ASSESSING MINDFULNESS IN SCHOOL-AGED CHILDREN: DEVELOPMENT AND VALIDATION OF BAU MINDFULNESS SCALE (BAU-MSC)

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ASSESSING MINDFULNESS IN SCHOOL-AGED CHILDREN: DEVELOPMENT AND VALIDATION OF BAU MINDFULNESS SCALE FOR CHILDREN (BAU-MSC)

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ABSTRACT

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This study aims at developing a psychometric mindfulness scale for Turkish children to assess children's mindfulness tendencies at any time. In this respect, the main purpose of this study is two-fold: (a) to develop a mindfulness scale for school-aged children, (b) to examine the psychometric properties of the mindfulness scale. Accordingly, the current study has three steps classified as Study 1, Study 2 and Study 3. In the Study1, 41-item pool of BAU Mindfulness Scale for Children (BAU-MSC) was generated. Initial version of BAU-MSC was administered to 275 students (146 male, 129 female) in Study 2. Obtained data was initially subjected to exploratory factor analysis (EFA) and results yielded two factors with eigenvalues greater than 1.00 and accounting for 33- % of the total variance. After reviewing the scale by taking the analysis results and expert opinions, the scale was revised and some items omitted. In the Study 3, Confirmatory factor analysis (CFA) was performed on 18-item revised BAU-MSC with 188 subjects (97 male, 91 female). The results of the CFA yielded a good fit (χ^2 = 213.75, *df* = 134, χ^2 / *df* = 1.59; GFI = 0.95; CFI = 0.97; AGFI = 0.93; RMSEA = 0.056) after excluding two items. The reliability of the 16- item BAU-MSC was found satisfactory (α =0.80). The validity evidence, correlation with the score of life satisfaction scale was also shown that BAU-MSC has promising psychometric properties and recommended for use on Turkish children.

Keywords: Mindfulness assessment, School-Aged children, Scale development, Psychometric properties

ÖZ

OKUL ÇAĞI ÇOCUKLARININ MINDFULNESS SEVİYELERİNİN ÖLÇÜLMESİ: BAU ÇOCUKLAR İÇİN MINDFULNESS ÖLÇEĞİNİN (BAU-ÇMÖ) GELİŞTİRİLMESİ, GEÇERLİK VE GÜVENİRLİK ÇALIŞMASI

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Bu çalışmanın temel amacı Türk çocuklarının mindfulness düzeylerini ölçecek psikometrik bir ölçek geliştirmektir. Bu bağlamda, bu çalışmanın amaçları; a) okul çağı çocuklarının mindfulness düzeylerini ölçecek psikometrik bir ölçek geliştirmek ve b) geliştirilmiş olan ölçeğin psikometrik özelliklerini incelemektir. Bu amaçlar doğrultusunda bu araştırma üç aşamadan oluşmaktadır. Çalışmanın ilk aşamasında 41 maddelik madde havuzu oluşturulmuştur. Çalışmanın ikinci aşamasında ise bu maddeler 3. ve 4. sınıfa devam eden 275 öğrenciye (146 erkek, 129 kız) uygulanmıştır. Elde edilen veriler açımlayıcı faktör analizine (AFA) tabii tutularak, 18 madde için öz değeri 1'in üzerinde 2 faktör olduğu ve bu 18 maddenin toplam varyansın % 33'ünü açıkladığı sonucuna ulaşılmıştır. Uzman görüşlerinin ve analiz sonuçlarının değerlendirilmesinin ardından, bazı maddeler çıkarılarak ölçek revize edilmiştir. Çalışmanın üçüncü aşamasında, 18 maddelik revize edilmiş BAU-ÇMÖ, 188 öğrenciye (97 erkek, 91 kız) uygulanmıştır ve toplanan veriler üzerinde doğrulayıcı faktör analizi (DFA) uygulanmıştır. Doğrulayıcı faktör analizi sonuçlarına göre, iki faktörlü yapı ikinci örneklem grubundan toplanan verilerle iyi düzeyde uyum göstermektedir ($\chi^2 = 213.75$, $df = 134$, $\chi^2 / df = 1.59$; GFI = 0.95; CFI = 0.97; AGFI = 0.93; RMSEA = 0.056). Analiz sonucunda, iki madde ölçekten çıkarılarak, 16 maddelik BAU-ÇMÖ'nün iç tutarlılık bakımından güvenilir nitelikte olduğu tespit edilmiştir (α =0.80). Ölçeğin geçerlik çalışmaları kapsamında, Çocuklar için Yaşam Kalitesi Ölçeği'nden elde edilen puanlar ile BAU-ÇMÖ'den elde edilen puanlar arasında istatistiksel açıdan anlamlı bir ilişki olduğu tespit edilmiştir. Sonuç

olarak, BAU-ÇMÖ Türk çocuklarının mindfulness düzeylerini ölçmek için kullanılabilecek geçerli ve güvenilir bir ölçme aracıdır.

Anahtar Kelimeler: Mindfulness'ın değerlendirilmesi, Okul çağı çocukları, Ölçek geliştirme, Psikometrik özellikler

To my Father, Yusuf TAŞKIN

Who taught me the meaning of love and compassion

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Introduction

This chapter provides a brief review of this study regarding the worth of mindfulness and its virtue in clinical and educational context. Additionally, this chapter emphasizes the cruciality of assessment of construct and it briefly explains the term "mindfulness". It proceeds with the study purpose, research questions, and significance of the study. The key terms that are applied in this study, are shortly expressed at the end of the chapter.

1.1 Theoretical Framework

Human life is a vigorous process that requires people to adapt their environment and constant demands of the living. Especially modern world with a variety of social problems and demands on people's time and energy makes people's mind constantly busy with analyzing, evaluating and planning. Life being full of things that distract individuals to concentrate on one thing at once and to completely connect to the present moment. Much of the time people operate based on habits and routines and act on automatic pilot which is processing sensations and information with a mindless manner. As a result, people always complete task in a rush, lose contentment and joy of life experiences.

Along with the burden of daily life, people may also experience war, economic recession, crimes, accidents and natural disasters in today's chaotic world which makes people vulnerable to stress, anxiety and burnout. Further, adults unintentionally transmit their anxiety and stress to their children who usually tend to copy what adults do and how adults solve their social and emotional problems. In addition, pressure on children in increasingly competitive and challenging education system makes them anxious and depressed. Children particularly subject to stress and anxiety are more likely to have academic or social difficulties in schools. Thus, stress-based mental health problems offers a serious problem for a society.

At this respect, it is quite necessary to learn effective way of coping with stress and emotional problems. Mindfulness is an effective coping skill for the chaos of modern life (Williams & Penman, 2011). In these years, there has been an

incremental interest of mindfulness practices that contribute to breaking the vicious cycle of stress, anxiety and unhappiness created by modern world and strengthen body mind connection. Mindfulness training has been found to be effective intervention to decrease stress and to increase pychological health among diverse populations (Anderson, Lau, Segal, & Bishop, 2007; Baer, 2003; Carmody & Baer, 2008; Donald, Atkins, Parker, Christie, & Ryan, 2016; Hayes & Feldman, 2004; Kabat-Zinn, 1990; Shapiro, Schwartz, & Bonner, 1998). For this very reason, mindfulness practices have been integrated with various psychological interventions in order to decrease suffering and enhance well being. These interventions encompassess mindfulness-based cognitive therapy (MBCT; Segal, Williams, & Teasdale, 2002), acceptance and commitment therapy (ACT; Hayes, Strosahl, & Wilson, 1999), dialectical behavior therapy (DBT; Linehan, 1993a, 1993b) and some other types related these approaches.

