the instrument's internal consistency and test-retest reliability and analysed the relationships between the IES-2 and several variables so as to evaluate the convergent and discriminant validity. Three hundred seventy-seven undergraduate and post-graduate women and men between the ages of 19–31 years (mean 22.3, SD = 3.53) attending two large private universities in Istanbul, Turkey. The best solution from the principal factors analysis of the 23 items of the IES-2 revealed four factors corresponding to the four subscales (F1: Eating for physical rather than emotional reasons; F2: Unconditional permission to eat; F3: Reliance on hunger and satiety cues; F4: Body-food choice congruence), as reported by the authors of the questionnaire. Bartlett's test of sphericity gave  $\chi^2 = 9043.49$  ( $p < 0.001$ ), while the Kaiser-Meyer-Olkin index was 0.87 (KMO were 0.89 for women and 0.83 for men). The test-retest reliability of the IES-2 was 0.88 for the IES-2 total score. The IES-2 had a = 0.82. These findings support the notion that intuitive eating is a viable concept for university students and the IES can be used to examine adaptive eating behaviors in this population.

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### 1. Introduction

Current approaches to eating behaviors have emphasized pathology, and research has begun to focus on exploring the causes, prevalence, and factors associated with the occurrence of disordered eating rather than on determining what contributes to the development of healthy, adaptive eating (Burrows & Cooper, 2002; Swanson, Crow, Le Grange, Swendsen, & Merikangas, 2011; Wilksch & Wade, 2010). When healthy eating is argued, healthy eating generally has been described simply as the lack of eating disorder symptoms (Tylka & Subich, 1999), rather than as an

adaptive, independent behavioral process. Tylka (2006) examined these adaptive eating processes through the development of the Intuitive Eating Scale (IES) in college women, which was the first scale to provide clinicians and researchers with a way to adequately measure this concept.

Intuitive eating is a type of non-diet approach to health that was first popularized in 1995 by Evelyn Tribole and Elyse Resch, both of whom are registered dietitians. Tribole and Resch founded this method as a bridge between a traditional non-diet approach and the typical health community approach, which includes dieting to achieve ideal body weight. The traditional non-diet approach requires full body acceptance regardless of size or shape but often does not address health risks. On the other hand, the health community's approach stresses the importance of minimizing health risks, including BMI, without mentioning the acceptance of the personal weight and shape differences. Tribole and Resch attempt to mesh these two polar ideas into a single program in intuitive eating (Tribole & Resch, 2003).

Intuitive eating, which is a restrictive eating or diet alternative, encourages individuals to consume calories only when they are physically hungry (Gast & Hawks, 1998). This paradigm also focuses

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on an individual's eating whatever is desired, theorizing that it is the body's natural way of telling it what it needs, avoiding food consumption for emotional, social, or environmental cues, being mindful of the body's satiety level, and supports the notion that acceptance of body size is just as important as the food we consume (Gast & Hawks, 2000). Many diets fail because of restrictive food intake and the ensuing disruption of homeostasis (Van Dyke & Drinkwater, 2014). Many professional organizations endorse calorie restricted diets as the best method for weight loss and weight maintenance (Academy of Nutrition and Dietetics, 2009; Jensen et al., 2014). However, previous study has shown that dieting is not a successful long-term tool for weight loss in all individuals; one study estimated that less than 20% of individuals who attempt to lose weight with dieting are successful and only 10% of people who are initially successful are able to maintain that weight loss for more than one year (Kraschnewski et al., 2010).

In contrast, intuitive eating offers a non diet approach to weight management by eating according to physiological hunger and satiety cues (Augustus-Horvath & Tylka, 2011; Gast, Madanat, & Nielson, 2012; Hawks, Merrill, & Madanat, 2004; Tylka & Kroon Van Diest, 2013; Wirtz & Madanat, 2013). Intuitive eating posits that the body can self-regulate caloric need by sending signals to eat the types and quantities of food to maintain health and weight; these physiological cues are commonly referred to as eat when you are hungry and stop when you are full (Van Dyke & Drinkwater, 2014). Intuitive eating shifts attention away from the negative processes of dieting, restrictive eating, energy monitoring, increased physical activity for the purpose of calorie deficit, and weight loss towards the positive processes of increased body signal awareness, improved emotional wellbeing, improved self-worth, reduced negative self-talk, and reduced preoccupation with food choice (Cole & Horacek, 2010). Intuitive Eating is defined as “the dynamic process-integrating attunement of mind, body and food” (Tribole & Resch, 2003). It refers to an adaptive form of eating essentially based on hunger and satiety cues to regulate food intake. Thus, a strong connection with internal body signals, known as interoceptive awareness, is fundamental to this process (Cadena-Schlam & López-Guimerà, 2015). Intuitive eating relies upon 10 principles to teach body wisdom. Included in these principles are, “reject the diet mentality,” “respect your fullness,” “Challenge the Food Police,” “Discover the Satisfaction Factor”, “Honor Your Health” and, “honor your feelings without using food”. It should be emphasized that the purpose of intuitive eating is not to facilitate weight loss (Tribole & Resch, 2003).

