

The validity and the reliability of freiburg mindfulness inventory to Turkish

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Abstract

Mindfulness is being here and now emotionally and intellectually. It has a philosophical root directing individuals to a moral life. Although mindfulness has become a popular concept in Turkey, few scales were tested in terms of their validity to Turkish context. The aim of the study is to adapt Freiburg Mindfulness Inventory (FMI) into Turkish and measure the validity and the reliability of the scale. Data for this study came from 302 (169 female and 116 male) white-collar employees working in Istanbul. The scale was translated by the authors and checked by a group of academics who have a theoretical knowledge about the concept. Validity was tested in terms of criterion-related and construct validity; reliability was assessed by internal consistency measure. Results revealed that FMI is a valid and reliable scale for Turkish business context.

Keywords: Mindfulness, Freiburg. Mindfulness Inventory, validity, Turkish

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1.Introduction

Although mindfulness is an ancient concept which is derived by Buddhism, the transformation of the concept to psychology discipline is relatively new. The pioneer of this effort, Kabat-Zinn (1990) described life as a process which includes difficulties, but in a temporary order. The events and situations that we consider as permanent are in fact temporary. It may be either a tough time such as a death of a close relative or a wonderful moment like receiving an academic degree. Despite the stimulation of strong emotions, bereavement or honor is temporary. Holding on to the past prevents us from embracing the blessings now. That is why moment-to-moment awareness or mindfulness becomes important to own each moment of our experiences, either good or bad (Kabat-Zinn, 1990).

Mindfulness is defined as “a balanced state of awareness that avoids the extremes of over-identification and disassociation with experience and entails the clear seeing and acceptance of mental and emotional phenomena as it arises” (Neff, 2003, p:88). Mindfulness was defined by other researchers with a similar understanding in which the concept was embraced as being here and now.

The major difference between the mindfulness definitions is the dimensional structure of the concept. Based on Kabat-Zinn’s early conceptualization, mindfulness is operationally defined with intention, attention, and attitude axioms. Shapiro et al. (2006) claimed that these three axioms should occur at the same time. Then it creates re-perceiving which means a significant change about the point of view (p. 377).

Bishop et al. (2004) operationally defined mindfulness with self-regulation of attention and orientation to experience. Mindfulness was described as an attention regulation process, which controls non-elaborative awareness to ongoing experiences and one’s relationship to experiences with curiosity, openness, and acceptance. The benefits of mindfulness were empirically supported and linked with various organizational behavior concepts such as safety behavior (Zhang & Wu, 2014), emotion regulation and job satisfaction (Hülshager, Alberts, Feinholdt & Lang, 2013), and work-family balance (Allen & Kiburz, 2012).

1.1. Related research

In general, mindfulness is defined as a state (Kabat-Zinn, 2003) and a disposition (Brown & Ryan, 2003). Also, there is a third approach which embraces mindfulness with Western way of thinking (Langer, 1989). Differentiation among the perspectives and the growing interest to mindfulness have urged the researchers to develop several scales. As Rau and Williams argued (2016), cultivated and dispositional mindfulness have different operational definitions. This is why using scales which are specifically designed for each group (non meditators and meditators) is required.

As Rau and Williams (2016) claimed eight scales were developed for assessing dispositional mindfulness levels which can be used among adults. These scales differentiate in terms of the dimensional construct. Dispositional mindfulness was defined with more than one dimension with the exception of Mindful Attention Awareness Scale (Brown & Ryan, 2003). With their construct validity research, Rau, and Williams (2016) concluded that dispositional mindfulness is a multidimensional construct representing the focus and quality of attention. The growing interest in mindfulness ends up with the adaptation to some of these scales to Turkish. Up to date, Mindful Attention Awareness Scale (Brown & Ryan, 2003), the revised version of Cognitive Affective Mindfulness Scale (CAMS-R) (Feldman

et al, 2007) and Five-Facet Mindfulness Questionnaire were adapted to Turkish (Çatak, 2012a; Çatak, 2012b; Kınay, 2013).