Mindfulness is mainly described as orienting attention to the current experiences and developing an accepting, nonevaluative and nonreactive point of view towards life experiences (Kabat-Zinn, 2003; Baer, 2003; Brown & Ryan, 2004; Bishop, Shapiro, Carlson, Anderson, & Carmody, 2004; Fletcher & Hayes, 2005; Siegel, 2007). Common concensus on the definitions of mindfulness is that approved conceptualizations contain multiple elements as aforementioned.

Recently, mindfulness applied to researches has shown successful positive outcomes. There has been strong evidence for the positive effect of mindfulness on psychological well-being (Lykins & Baer, 2009); rumination and self compassion (Shapiro, Brown, & Biegel, 2007); concentration and mental clarity (Young, 1997), sustained attention (Chambers, Chuen Yee Lo, & Allen, 2008), and emotion regulation (Chambers & Allen, 2008) in adults.

When it comes to children, Dunford (n.d.) states that young children are innately mindful. Children approach life experiences with curiosity and acceptance unlike adults do. However, as they enter into school age, they begin to resemble adults and be less connected to the present moment. They develop more regular worries. Thus, in terms of mindfulness for children, main aim is to help children maintain that aspect throughout their life by providing children with a way to cope with stress and oppression of living in today's quite challenging world. Mindfulness may be one useful alternative way for children as well.

Although research with children is not extensive as with adults, there is a rapid growth in research establishing benefits of mindfulness. According to the research studies, it has been revealed that mindfulness has many benefits on children and youth when incorporated into school curriculum as well as clinical interventions such as significant decreases in test anxiety and ADHD and an improvement in concentration ability (Napoli, Krech, & Holley, 2005; Semple, Lee, Dinelia, & Miller, 2010), and well being (Wall, 2005), decreases in negative affect and improvements in emotional regulation (Broderick & Metz, 2009), decline in behavioural problems and depression (Joyce, Etty-Leal, Zazryn, Hamilton, & Hassed, 2010), decline in depression symptoms and enhancement in well being (Lau & Hue, 2011), enhancement in behavioural regulation, meta-cognition and executive functions (Flook, Smalley, Kitil, Galla, Kaiser-Greenland, Ishijima, & Kasari, 2010). These results indicate importance of mindfulness for mental and physical health of young population.

In terms of mindfulness in schools, studies conducted with school aged children demonstrated strong evidence for the positive impact of mindfulness on a variety of mental and physical health conditions, on social and emotional skills, and well being, and on learning and cognitive skills. There has been a great number of research studies that revealed efficiency of several "Mindfulness Education (ME)" programs integrated into school curriculum, on optimism and positive emotions of students (Schonert-Reichl & Lawlor, 2010); concentration ability, ADHD and test anxiety (Napoli et al., 2005); well-being, emotional regulation and calmness (Wall, 2005); self acceptance (Broderick & Metz, 2009). Likewise, teacher-rated measures exhibited significant progress in social and emotional competence and a decrease in aggressive and oppositional behavior (Schonert-Reichl & Lawlor, 2010). These results are promising that recommends that mindfulness in schools is considerably worth to implementing. That's to say, for schools to engage in mindfulness may be useful in emotional well being of their students and may strengthen the quality of children's school and social life.

Neuroscience is another branch that is related to mindfulness. Studies of brain imaging on adults have showed that mindfulness meditation changes the brain's structure and functions. After 8 weeks meditation heightened gray matter density in the hippocampus which is a key to learning and memory and decreased gray matter

density in amygdala that is vital for anxiety and stress are apparently observable (Hölzel, Carmody, Vangel, Congleton, Yerramsetti, Gard, & Lazar, 2011). Additionally, mindfulness practices produce thickness in the areas of cerebral cortex which is linked to attention (Davidson & Lutz, 2008).

Whilst, brain studies on children is not as robust as in adults; there are several research studies showing that mindfulness has a considerable effect on the children's brain in school context with respect to neuroplasticity, executive functions and concentration. For example, in Flook et al., (2010)'s study aimed at finding effect of a school-based mindful awareness practices (MAPs) on children's executive function skills and metacognition abilities revealed that children who participated MAPs group showed improvement in executive function, behavioral regulation and metacognition as compared to control group.

In addition, some other research outcome in the context of learning and neuroscience have shown that mindfulness has positive effect on improvement in attention and some areas of metacognition (Saltzman & Goldin, 2008; Schonert-Reichl & Hymel, 2007; Semple et al., 2010) and improved academic performance (Beauchemin et al., 2008). These results suggest that in order to improve students' attention and executive functions, mindfulness may be incorporated into school curriculum.

Mindfulness has been a research inquiry by many researchers throughout the world. Nevertheless, studies carried out in Turkey are limited. There are only a few studies conducted especially relevant to schools. For example, Demir (2017) examined the effectiveness of mindfulness based cognitive therapy. Based on this study, it was inferred that mindfulness decreases anxiety levels of university students.

Another study also showed a significant negative correlation between level of mindfulness and social anxiety in university students. According to the results, students who are mindful tend to experience less social anxiety. (Tuncer, 2017). Mindfulness has also clearly been revealed to be effective in decreasing depression and stress (Ülev, 2014). Alternatively, Özyeşil (2012) investigated the cross-cultural comparison of Turkish and American university students in terms of mindfulness

level. Results has shown that American students are more likely to have higher level of mindfulness.

Mindfulness has also been shown to adress substance abuse problems and found to be effective in diminishing relapse of substance abuse and increasing coping mechanism (Tırışkan, Onnar, Çetin, Tarı, & Cömert, 2015).

Due to growing evidience of positive impact of mindfulness on psychological health, emotional wellbeing, learning and physical health, assessment of mindfulness has become essential.

To date, many research studies have been conducted to operationally define mindfulness. Brown and Ryan (2003) carried out a series of a psychometric mindfulness scale development. Thus, the initial valid and reliable measure of trait mindfulness entitled Mindful Attention Awareess Scale (MAAS) emerged. Subsequently, other mindfulness measure for adults have been developed rapidly.

Mindfulness is mainly assessed by means of self-report measures. A variety of psychometrically valid and reliable instrument have been developed so far. The number of instruments projects the comprehensive research interest. However, there is still a lack of concensus on operationalization of mindfulness.

Various self assessment instruments of mindfulness have been developed involving Mindful Attention Awareness Scale (MAAS, Brown & Ryan, 2003), the Langer Mindfulness Scale (LMS, Pirson, Langer, Bodner, & Zilcha-Mano, 2012), the Kentucky Inventory of Mindfulness Skills (KIMS, R.A. Baer, Smith, & Allen, 2004), the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R, Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007), the Freiburg Mindfulness Inventory (FMI, Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006), the Philadelphia Mindfulness Scale (PHLMS, Cardaciotto, Herbert, Forman, Moitra, & Farrow, 2008), the Toronto Mindfulness Scale (TMS, Lau, Bishop, Segal, Buis, Anderson, Carlson, & Devins, 2006), and Five Facet Mindfulness Questionnaire (FFMQ, R.A. Baer, Smith, Hopkins, Krietemeyer, & Toney, 2008).

Once Turkish mindfulness measures come onto the table, there appear solely a couple of adaptation studies. For example, Özyeşil, Arslan, Kesici, & Deniz (2011) adapted Mindful Attention Awareness Scale (MAAS, Brown & Ryan, 2003) into

Turkish. It is entitled BİFÖ (Bilinçli Farkındalık Ölçeği). BİFÖ is a unidimensional 15-item, valid and reliable scale like MAAS. In addition, the Turkish Version of the CAMS-R (Feldman et al., 2007) was found to be valid and reliable tool for Turkish people (Çatak, 2012). Furthermore, Şahin and Yeniçeri (2015) adapted three mindfulness instrument namely Psychological Mindedness Scale, Integrative Self Awareness Scale and Toronto Mindfulness Scale, into Turkish and examined psychometric properties of them.