A large popular literature has accumulated that supports individuals in developing intuitive eating skills (Hirschmann & Munter, 1995; Matz & Frankel, 2006; Tribole & Resch, 2003). There is considerable evidence that intuitive eating skills can be learned (Bacon, Stern, Van Loan & Keim, 2005; Mensinger, Close & Ku, 2009), and that intuitive eating is associated with improved nutrient intake (Smith & Hawks, 2006), reduced eating disorder symptomatology (Kristeller & Hallett, 1999; Tylka, 2006) and not with weight gain (Provencher et al., 2009; Rapoport, Clark, & Wardle, 2000). Also, several studies have found intuitive eating to be associated with lower body mass (Hawks, Madanat, Hawks, & Harris, 2005; Weigensberg, Shoar, Lane, & Spruijt-Metz, 2009).

In order to be able to measure the above-mentioned features, self-report questionnaires had to be developed. In the literature, there are only two validated questionnaires that measure intuitive eating. Both of the questionnaires are referred to as Intuitive Eating Scale (IES). The first of these was developed by Steven Hawks et al., in 2004 (Hawks et al., 2004). And the latest scale was developed by Tracy Tylka in 2006 (Tylka, 2006). Despite the fact that both seem to measure intuitive eating features, (but) they do not share the same factor structure.

While Hawk's IES encompasses a four-factor structure (intrinsic eating, extrinsic eating, antidiating, self-care), Tylka's IES embraces a three-factor model (unconditional permission to eat, eating for physical rather than emotional reason, and reliance on internal hunger and satiety cues to determine when and how much to eat) (Cadena-Schlam & López-Guimerà, 2015). Nevertheless, most researchers preferred Tylka's IES to better assess intuitive eating style, and have been using it widely in subsequent studies (Denny, Loth, Eisenberg, & Neumark-Sztainer, 2013; Dockendorff, Petrie, Greenleaf, & Martin, 2012; Tylka & Kroon Van Diest, 2013). Moreover, building on Tylka's work, new scales have emerged. In 2012, Dockendorff et al. developed Intuitive Eating Scale-Adolescents (IES-A) to assess intuitive eating in the adolescent population (Dockendorff et al., 2012).

Recently, Tylka and Kroon Van Diest (2013) developed and validated the Intuitive Eating Scale-2 (IES-2) in order to address some limitations of the IES (Tylka & Kroon Van Diest, 2013). Two main changes have been presented that make the second version of the intuitive eating scale, by Tylka and Kroon Van Diest (2013), more representative of adaptive eating behaviour. First, the construct has now been validated in both women and men university/college population. Second, is the addition of the body food choice congruence subscale. The addition of the subscale provides insight into the decisions that individuals make regarding their nutrition focused food choices. The IES-2 re-phrases the four major sub-scales that relate to intuitive eating from the original IES to: (1) eating for physical rather than emotional reasons (2) unconditional permission to eat, which assesses restraint in eating (3) reliance on hunger and satiety cues, and (4) body-food choice congruence. The tool contains 23 items and is scored on a five point Likert scale with higher scores representing greater adherence to intuitive eating behaviors. The possible range for total IES score is 1–5, where a higher total score corresponds to more intuitive eating. The IES-2 provides to be valid and reliable in both male and female college students in U.S.

The IES-2 validity and reliability are not known among the Turkish population. The purpose of this study was, therefore, to adapt the IES-2 into the Turkish language and the reliability and validity of IES-2 among Turkish population. We also examined the instrument's internal consistency and test-retest reliability. In addition, and in order to determine the construct validity, we analysed the relationship between the IES-2 and several variables (Body Mass Index, Eating Attitudes Test, Eating Disorder Examination Questionnaire, Body Appreciation Scale) so as to evaluate the convergent and discriminant validity.

## 2. Methods

### 2.1. Participants and procedures

Three hundred seventy-seven undergraduate and postgraduate women and men between the ages of 19–31 years attending two large private universities in Istanbul, Turkey.

This study utilized a cross-sectional design with participants assessed at the one-time point. Questionnaires were completed during a normal class time in groups under the supervision of teachers and the authors. The questionnaires were applied during the elective courses of the students. Among the participants, nobody showed any comprehension and/or language difficulties. Participants responded to typical socio-demographic questions regarding their age, gender, current health status, dieting behaviours, and height and weight, which were then used to calculate BMI using the following formula:  $\text{weight (kg.)} / [\text{height (m)}]^2$  (Centers for Disease Control, 2015). The initial number of 425 participants was

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