For assessing criterion related validity of FMI, CAMS-R was used. CAMS-R was designed by Feldman et al. (2007) and the scale is the short version of CAMS (Kumar, 2005; Kumar, Feldman, & Hayes, 2008). CAMS-R was selected as it was found as a valid instrument for assessing mindfulness in Turkish culture (Çatak, 2012b). For measuring convergent validity; caring climate dimension of ethical climate, goal orientation and ethical behavior were used. The reason behind our selection criteria is based on the links between these variables and mindfulness. Previous studies set a link between caring climate and mindfulness since the former was found to be related to well-being (Martin & Cullen, 2006), favorable attitudes about the organization (Elçi & Alpkın, 2009; Valentine, Greyer & Richtermeyer, 2006) and moral awareness (VanSandt, Shepard & Zappe, 2006). It was found that goal orientation (Iwasaki & Fray, 2016) and closely related concepts with ethical behavior such as self-control (Lahey et al., 2007), moral reasoning and ethical decision making (Shapiro et al., 2012) were associated with mindfulness. For assessing discriminant validity, gender was used as previous studies found nonsignificant differences between males and females in terms of mindfulness (Brown & Ryan, 2003; Çatak, 2012b; MacKillop & Anderson, 2007).

1.2. Purpose of study

One of the scales which is commonly used in the literature is the short version of Freiburg Mindfulness Inventory (FMI). The original FMI (Buchheld, Grossman & Walach, 2001; Walach et al., 2006) is a 30-item questionnaire which is intended to measure mindfulness levels of individuals who apply meditation. The scale has four factors; mindful presence, non-judgmental acceptance, openness to experience and insight, respectively. Despite the multidimensional structure, due to the high inter-correlations of the factors and statistical reasons, the authors suggested that mindfulness must be seen as a general construct including inter-related facets. Walach et al. (2006) revised and shortened this scale to 14 items-format for assessing mindfulness levels of population without meditation experience. The aim of this study is to adapt the short version of FMI for use with Turkish subjects.

2. Methods

2.1. Participants

The sample ($n = 302$) was composed of white-collar employees working in the service sector in Istanbul. Participants ages ranged from 19 and 65 years (56% female, 38.4% male). The average age was 31.4 years ($SD = 7.96$). Education level differed from bachelor's degree ($n = 136$) to master's degree ($n = 138$). Participants worked in different business segments in the service sector (education, retail etc.), mostly as full-time employees (90.4%). Convenience sampling was used, and data were collected via online-surveys ($n = 94$) and paper-based surveys ($n = 208$).

2.2. Data collection Instruments

The research collected data with questionnaires.

2.2.1. Mindfulness

Mindfulness was assessed with FMI. The alternate scale for assessing the psychometric properties of FMI is CAMS-R. FMI was created by Walach et al. (2006) Item 13 “I am impatient with myself and with others” was reverse coded before the analysis. Authors of this study translated the scale into Turkish and a group of academics with expertise in mindfulness checked. The six-point scale ranged from 1 (*never*) to 6 (*always*). For the present study, Cronbach alpha value of the scale is .87. The Turkish version of the questionnaire is displayed in Appendix 1.

CAMS-R was created by Feldman et al. (2007). It involves 12 items for the assessment of four dimensions; attention, acceptance, present focus, and awareness. The scale was translated into Turkish by Çatak (2012b) and it was revised for this research by academics with expertise in mindfulness. The developers of the scale and Çatak (2012b) emphasized that two items (2, 7) may be omitted as they cause problems in terms of the content validity. Two reverse items (item 6 and item 7) were altered to smooth form following the suggestion of Turgut and Erden (2013). The six-point scale was used ranging from 1 (*never*) to 6 (*always*). For the present study, Cronbach alpha value of the scale is .87

2.2.2. Caring Climate

Victor and Cullen’s (1988) caring dimension of Ethical Climate Questionnaire was used. The subscale has 7 items and has been validated (Trevino et al. 1998; Victor and Cullen 1988). The six-point scale ranged from 1 (*strongly disagree*) to 6 (*strongly agree*). The Turkish adaptation of the scale was revised from Yurdakul’s (2013) research with a group of academics with expertise in business ethics.

2.2.3. Goal Orientation

Goal orientation was measured with a scale organized by Eyi (2010), which is a combination of two scales designed by Vandewalle (1997) and Elliot and Murayama (2008). The scale measures three orientations: mastery (six items), performance approach (five items) and performance avoidance (five items), with a total of 16 items. Items were measured on a six-point scale, ranged from 1 (*never*) to 6 (*always*).