These instruments abovementioned differ in assessing mindfulness in a varety of way such as dispositional characteristic or a state after mindfulness meditation practice. Available mindfulness instruments also vary in factor numbers. The development of these instruments is a noteworthy attempt in mindfulness studies by reason of providing new opportunities for emprical examination. Hovewer, all of these instruments are valuable in assessing mindfulness merely in adults.

Thereafter, Child and Adolescents Mindfulness Measure (CAMM) was developed by Greco, Baer, and Smith (2011) to assess mindfulness among children and adolescents who are over the age of 9 years. Another instrument namely MAAS-A for 14-18 years old adolescents was developed based on adult MAAS (Brown, West, Loverich, & Biegel, 2011). Additionally, in a recent study, Comprehensive Inventory of Mindfulness Experiences-Adolescents (CHIME-A) was developed for adolescents who are between 12-14 years old (Johnson, Burke, Brinkman, & Wade, 2017).

CAMM was also adapted into Turkish and assessed psychometric properties (Çıkrıkçı, 2016). CAMM was found to be valid measure to assess mindfulness in children and adolescents with ages ranged between 10-17 years. In this respect, prior to this present study, Çocuklar için Bilinçlilik Ölçeği was unique mindfulness measure for children and adolescents which was adapted to Turkish.

In the light of the studies presented above, overall mindfulness measures appear to seem available for adults and adolescents. Tardy progress of mindfulness measure for children and youth may be explained due to the fact that mindfulness is an abstract concept which is difficult to grasp by children. This difficulty offers a challenge to the measurement of mindfulness. Still, to understand the effect of

mindfulness-based intervention and essence of mindfulness among children, a new mindfulness instrument for children may be useful.

The cause, which triggered this research inquiry, is the lack of assessment tool for mindfulness in children. Mindfulness-based school and clinical intervention has been widely used but a psychometric instrument does not exist to evaluate effectivenes of intervention or to determine individuals level of mindfulness of children at any time.

Turkish version of CAMM (Çocuklar için Bilinçlilik Ölçeği) adapted by Çıkrıkçı (2016) can only be used children over 9 years old. Thus, it is necessary to develop a psychometric scale for Turkish children. At present in Turkey, there exist no published study in the resources available in terms of mindfulness scale development in school aged children.

1.2 Statement of the Problem

Attention to mindfulness-based interventions for children has been increasing among clinical, educational and community settings. In order to evaluate benefits of mindfulness, various measures have been developed. However, these instruments mainly have been validated with adolescents and adults. Therefore, limitation of available reliable and valid instruments to measure mindfulness vitiate conclusions drawn from mindfulness-based intervention with children. Furthermore, due to this limitation, a great number of mindfulness-based intervention studies with children depend on related measures such as attention, emotion regulation, executive function (Zenner, Herrnleben-Kurz, & Walach, 2014). So, there exists a need for developing a measure that dissociate mindfulness from other relevant outcomes. Nevertheless, there have been several challenges to development of mindfulness measures for children.

First one is a developmental challenge. Definitions and practices of mindfulness derive from adult literature. Therefore, it is important to understand emergence of mindfulness within a developmental perspective. For instance, According to Gogtay, Giedd, Lusk, Hayashi, Greenstein, Vaituzis, & Thompson, (2004) “abstract reasoning” which is in charge of focused attention and metacognitive awareness has been developing until early adulthood. Therefore, it is important to elucidate how different aspects of mindfulness are improved within

different developmental stage. Furthermore, concrete operational stage is a period encompassess middle childhood in Piaget's theory of cognitive development. This stage encompasses middle childhood which starts around age 7 and continues until approximately age 11. This stage is characterized by concrete thinking skills, so children have difficulties in understanding abstarct ideas. Since mindfulness is an abstarct concept, measurement of this abstract concept in this stage offers a challenge.

Second one is a conceptual challenge. Various operational definitions of mindfulness obstruct to reach common concencus regarding aspects of concept. Mindfulness is referred as present moment awareness along with a nonjudmental, curious and kindful approach toward life experiences (Bishop et al. 2004; Brown & Ryan, 2004; Kabat-Zinn, 1994); metacognitive awareness and acting with compassion (Teasdale, Moore, Hayhurst, Pope, Williams, & Segal, 2002; Walsh, 1996). The insufficient consistency of researchers on this construct has hampered the progress of research and assessment tool. The assessment of construct of mindfulness is complex even among adult population (Eklund, O'Malley, & Meyer, 2017). Assessing a concept with multiple aspects including measures particularly designed for children is hindered.

Third one is a methodological challenge. Assessing mindfulness via self-report may limit the reliability of these instruments. The fact that children with little mindfulness experience may not be able to develop insight into their minds. Thus, they are more likely to report inaccurately. On the other hand, children with considerable mindfulness experience tend to notice that their mind is frequently distracting or judging which lead them to report low mindfulness score. Also, due to children limited cognitive abilities, especially young children may experience difficulties by using self-report measures.

The last one is a cultural challenge. The meaning of mindfulness, practices, anticipated outcomes are different across countries and cultures. So, assessment of mindfulness is necessary to fit into culture that children live in.

An increased number of mindfulness-based intervention for children have been conceived in Turkey. A primary problem in this area, though, is the constraint of a psychometric measure of the construct which is at the centre of these programs.

The literature has shown few pyschometric measure of mindfulness for children. However, there are no known studies in terms of development of a mindfulness measure for Turkish children. In order to conduct productive research about mindfulness-based intervention with children, the psychometric properties of mindfulness measures must be established among this population. Therefore, this study aimed to meet this deficit in the literature.

The problem of this study was to develop a psychometric mindfulness scale for Turkish children ages between 8-11 years. In this respect, the effect of mindfulness-based intervention and essence of mindfulness among children may be better understood for future research.

1.3 Purpose of the Study

The main purpose of this study is two-fold: (a) to develop a mindfulness scale for school aged children, (b) to examine the psychometric properties of the mindfulness scale. BAU Mindfulness Scale for Children (BAU-MSC) was generated in stages which would be classified as three studies: 1) Item Generation and Selection; 2) Factor Structure and Internal Consistency; 3) Validation of the Scale.

1.4 Research Questions

This study was focused on the research questions presented below:

1. Is BAU-Mindfulness Scale for Children (BAU-MSC) a reliable scale to determine mindfulness level of school aged children who are 8-11 years old?
2. Is BAU-Mindfulness Scale for Children (BAU-MSC) a valid scale to determine mindfulness level of school aged children who are 8-11 years old?
3. What is the factor structure of BAU-Mindfulness Scale for Children (BAU-MSC)?

1.5 Significance of the Study

Although there are many systematic research studies on mindfulness scale development in international literature, there has not been a study on this issue in Turkey. As the popularity of mindfulness intervention for children has been increasing in Turkey, there is a need for assessing the mindfulness.

In the present study, a new measure was developed. It is expected that BAU-Mindfulnes Scale for Children (BAU-MSC) would be pioneer about assessment of mindfulness as well as it would encourage new studies about mindfulness-based intervention with children.

Because of the fact that there has been a lack of published study on scale development for children in the world, it is expected that this study will contribute to the restricted literature about assessment of mindfulness in school aged children.

This study is expected to lead to further research regarding the relationship between mindfulness level of children and their life satisfaction level.

