

## Summary

# Three Assessment Scales on Awareness: Psychological Mindedness, Integrative Self Knowledge and Toronto Trait Mindfulness Scales

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Consciousness or awareness is a concept used especially in the context of psychologically more mature individuals. Psychological consciousness is assumed to be an ability to understand, investigate and reflect on the reasons of one's own experiences, with an awareness of the relationship between one's behaviors, feelings and thoughts (Appelbaum, 1973). If we extend the definition a little bit more, it also implies showing the same ability to understand the feelings, thoughts and behaviors of others (Gough, 1975), as well as the necessary abilities for the therapist and the client, in order to establish an effective psychotherapy process (Daw & Joseph, 2010).

Awareness seems to be the core of psychological awareness and self-awareness; however mindfulness can be conceptualized as a term that can incorporate both type of awareness, while at the same time being a special form of awareness. In this type of awareness, there is a special time frame: "here and now"; special type of stance: as an observer (not an actor); and special types of attitudes towards the contents of awareness: non-judgmental, conscientious and accepting (Kabat-Zinn, 2003).

There are many studies, both correlational and RCD studies on the relationship between mindfulness, psychological health and illness. In these studies, mindfulness is investigated both as a trait and as a therapeutic intervention, used in different forms of psychotherapy and also in stress-management programs for people with physiological illnesses (Hart, Ivztan, & Hart, 2013; Keng, Smoski, & Robins, 2011; Lyvers, Makin, Toms, Thorberg, & Samios, 2014;). Most of these studies point to the positive relationships between mindfulness and psychological and physical health, while some neuro-imaging studies also show positive effects on the structure and functioning of the brain (Chiesa, Serretti, & Jakobsen, 2013; Lazar, Kerr, Wasserman, Gray, Greve et al., 2005; Zeidan, Johnson, Diamond, David, & Goolkasian, 2010).

In the related literature, there are several self-report scales to measure psychological awareness, self-awareness and mindfulness. In the current study, our aim was to investigate the psychometric properties of three of these scales, namely, Psychological Mindedness Scale, Integrative Self Knowledge Scale and Toronto Trait Mindfulness Scale for Turkish university students.

## Method

### Participants

Our sample consisted of 418 university students (299 females, 119 males), the age range between 18-28 ( $M = 20.38$ ,  $SD = 1.58$ ). The scales were given in classroom format after the informed consent of the participants.

### Assessment Instruments

**Demographic Information Form.** The age, gender, class, mother's and father's education level information were obtained through questions on these issues. The form also contained 2 items to rate the student's perception of their family and parents and 3 items to rate their perception of their life in general (rated on a scale of 5). Two index scores were obtained from these 5 items.

**Index for Family Perception.** This index was composed of two items; "If you were to be born again, how much would you want to be raised in your own family? (1 = not at all; 5 = very much so) and "How would you rate the family you were raised in?" (1 = very bad; 5 = very good). The Cronbach's alpha coefficient was found to be .82 for the current sample.

**Index for the Perception of Life in General.** This index was composed of three, 5-point Likert items (1 = very bad; 5 = very good); "How would you rate your current life?", "How would you rate your current interpersonal relationships?", "Which direction do you think

your life will change in 5 years?”.

**Brief Symptom Inventory.** Developed by Derogatis (1992), from the longer, 90-item, Symptom Checklist-90, this is a 53-item, self-report inventory. It was used as a criterion measure, in order to investigate the psychometric properties of the scales used in the current study. The BSI was already adapted for the Turkish culture by Şahin and Durak (1994) and Şahin, Batıgün and Ugurtaş (2002). These adaptation studies showed the Inventory to have 5 factors, used as sub-scales, namely, “anxiety”, “depression”, “somatization”, “negative self-perception”, and “hostility”.

**Psychological Mindedness Scale.** This is a 45-item scale developed by Conte, Ratto, and Karasu (1996), to measure the awareness of an individual of his/her own feelings, thoughts, behaviors, and willingness to understand the reasons under other’s behaviors, openness to new ideas. The original studies revealed a 5-factor structure, whereas, a study conducted on Japanese students revealed a 4-factor structure (Takagishi, Uji, & Adachi, 2014).

To be used in the current study, three academicians who are fluent in both languages translated the scale from English to Turkish, after which it was back translated by two different academicians. The Turkish translation was found to be acceptable.

**Integrative Self-Knowledge Scale.** This is a 12-item, 5-point Likert Scale, developed by Ghorbani, Watson, and Hargis (2008), to measure, mindful awareness of a person’s own self. It is an integrated measure, combining two different scales, the Experiential Self Knowledge Scale, and the Reflective Self Knowledge Scale. It is suggested that the Scale should be used as a single-factor measure, even though the factor-analysis revealed a three-factor structure. The reliability values were found to be ranging between .75 and .82. The correlations between this Scale and the Mindfulness Scale ranged between .31 and .56. The Integrative Self Knowledge Scale was used in several studies using various samples ranging from university students, adult couples and chronic cardiac patients; correlations between stress, depression, anxiety, self-control, life satisfaction, and various personality dimensions were found to be in the expected direction.