2.2.4. Ethical Behaviour

Ethical Behaviour Rating Scale (Blasi, 1980; Hogan, 1973) has 15 items and the items measure fairness, right and wrong judgment, group allegiance, decentered logic, trustworthiness, loyalty, honesty, empathy, helpfulness, contrition, participation, independence, altruism, cooperation, and respectfulness (Hill & Swanson, 1985). EBRS has two dimensions; personal moral character and verbal ethic assertiveness (Hill & Swanson, 1985). Kapıkıran (2007) adapted the scale and found as a valid and reliable instrument for Turkish sample. A minor change was done to item 10 for converting the scale to organizational setting (Original item: “Participates in activities and or discussions in the class”). The six-point scale was used ranged from 1 (*never*) to 6 (*always*). For the present study, Cronbach alpha value of the scale is .82.

3. Findings

3.1. Factor Structure of FMI

Walach et al. (2006) extracted four factors in the long version of FMI but proposed that it is better to use mindfulness as a one-dimensional construct in both short and long versions. By using confirmatory factor analysis, Kohls, Sauer and Walach (2009) compared two dimensional (named as presence and acceptance) and one-dimensional solution and inferred that the former fits better to the data and the latter is adequate for practical applications. Since there is not a consensus about factor structure and the scale is used in a different culture, EFA was implemented first and then CFA was used to cross-validate the results.

Exploratory factor analysis extracted two factors explaining 51.21% of the variance (KMO = .87, Bartlett Sphericity Test = 1297.47, $p < .001$). One item (item 13) was omitted from the analysis as it decreased reliability. The first factor, non-reacting, and acceptance, has seven items. The second factor, commitment to experience, has six items. Factor analysis results and reliability levels are shown in Table 1.

Table 1

Factor and Reliability Analyses for Freiburg Mindfulness Inventory

Item no	Mindfulness	Factor Loading
Non-reacting and acceptance (Explained variance = 27.76; $\alpha = .84$)		
I12	I experience moments of inner peace and ease, even when things get hectic.	.81
I9	I am friendly to myself when things go wrong.	.76
I10	I watch my feelings without getting lost in them.	.76
I11	In difficult situations, I can pause without immediately reacting.	.74
I14	I am able to smile when I notice how I sometimes make life difficult.	.68
I6	I see my mistakes and difficulties without judging them.	.48
I8	I accept unpleasant experiences.	.46
Commitment to experience (Explained variance = 23.44; $\alpha = .76$)		
I1	I am open to the experience of the present moment.	.69
I7	I feel connected to my experience in the here-and-now.	.67
I2	I sense my body, whether eating, cooking, cleaning, or talking.	.66
I5	I pay attention to what is behind my actions.	.64

13	When I notice an absence of mind, I gently return to the experience of the here and now.	.62
14	I am able to appreciate myself.	.61

KMO = .87; Bartlett Test Chi Square = 1297.47 df = 78 $p < .001$

CFA was applied to cross-validate the two-factor solution found in the principal component factor analysis. The model showed a good fit where $X^2(63, n = 302) = 183.42$, $X^2/df = 2.91$, $CFI = .90$, $GFI = .92$, $AGFI = .88$, and $RMSEA = .08$.

Internal consistency reliability of the scale is .87. The correlation between FMI and the alternate scale ($r = .69$, $p < .001$) assured a support for criterion-related validity. The correlations of FMI and CAMS-R with other variables (caring climate, goal orientation and ethical behavior) were calculated. The correlations were like this, with FMI correlations shown first and CAMS-R correlations provided second: ethical behavior ($r = .48$, $p < .001$; $r = .45$, $p < .001$), caring climate ($r = .25$, $p < .001$; $r = .25$, $p < .001$). Goal orientation has three dimensions: Mastery ($r = .49$, $p < .001$; $r = .46$, $p < .001$), performance approach ($r = .31$, $p < .001$; $r = .30$, $p < .001$), performance avoidance ($r = -.14$, $p < .05$; $r = -.22$, $p < .001$). These comparisons revealed that FMI and CAMS correlated similarly to these variables utilized to measure convergent validity in this research. The relationship with FMI and gender were tested. No significant relationship ($r = -.11(n.s.)$; $r = -.04(n.s.)$) was found between the variables which support discriminant validity.