Moreover, findings of the current study may also provide some important cues for psychologist and counselor to develop new programs to increase potential benefits of mindfulness intervention on children.

Schools that embody mindfulness applications into academic curriculum to improve students' performance would be able to assess effectiveness of the program through BAU-MSC developed in the frame of this study. Thus, the findings of this study will contribute to the benefit of society regarding that mindfulness has a hand in social and academic domain of children's life.

1.6 Definitions

Mindfulness: Orienting attention to the current experience and developing an accepting, nonevaluative and nonreactive point of view towards life experiences (Baer, 2003; Brown & Ryan, 2004; Bishop et al., 2004; Kabatt-Zinn, 2003; Fletcher & Hayes, 2005 & Siegel, 2007). In this study mindfulness will be assessed by use of BAU-MSC.

Developing psychometric scales: In case of absence of appropriate measure for the variables of interest or existing scales' being inadequate, a new scale might be needed to develop. Development of a psychometric scale includes some procedures that must be followed (Churchill, 1979; Hinkin, 1997). In this study, the scale development process drawn from several sources (Churchill, 1979; Cohen & Swerdlik, 2013; Kline, 2000) is followed.

Psychometric properties of instruments: Psychometric properties indicates the reliability and validity of the instrument. Reliability implies the consistency of assessment tool while validity infers the extent to which any measurement tool measures what it is aimmed to measure (DeVellis, 1991).

Chapter 2

Literature Review

In this chapter, the literature relevant to the purpose of this study is summarized. This chapter involves nine sections. The brief history of mindfulness is presented in the very first section. The second section includes transmission of mindfulness into psychology. The third section adressess transmission of mindfulness into clinical psychology. The conceptual and operational definitions of mindfulness as well as mindfulness as a trait or state and mindfulness as unidimensional or multidimensional construct are explained in the fourth section. The fifth section focuses on emprical research studies that emphasizes the benefits of mindfulness intervention. The sixth section encompassess overview of available mindfulness instruments are exhibited. In the seventh section mindfulness studies conducted in Turkey are expressed. The eight section summarizes the general process for developing psychometric scales. Finally, in the last section, the aim, process and research questions of current studies are noted briefly.

2.1 The Brief History of Mindfulness

Mindfulness, recently accepted as secular approach, was originated from Buddhism particularly from Buddhist meditation (Baer et al., 2006). Buddhism is both a religion and philosophy arose from the doctrine of Siddharta Gautama Buddha who is a religious leader, lived in northern India between the mid-6th and mid-4th centuries B.C. (Kumar, 2002; Smith, 1986).

Buddhist doctrine states that there are three features of life experiences which are “impermanence”, “suffering”, and “insight”. According to Buddha’s principles of the Four Noble Truths, existence encapsulates suffering. Freedom from suffering is likely to be accomplished by means of the practice of the Eightfold Noble Path. In other words, Buddhist mediation helps develop awareness of experience and concentrate on deeper reality. Thus, it is possible for a human being to free from his own “sufferings”.

Knowing that the life experiences are changing and not permanent brings acceptance of self and life incidents besides helping to deal with own sufferings. It also emphasizes the importance of training the mind in seeing a person's own feelings, bodies, environment and mind as they really are exept from subjuctive ideas of them. Thus, The Eightfold Path allows people to completely attend to life experiences (Kumar, 2002).

Following the founder Buddha's death, Buddhism had spread from India to other regions in Asia and mainly divided into two sects as followings: Theravada Buddhism and Mahayana Buddhism. Theravada Buddhists retained Buddha's principles strictly whilst Mahayana Buddhists followed a more liberal interpretation of Buddha's teachings. Thereafter, these two sects of Buddhism spread to different countries such as Mongolia, Tibet, China, Japan, Korea, Vietnam, Nepal, Sri Lanka, Thailand, and Burma.

By the 8th century, different sub-sects of Buddhism were developed. One of them is "Zen", a subsect of Mahayana Buddhism, and was released into Japan in the 9th century by Chinese Buddhism. In the long run, Indian and Central Asian Buddhism started to be interpreted by its confrontation with Chinese culture. This new interpretation eventually led to the emergence of Zen. The word "Zen" is the Japanese pronunciation of the Chinese "Ch'an and refers to "meditation" (Christian-Meyer, 1988). Zen Buddhism emphasizes mainly on individual experience of meditation.

Over the course of history, Buddhism impacts have reached Western World. Beginning in the mid-19th century, Buddhist meditation through Japanese Zen Buddhism was introduced into the United States and other Western countries. Thereafter, Zen Buddhism has become widely known in USA through popular writings such as, *Zen Buddhism and Psychoanalysis* (Suzuki, Fromm, & De Martino, 1960), *The World of Zen: An East-West Anthology* (Ross, 1960), and *The Power of Mindfulness* (Thera, 1972).

2.2 Transition of Mindfulness into Psychology

In the middle of the 20th century Zen meditation has become more noticed in USA owing to writings of chief psychotherapists. For instance, Zen meditation was

considered to be helpful bringing unconscious feelings and thoughts into awareness. It also regarded to be coherent to psychotherapy because of its emphasis on here and now, spontaneity, and acceptance (Smith, 1986). Additionally, Zen Buddhism in which growth and change play an important role, was adopted by proponents of existential and humanistic psychology (Kumar, 2002).

Increased attention be paid to meditation helped it expanded into mainstream of experimental psychology during 1960s through 1970s. Thought that meditation created a qualitative change in overall pattern of mental functioning (Tart, 1972) triggered measurement of meditation through electroencephalogram (EEG). It was figured out that individuals who meditated showed alpha wave activity linked to restful reductions in metabolic rate (Anand, Chhina & Singh, 1961; Bagchi & Wenger, 1957), theta waves (e.g., lower states of arousal associated with sleep) (Kasamatsu & Hirai, 1966), and even some delta activity, which is typically found in deep sleep and comas (Green, Green, & Walters, 1976).

Based on these results experimental psychologists considered meditation as other form of awareness. On the contrary, Zen meditation practitioners objected this idea and regarded meditation as an activity that raise awareness. These two distinct opinions showed that there were two types of meditative states. Further, physiological research results revealed evidence to support existence of two different consciousnesses. According to results people who experience concentrative practices such as yoga and transcendental meditation were found to be showed lack of alpha activity when encountered a stimulus which meant that they were unaware of distractions. On the other hand, people performing mindfulness practice such as mindfulness and Zen meditation appeared to have brief periods of alpha blocking (Kasamatsu & Hirai, 1966). This suggested that people processed each input from environment as if the first time being experienced and became fully aware of their environment. Hence, mindfulness started to be investigated and practised in psychology apart from its Buddhist origin.

Scientific investigation of mindfulness spread to outside of the experimental psychology. In social psychology, Langer (1989) asserted two states of mind called mindfulness and mindlessness. According to Langer (1989a), mindfulness is a state of conscious awareness that allow people to be aware of the context and content of information. This state also provides people with being open to novelty that lead

people to actively form categories and distinctions. Rather, mindlessness is a state of mind in which people depend usually on old categories and distinction and are careless of novel. People who are mindful tend to focus on present moment experience and be sensitive to context and content by noticing novelty. Mindfulness is seperated from mindlessness on account of acting out of routine, habits and relying on rigid mind-sets (Langer, 1992).

Langer conducted a couple of research that explore mindfulness relation to health, business, and education. The study investigated effect of mindfulness and mindlessness on health in elder population showed that mindfulness was related to improved longevity and decreased negative health outcomes. In addition, mindfulness was found to be related with enhanced creativity and lessened burnout in terms of research in the field of business (Langer & Moldoveanu, 2000).