**Toronto Mindfulness Scale.** This is a 13-item, 5-point Likert Scale, developed to measure the mechanisms related to mindfulness exercises (Davis, Lau, & Cairns, 2009). It consists of the two dimensions, involved in mindfulness practices, namely, decentering and curiosity. Originally, it was developed to measure state mindfulness. However, with slight variations on the semantics of the items, a “trait” form was developed. This new form was found to have satisfactory correlations with other mindfulness scales like, the MAAS,

FMI, CAMS-R, and SMS, the correlations ranging between .22 and .74.

## Results

### Findings Concerning the Scales Structures

**Principal Components Analysis of Psychological Mindedness.** The analysis (with Varimax rotation) revealed 14 factors, with eigen-values greater than one, explaining 57.76% of the total variance. However after an evaluation of the scree-test, the analysis was forced to a 5-factor structure and items having a factor-loading .40 and over were accepted to be included. As it was seen in other studies with factor analyses, item 16 did not load on any of the factors. The 5-factor structure (sharing: 7 items, emotional awareness: 5 items, willingness to understand the reasons under other’s behaviors: 6 items, closing oneself to change: 6 items, openness to new information: 4 items) explained 33.48% of the total variance. The Cronbach’s alpha for the total scale was found to be .79, whereas the reliabilities for the factor-subscales ranged between .51 and .80 (see Table 1).

**Psychometric Properties of Integrative Self-Knowledge Scale.** The principal components analysis revealed a three-factor structure in the current study, just like the original study, explaining 54.76% of the total variance. However, as suggested by the developers of the Scale, a single-factor solution was accepted to be used; the Cronbach’s alpha was found to be .76.

**Confirmatory Factor Analysis of the Toronto Mindfulness Scale.** Before starting the confirmatory factor analysis, a Principal Components Analysis was conducted, and a 2-factor structure was found (leaving item 4 out), explaining 32.48% of the total variance. Then this 2-factor structure (decentering and curiosity) was evaluated with a confirmatory analysis. The several trials showed that after leaving item 4 out, the several adjustment indexes were more acceptable [ $\chi^2(51) = 101.685$ ,  $p < .001$ ,  $\chi^2/df = 1.99$ , GFI = .96, AGFI = .94, IFI = .90, CFI = .90, RMSEA = .05]. The Cronbach alpha value for the total scale was found to be .60. The values for the subscales were found to be .71 for decentering, and .41 for curiosity.

### The Validity Findings for the Awareness Scales

Since awareness is closely related with health, an attempt was made to investigate how predictive these scales (their subscales) were, of the total BSI score as the dependent variable. A hierarchical regression analysis was conducted. In the first step, the demographic variables (age and gender) were entered in the equation. In the second step, perception of family, and perception of life in general; in the third step, the subscales of the Psychological Mindedness Scale (sharing, emotional

awareness, willingness to understand the reasons under other's behaviors, closing oneself to change, openness to new information); in the fourth step, the subscales of the Toronto Mindfulness Scale (decentering, curiosity); and in the fifth step, Integrative Self-Knowledge were entered in the analysis.

The results revealed that life perception, willingness to understand the reasons under other's behaviors, emotional awareness, decentering and integrative self-awareness were predictive of the BSI scores. All together these variables were found to explain 35% of the total variance (see Table 3).

#### ***Discriminative Power of the Awareness Scales***

The sample was divided into two extreme groups, one standard deviation above and below the mean BSI score ( $n = 57$  for low symptoms;  $n = 58$  for high symptoms), and a t-test was conducted to look at the performance of the sub-scales (see Table 4). The results showed that other than curiosity, sharing, willingness to understand the reasons under other's behaviors, and openness to experience subscales, the two extreme groups were significantly discriminated by the other subscales.

#### ***Comparisons in Terms of Gender***

A 2 (gender) X 3 (SES) ANOVA was conducted to see which demographic variables would have any possible main or interaction effects on the 3 awareness scales. The results revealed a main effect for only gender. The t-test results showed that (see Table 5), females had higher scores on the Psychological Mindfulness total scores, emotional awareness, sharing, willingness to understand the reasons under other's behaviors, and

curiosity, whereas the males received higher scores on decentering.

In general, the results showed that all of the three awareness studies investigated in the current study, had acceptable psychometric properties and that they can be used to measure awareness in studies planned to study this variable.

### **Discussion**

The psychometric results indicate that these three scales can be used in Turkey to measure different aspects of awareness, i.e., psychological awareness, self awareness, and mindful awareness. The factor analyses revealed that the factor structures of the three scales were comparable to their original versions. The Cronbach's alphas and the correlations with the criterion measures were also found to be comparable to the original values. The comparisons in terms of gender were also comparable to the original findings.

The three scales and their subscales were also found to significantly predict psychological symptom, while they also significantly discriminated the extreme groups composed in terms of their BSI total scores. The correlations among the three scales and their subscales also were significant and in the expected directions.

No doubt the current study has its limitations. The data were collected from university students residing in Ankara, only. In the future, the scales should also be evaluated with different samples in terms of age, area of residence, and other demographic variables.