In a nutshell, this study reveals that FMI is a reliable and a valid scale for Turkish population.

4. Discussion

Mindfulness requires being conscious of the present condition, attentive to the environmental cues and accepting the imperfections that life brings which may be either one's own failures or other's flaws. Organizational behavior researchers have examined the benefits of the concept so far, but the adaptation studies are scarce. In this study, the psychometric properties of the adaptation of the short version FMI, which was previously compared with the long version and found as a useful instrument including all features of mindfulness (Walach et al., 2006), were examined. Since the aim is to use the scale for organizational behavior research, white-collar service sector employees were used. Validity and reliability studies of the FMI were carried. The scale translated into Turkish and face validity was assured. EFA and CFA were applied for investigating the factor structure of FMI. Results showed that the scale has two factors named as 'non-reacting and acceptance' and 'commitment to experience.'

The factor structure of the short version of FMI supports the two-dimensional structure and items distributed to the factors similarly with the study of Kohls et al. (2009), except item 4 (I am able to appreciate myself). Due to this minor difference, factors were named distinct. The similarity of the factor structures revealed that the scale is understood alike across different cultures.

Factor loadings revealed that how the items differentiated the employees in terms of their mindfulness levels. One item (item 13) which decreases the reliability, was deleted from the scale. Cronbach alpha value of the scale is .87 which suggests that the scale is a reliable instrument. The

significant relationship between FMI and the alternate scale suggests a support for criterion-related validity. Mindfulness was previously found related to goal orientation (Iwasaki & Fray, 2016), ethical decision making (Ruedy & Schweitzer, 2010) and researchers suggested a possible link with ethical behavior (Reb, Narayanan & Ho, 2015). Also, it was found that benevolent climates increase moral awareness (VanSandt et al., 2006) where mindfulness can develop. Correlation analysis between short version of FMI and CAMS-R with goal orientation, ethical behavior and caring climate showed similar correlation coefficients which support convergent validity. No significant relation was found between FMI and theoretically unrelated variable as gender, which is evidence for discriminant validity.

5. Conclusion

There are some limitations in this study. First, cross-sectional nature restricts making causal inferences. Also, the sample was drawn from white-collar service sector employees, therefore, replication of these findings among other samples (e.g., blue-collar employees, government officers) is suggested. Furthermore, for testing discriminant validity, only gender was used so future studies may include other variables. Lastly, item 13 was omitted from the adaptation process which may be another limitation.

Despite these limitations, the psychometric properties of the short version of FMI showed that it is a useful instrument for Turkish population who has not previous meditation experience. Furthermore, the scale can measure the mindfulness levels of white-collar employees working in different business segments in private companies. Findings of this study revealed that short version FMI adapted for the Turkish culture is a valid and a reliable instrument for assessing mindfulness in Turkish population

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Appendix 1

Turkish version of Freiburg Mindfulness Inventory

- 1) Şu anın getirdiği yeniliklere açığım.
- 2) Bedensel faaliyetlerimin farkındayım (Yemek yemek, yemek pişirmek, temizlik yapmak).
- 3) Dalgın olduğumu fark ettiğimde sakinleşip, o anda orada yapmakta olduğum şeye ilgimi veriyorum.
- 4) Kendimi takdir edebiliyorum.
- 5) Davranışlarımın altında yatan sebepleri fark ederim.
- 6) Yetersizliklerimi ve hatalarımı kendimi yargılamadan görebiliyorum.
- 7) Anlık yaşantılarımın her zaman farkındayım
- 8) Olumsuz deneyimleri kabullenebiliyorum.
- 9) İşler kötü gittiğinde kendime karşı nazik olabilirim.
- 10) Duygularımın içinde kaybolup gitmeden onları izleyebilirim.
- 11) Zor durumlarda hemen tepki vermek yerine durup olayı değerlendirebilirim.
- 12) İşler kötü ve stresli gittiğinde bile huzurlu ve rahat olduğum anlar yaşarım.
- 13) Kendime ve başkalarına karşı sabırsızım.
- 14) Hayatı zorlaştırdığımı fark ettiğimde bile gülümseyebilirim