Moreover, Langer also explored "mindful learning" related to mindfulness practices of noticing novelty in school and learning context based on Langerian mindfulness model. Langerian mindfulness was verified to be effective on memory, competence, creativity, positive affect, human error and stress (Langer, 1989; Langer, 2000; Langer & Moldoveanu, 2000). However, Langerian mindfulness did not include meditation. Rather than meditation, main focus was on the encouraging students for noticing change in context and taking situations from multiple perspectives (Davenport & Pagnini, 2016).

2.3 Mindfulness in Clinical Psychology

During the 1990s, mindfulness started to be integrated into psychotherapy. These contemporary treatments highlighted the moment to moment awareness and acceptance and have been asserted as the "third wave" of behavior therapy (Breslin, Zack, & McMain, 2002). Behavior therapy simply can be divided into three waves.

In the early 20th century psychoanalytic theory which was developed by Freud became dominant in the field of psychotherapy. In 1950s, the first wave of behavior therapy emerged from experimental psychology of John Watson in reaction to existing psychoanalytic theory (Hayes, Follette, & Linehan, 2004). The operant conditioning (Skinner, 1953) and classical conditioning (Wolpe, 1958) principles were applied for the anxiety treatment. The work of Watson, Wolpe and Skinner all

contributed to development of behavior therapy in which intervention based on principles of classical and operant conditioning were designed to change problematic behavior. First wave behavior therapy focused directly on maladaptive behavior and disregarded unobservable phenomena.

By the late 1960s, cognitive behavior therapy which regarded second wave therapy originated from first wave behavior therapy and expanded its scope and method. Thus, behavior therapy which concentrated merely on behavior change gained a complementary approach that considered cognition. Albert Ellis who is the founder of rational emotive behaviour therapy (REBT) focused on irrational and negative beliefs. According to him, irrational and negative beliefs are supposed to be restructured (Ellis & Ellis, 2011). In a similar vein, Aeron Beck, founder of cognitive therapy, viewed negative cognitions were related to negative emotions and behaviors (Beck, 2011).

Cognitive therapy implements various techniques such as cognitive restructuring in order to decrease such beliefs or alter them more desirable forms, to reduce negative emotions and behaviors (Masuda, Hayes, Sackett, & Twohig, 2004). Judith Beck (2011) defines cognitive restructuring as a method to identify thinking errors and to develop alternative cognitions. Overall, first and second wave therapies has dominated psychotherpy and are shown to be the most efficious treatment for many different disorders (Hayes et al., 2004). However, new approaches for treatment of various psychopathology developed in time.

In the early 1990s, third wave of behavior therapy with the emphasize on the moment to moment awareness and acceptance emerged. Hayes (2004) explained the subsequent characteristics of this wave of therapeutic intervention:

> Grounded in an empirical, principle-focused approach, the third wave of behavioral and cognitive therapy is particularly sensitive to the context and functions of psychological phenomena, not just their form, and thus tends to emphasize contextual and experimental change strategies in addition to more direct and didactic ones. These treatments tend to seek the construction of broad, flexible, and effective repertoires over an eliminative approach to narrowly defined problems, and to emphasize the

relevance of the issues they examine for clinicians as well as clients (p. 658).

As stated by Hayes (2004), the main focus of third wave therapy is the altering context and function of maladaptive thoughts and emotions instead of changing the content and frequency of them.

Third wave therapies can be divided roughly into two parties: interventions centring on mindfulness training and interventions included mindfulness as an important ingredient. The interventions centring on mindfulness training includes: Mindfulness-Based Stress Reduction (MBSR; Kabat-Zinn, 1982, 1990) and Mindfulness-Based Cognitive Therapy (MBCT; Segal, Williams, & Teasdale, 2002) whilst intervention considered mindfulness as an important concept are: Acceptance and Commitment Therapy (ACT; Hayes, Strosahl, & Wilson, 1999), Dialectical Behavior Therapy (DBT; Linehan, 1993), and Relapse Prevention (RP; Marlatt & Gordon, 1985).

Kabat-Zinn (1990) applied principles of mindfulness mediation in clinical setting and developed MBSR program, an eight-week program aiming to reduce stress, which proved to be effective in decreasing suffering of patients who have chronic pain. Mindfulness meditation involves body scan and breath focus exercises with a notice of internal experiences (Kabat-Zinn, 1982). MBSR practioners experience formal mindfulness practices each day as well as pay complete attention to present moment experiences during dailly life. According to research results, MBSR has found to be effective in treating chronic pain (Kabat-Zinn, Lipworth, & Burney, 1985), decreasing worry, rumination and anxiety (Jain, Shapiro, Swanick, Roesch, Mills, Bell, & Schwartz, 2007), increasing quality of life (Garland & Howard, 2013), and diminishing stress in cancer patience (Speca, Carlson, Goodey, & Angen, 2000).

MBCT entegrates mindfulness meditation and cognitive therapy especially used as a relapse prevention treatment for depression. By developing a regular meditation practice, clients can apply these techniques when they feel overwhelmed by negative emotions. MBCT assissts people separate themselves from their thoughts and emotions (Segal, Williams, & Teasdale, 2002). In addition, non-judgmental approach and detached view of one's thoughts (e.g., "I am not my thoughts") help

people refrain from rumination of negative thoughts (Teasdale et al., 1995). Thus, the purpose of MBCT is to boost being present at the moment (Williams, Teasdale, Segal, & Soulsby, 2000). Research established positive effect of MBCT on relapse of depression (Hofmann, Sawyer, Witt, Oh, 2010; Teasdale et al., 2000).

ACT emphasizes two important core messages as stated in its name. One of them is accepting what is arising out of personal control and other is committing actions that contribute to and enrich peoples own life. ACT aims to maximise human potential for a more meaningful life by facilitating people to focus on and engage with their values and goals (Forsyth & Eifert, 2007). ACT divides mindfulness skills into three categories including defusion, acceptance and contact with the present moment. Defusion stands for refraining from destructive thoughts, beliefs and emotions. Acceptance implies embracing painful emotions, sensations and wishes rather than replacing them with desired ones. Contact with the present moment infers attending completely to moment by moment experiences with an attitude of openness and curiosity. ACT helps people in therapy develop mindfulness skills in order to increase psychological well-being and to diminish experiential avoidance (Hayes, Strosahl, & Wilson, 1999). An increasing number of studies have established that ACT is effective in reducing depression and anxiety symptoms (Foreman, Herbert, Moitra, Yeomans, & Gellar, 2007), addictions (Gifford et al., 2004), psychotic symptoms (Gaudiano & Herbert, 2006).

DBT is an approach to psychotherapy that mostly treats emotion dysregulations. DBT offers mindfulness training in order to develop skills to cope with overwhelming emotions effectively as known “affect tolerance”. Experiencing emotions mindfully means noticing all experiences brought by emotions without supressing them. It requires accepting every one of them unconditionally (Linehan, 1993 a, 1993 b).

Further, Dimidjian & Linehan (1993) conceptualizes mindfulness as possessing six elements: observing, describing, participating, nonjudgmentally, one-mindfully, and effectively based on DBT. The first three skills are approved as “what” skills of mindfulness. Observing requires to observe feelings, behaviors, and what is happening in the environment without changing them. Describing which is the second “what” skill of mindfulness demands describing experiences. The last “what” skill of mindfulness is to participate which allows being fully present in the moment.

Non-jugmentally that is a “how” skill of mindfulness means approaching life experiences non-evaluative way. One-mindfully, second “how” skill, implies focusing on one thing at once which is the contrary to multi-tasking. The last “how” skill, effectively, signifies acting based on a goal. Research with DBT has shown positive outcome related to parasuicidal behaviors and anger in people who have borderline personality disorders (Linehan, Armstrong, Suarez, Allman, & Heard, 1991), substance abuse (Linehan et al., 1999) and bulimia (Telch, Agras, & Linehan, 2000).

RP is a combination of intervention designed to prevent relapses in substance abuse. Applying mindfulness in relapse prevention helps clients to cope with urges by letting them come and go. Thus, practice of mindfulness brings observing urges and cravings, being present with them, and accepting them instead of acting on them (Baer, 2003). Research has investigated positive effect of RP for substance use (Bowen et al., 2009; Lee et al., 2011).

2.4 Conceptual and Operational Definitions of Mindfulness

Although mindfulness is originated from Buddhism meditation, it is not that old in a variety of fields such as positive psychology, psychology, medicine, and education. Since application of mindfulness pervades amongst the different fields, it would be useful to comprehend the construct of mindfulness.

Due to great effort to define mindfulness in terms of conceptually and operationally, there has been a substantial concern for the scientific inquiry of the construct for approximately thirty years. However, mindfulness definitions differ based on domain in which it is used. Also, some authors argue that there has been a lack of consensus on explicit operational definitions of mindfulness (Bishop, 2002; Hayes & Wilson, 2003).

> The development of shared consensus regarding the key characteristics or components of mindfulness represents one of the most critical steps toward a program of research on the clinical use of mindfulness. The lack of a clear operational definition of mindfulness has given rise to considerable and unfortunate ambiguity in the field, such as the equation of mindfulness interventions with acceptance interventions or with

> meditation, the confusion between relaxation, and the like. Moreover, the lack of widespread consensus on this issue has hindered the progress of research on determining the active ingredients of mindfulness interventions and mechanisms of change (Dimidjian & Linehan, 2003, p. 166).

According to Bishop (2002) restricted operational definitions of mindfulness has constrained the scientific study of mindfulness. In this respect, Bishop et al. (2004) asserted two-component model of mindfulness. According to this model there have been two components of mindfulness. One of them is "self regulated attention" includes bringing attention to the ongoing experience and shifting attention from one stimulus to another. Second component which is "orientation to experience" accentuates the attitudes that people have towards current life experiences and is qualified by curiosity, openness and acceptance as well as affection and compassion (Cardaciotto et al., 2008). These two components are also considered common elements among many definitions employed for construction of mindfulness measures (Coffey, Hartman, & Fredrickson, 2010). Conceptual outline of the two-component model of mindfulness, adapted from Bishop et al., (2004) is presented in Figure 1 below.

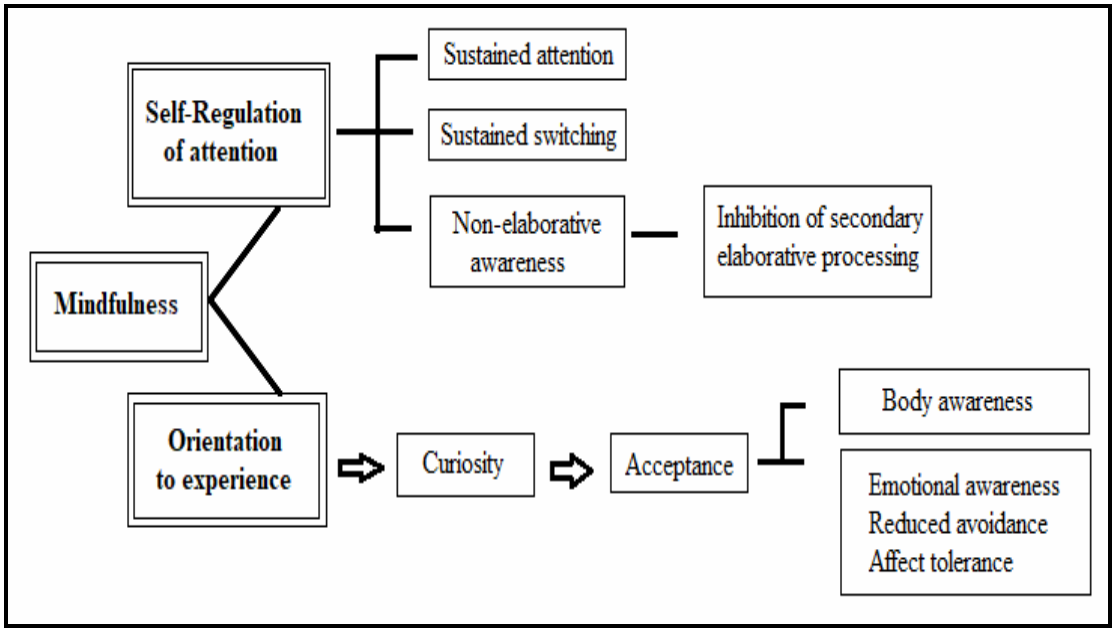

Figure 1. Conceptual Outline of the Two-Component Model of Mindfulness, adapted from Bishop et al., (2004)

Kabat- Zinn (2003) as the precursor with his MBSR program in healing patients with chronic pain, defined mindfulness as concentrating on the present moment experiences with acceptance in non-evaluative way. This type of focus cultivates awareness and acceptance of present moment reality. Kabat-Zinn (1990) also defines seven mindfulness qualities. Shapiro, Schwartz, and Bonner (1998) add five more qualities, revealling overall twelve mindfulness qualities: nonjudging, nonstriving, acceptance, patience, trust, openness, letting go, gentleness, generosity, empathy, gratitude, and loving kindness that are presented in Appendix A.

Epstein (2003) adresses mindfulness from a medical perspective like Kabat-Zinn, and characterizes four qualities that can be learned for becoming mindful as "attentive observation of oneself, critical curiosity, beginner's mind and presence".

First quality that "attentive observation of oneself" means patients as an individual to pursue unexpected solutions as well as usual solutions to a problem and examining one's own perceptions, perspectives and prejudices. Second quality, "critical curiosity", implies being tolerant to own incompetence and welcoming uncertainty. The third quality of mindful behavior is "beginner's mind" and characterized to perceive unfamiliar things in a situation and abondon old categories. Thus, tolerating uncertainty helps retain openness to novelty. The last quality, "presence" infers that concentration on the task that the person to engage with the moment and fully experience of it (p.7). Epstein indicates that in order people to be mindful in their lives, these four qualities are required to be combined.

According to the research studies carried out in medicine, mindfulness has shown positive outcome on improved focus (Davis, Hayes, & Jeffrey, 2012) and immune functioning (Black & Slavis, 2016; Carlson, Speca, Faris, & Patel, 2007).

In psychology, Baer (2003) described mindfulness as observing uncritically of current flow of stimuli stemming from inside and outside. In addition, Saphiro et al., (2006), proposes three elements as components of mindfulness. These includes: attitude, attention and intention. Attitudes such as non-judgment, acceptance, trust, patience, non-striving, curiosity, and kindliness (Bishop et al., 2004; Kabat-Zinn, 1990) are considered as foundations of mindfulness. Attention involves focused, general and sustained attention and ability to switch attention from one stimulus to another. The third element of mindfulness, intention, encompassess an intention to

direct, switch or sustain attention. Intentional attention corresponds with self-regulation of attention (Bishop et al., 2004).

Research studies in psychology reveal that mindfulness is related to various positive effects on people in several ways. According to research results mindfulness has found to be effective in reduced rumination (Jain et al., 2007; Ramel, Goldin, Carmona, & McQuaid, 2004), improved emotion regulation (Chambers & Allen, 2008), increased life satisfaction (Brown, Kasser, Ryan, Linley, & Orzech, 2009; Kong et al., 2004), stress reduction (Flook, Goldberg, Pinger, & Davidson, 2013; Shapiro, Schwartz, & Bonner, 1998; Shapiro, Brown, & Biegel, 2007).

In the field of social psychology, Brown & Ryan (2003) described mindfulness as "state of being attentive to and aware of what is taking place in the present; enhanced attention to and awareness of current experience or present reality" (p.822). Brown & Ryan's definition of mindfulness in accordance with existing definitions, emphasizes two component such as present moment awareness and an attitude of non-judgment.

In education, mindfulness is mostly studied by Langer. Langer (1989) defines mindfulness as the "simple process of noticing new things and drawing novel distinctions" (p. 214). Further, Langer (1997) presented five important qualities of mindful learning: the creation of new categories, openness to novelty, awareness of multiple persectives, alertness to distinctions and orientation in the present. The first quality, the creation of new categories, allows people to be sensitive to the environment and the context. Thus, it is possible to invite novelties and to be aware of new ideas in a school context. Openness to novelty means being open to uncertainty and pursuing novelty. That is, by thinking of unknown as a way of learning, new information motivates students' learning in the class. The third quality, awareness of multiple perspectives, implies noticing multiple different perspectives to a situation and being alert to distinction. The awareness of multiple perspectives enhance creativity and imagination such that students are given more choices. The fourth quality, alertness to distinction resembles openness to novelty in terms of drawing conscious distinctions and forming new categories for new informaton. The final quality of a mindful learning is orientation in the present which requires people to be active on a task and to focus on it. According to Langer, if these five qualities are entegrated into school context, students are provided with mindful learning.

Indeed, the examination of existing definitions of mindfulness manifests that many of the definitions contain "present moment awareness" as an element. Awareness can be defined as ongoing observation of internal experience (Deikman, 1996). It also allows people to notice own internal or external environment at present (Roeemer & Orsillo, 2003).

"Attention" is another element that is associated with awareness. Attention is described increased sensivity to a limited extent of experience (Kosslyn & Rosenberg, 2001). Williams (2010) states that mindfulness training provide people with paying attention to phenomenon of external and internal world through meditation practices. This kind of attention not merely paid to the phenomenon itself. It is also paid to the reaction shown to them.

Williams (2010) also illustrates attentional process during a meditation practice, "the Body Scan", which is a way of training attention by focusing on little toe all the way through the entire body or vice versa. The attentional process during this meditation involves an "engagement-disengagement cycle that is repeated around 50 times" (p.3). In addition, each cycle comprises of four intentional phase that are: 1) shifting attention to one part of the body to another, 2) engaging attention with this part of the body, 3) exploring sensations arisen through staying at this part, 4) disengaging attention. During this practice, two meta-intentions are maintained by practitioners. First is the noticing mind-wandering and returning attention to the intended target. Second is the exploration of sensations and reliazing mind-wandering with an attitude of curiosity and compassion instead of judgment. Figure 2 shows William's (2010) illustration below.

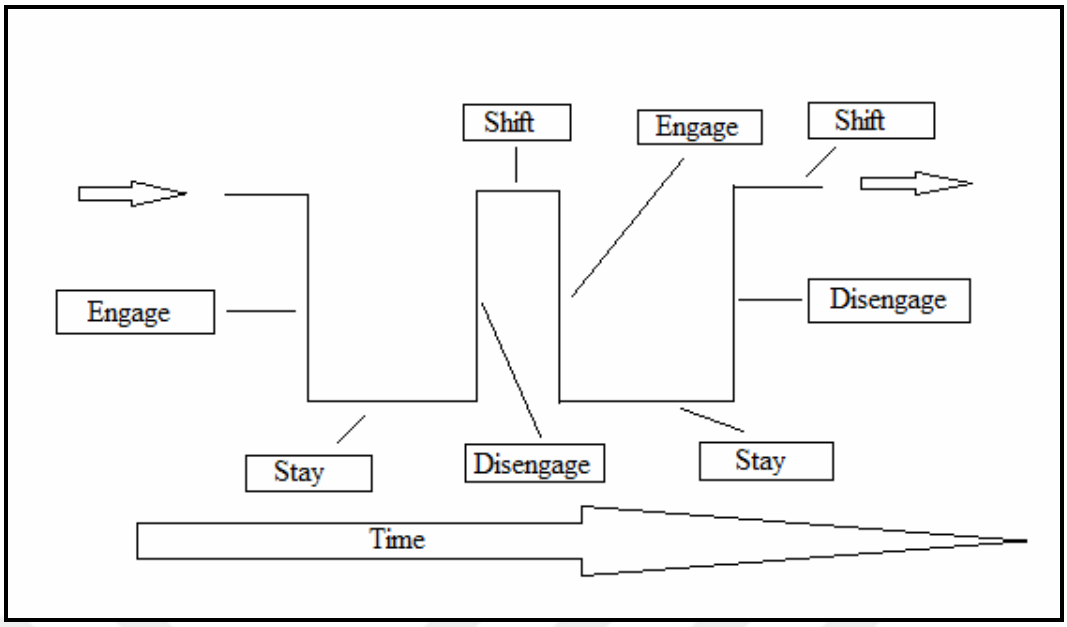

Figure 2: The Attentional Process During One Mindfulness Meditatation Practice (the Body Scan). Adapted from "Mindfulness and Psychological Process", by J.M.G., Williams, 2010, *Emotion,* 10 (1), 1-7. Copyright 2010 by the American Psychological Association.

The other element of mindfulness is the way of maintaining present moment awareness. This includes nonjudmentally and an attitude of acceptance and compassion toward one's experience. Hayes (1994) explains "acceptance" as approving of what is happening regardless of defense. By means of acceptance, people prevent judgements and refrain from suppressing or altering internal and external experiences (Bishop, 2002).

2.4.1 Mindfulness as a trait or state. Kabat-Zinn (2003) states that mindfulness is an inner potential that all people endowed with. There has been a lack of consensus in terms of nature of mindfulness. Some theoreticians account mindfulness as a state of mind while others view it as a general disposition. Lau et al., (2006) have conceived mindfulness as a state of being mindful that can be maintained through engaging in a mindfulness meditation. As an alternative, Baer et al., (2006) have characterized mindfulness a trait with respect to people's propensity for being mindful in everyday life. Additionally, Brown and Ryan (2004) have suggested that people have capacity of being mindful, a trait like attribute of being aware of one's daily experience, without meditation.

Furthermore, according to Kiken et al., (2015) immediate experience of being mindful via mindfulness meditation which is state mindfulness increases likelihood of general tendency of being mindful during daily experiences which is trait mindfulness.

Miners (2008) also suggests that trait mindfulness is related with social and emotional well-being of children. He also reports a positive correlation between trait mindfulness and positive emotions, popularity and friendship extensiveness.

Current mindfulness scales differ in terms of the trait-to-state continuum. Mindfulness can be evaluated in several ways involving as a trait or dispositional attribute. The Toronto Mindfulness Scale (TMS) is a state mindfulness measure intended to be administered subsequent to a meditation practice. The Freiburg Mindfulness Inventory (FMI), Mindful Attention Awareness Scale (MAAS), The Philadelphia Mindfulness Scale (PHLMS), the Kentucky Inventory of Mindfulness Skills (KIMS), the Cognitive and Affective Mindfulness Scale-Revised (CAMS-R) and the Five Facet Mindfulness Scale (FFMQ) assess mindfulness as a trait in which respondents are expected to rate items in terms of general relevance for them. These instruments are designed to use for understanding people's variability in their mindfulness inclination at any time independent of meditation practice.

2.4.2 Mindfulness as multidimensional or unidimensional. A review of existing mindfulness scales in literature displays the conceptualization of mindfulness in terms of its elements. Some mindfulness scales considers mindfulness as one-dimensional construct whereas others regard it as two-dimensional or multifaceted concept. Mindfulness Attention and Awareness Scale is an example of one-dimensional scale assess mindfulness as ability of focusing on present moment (MAAS, Brown & Ryan, 2003). Likewise, the Cognitive and Affective Mindfulness Scale-Revised (CAMS, Feldman et al., 2007) and the Freiburg Mindfulness Inventory (FMI, Walach et al., 2006) are uni-dimensional however they assess different elements such as acceptance, non-judgement and openness to negative experiences.

On the other hand, the Toronto Mindfulness Scale is based on two-component model of mindfulness (Bishop et al., 2004) and encompassess two factors : curiosity and decentering (TMS, Lau, et al., 2006). The Philadelphia Mindfulness Scale

(PHLMS, Cardaciotto et al., 2008) is also a two-dimensional scale evaluating present-moment awareness and acceptance components of mindfulness. The Kentucky Inventory of Mindfulness Scale (KIMS, R.A. Baer, Smith, & Allen, 2004) includes mindfulness skills involved in dialectical behavior therapy (DBT, R. A. Baer, et al., 2004; Linehan, 1993) and consists of four factors : observe, describe, act with awareness, and accept without judgement. Five Facet Mindfulness Scale (FFMQ, R.A. Baer, et al., 2008) comprises five factors : non-reactivity, observing, acting with awareness, describing, and non-judging and derived from several questionnaires of mindfulness. Eventhough each of these measures conceptualizes mindfulness variously, they have contributed to operationalize mindfulness.

2.5 Positive Effects of Mindfulness Interventions

There has been strong evidence for the positive influence of mindfulness on psychological well-being (Lykins and Baer, 2009); decreases in rumination and increase in self compassion (Shapiro et al., 2007); improved concentration and mental clarity (Young, 1997) in adults.

Although research with children is not extensive as with adults, there is a rapid growth in research establishing benefits of mindfulness. In this section, evidence derived from the use of mindfulness-based school and clinical intervention for school-aged children and youth are presented.

There appear studies showed mindfulness practices has positive affect on children and adolescents well-being. For instance, in Napoli et al., (2005)'s experimental study carried out with first, second and third graders in a school setting was found 24-week mindfulness training, namely "Attention Academy Program", composed of mindfulness practices on students' ability to pay attention to be effective on children's selective attention, test anxiety and ADHD which are evaluated by using of objective measures. Children participated in mindfulness training showed an increase in attention skills and decline in test anxiety and behaviors related to ADHD. This study deduced that improved attention owing to mindfulness can reinforce learning of students.

In another study, Schonert-Reichl and Lawlor (2010) carried out a quasi-experimental study to estimate efficiency of a mindfulness intervention program.

"Mindfulness Education (ME)" program, containing 10 lessons and mindfulness mediation which had been practicing three times in a day, was integrated into school curriculum and offered by teachers. Pre and early adolescent ranging from 4th to 7th grades were recruited for the study. Also, teachers assessed classroom social and emotional competence of students. Results of the study pointed out that children who attended to ME program, in contrast to control group, showed a significant increase in scores of optimism and positive emotions. Likewise, teacher-rated measures exhibited significant improvements in social and emotional competence and a decrease in aggression and oppositional behavior.

Another program developed by Joyce et al., (2010) called "Mindfulness Mediation Program" included 10-week for the students aged 10-12 years. The teachers delivered the program 5th and 6th graders enrolled in two primary schools. The program was found to be affected on self-reported behavioural problems and depression scores.

Vickery & Dorjee (2016) reported that an 8-week mindfulness training program, namely Paws b, with seventy one children aged 7-9 years revealled explicit reduction in negative affect.

Flook et al (2010) evaluated a school-based mindful awareness practices (MAPs) with 64 children who are 7-9 years in second and third grades. An 8-week program was delivered twice a week. Students were assessed by questionnaires completed by teachers and parents due to their executive function before and after intervention. Children who participated MAPs group showed improvement in executive function, behavioral regulation and metacognition as compared to control group.

Lee et al (2008) examined the impact of "Mindfulness- Based Cognitive Therapy for Children (MBCT-C)", in 9 to 12 year old, twenty five children who were in grades three to six and had academic problems. Results have found that MBCT-C is beneficial to decrease internalizing and externalizing symptoms.

Effects of "Learning to BREATHE" training program based on Mindfulness Based Stress Reduction (MBSR) was evaluated (Broderick & Metz, 2009). The results of the study have displayed a significant reduction in negative affect and a

rise in calmness and relaxation, self acceptance, emotional regulation, awareness and mental clarity in participants who are 17-19 years old.

A combination of Tai Chi and mindfulness-based stress reduction as a school program was delivered in school mainstream. The program included 5-week for middle school-aged children. This study has showed that program was effective in improving well-being, calmness, relaxation, improving sleep, lessening reactivity and promoting a sense of connection with nature (Wall, 2005).

Similarly, Hennelly (2011) investigated effectivenes of a school based mindfulness program called full .b. The students aged between 14-16 years from secondary schools received an 8-week program. The study has displayed that experiment group when compared to control group has showed significant differences in mindfulness, resilience and well-being. Students, teacher and parents also indicated improvements in students' competence and confidence.

Moreover, Liehr and Diaz (2010) investigated the effect of mindfulness on depression and anxiety in minority and disadvantaged children. Participants were randomly assigned to either a mindfulness program or another depression and anxiety education group. Mindfulness-based intervention and another intervention with different approach were compared in the study. According to results, participants attended to mindfulness group had reduction in depression symptoms and participants of both groups had reduction in anxiety.

A pilot study conducted in Hong Kong evaluated the impact of mindfulness-based school program in schools (Lau & Hue, 2011). Twenty four children aged between 14-16 years old with low academic performance from two different schools were recruited. The program was obtained to be effective on symptoms of depression and well-being.

Semple et al., (2010) examined a group program based on mindfulness-based cognitive therapy (MBCT). Children aged 9-13 years with academic difficulties were recruited. Participants attended to group program has showed improvements in attention and reduction in anxiety and behavior problems when comparing to control group.

In the study Saltzman and Goldin (2008) effectiveness of an 8-week MBSR program was evaluated. The program applied to 31 children aged between 9-11 and their parents was found to be effective on children's and parent's attention and emotional reactivity and meta-cognition.

Moreover, Mendelson et al., (2010) assessed a mindfulness-based intervention on self regulation of disadvantaged children aged between 9-10 years old. Result of the intervention encompassed mindfulness techniques has shown significant reduction in stress level.

Beauchemin, Hutchins and Patterson (2008) inquired outcomes of a 5-week mindfulness program. Participants including 34 adolescents with learning difficulties showed improvements in social skills and academic performance besides decreasing in state and trait anxiety.

In terms of research on phsical health, Gregoski et al., (2011) conducted a study to examine effect of mindful breath meditation on adolescents with cardiovascular disease. Mindful breathing program administered during regular health education program was found to be effective on children's blood pressure and heart rate compared to the regular Life Skills group.

Crescentini et al., (2016) conducted a recent study in which sixten students who are 7-8 years old and going to primary school in Italy were offered mindfulness training. Control group consisted of same age fifteen children was administered emotional awareness training. Both training was delivered by same trainer three times a week and eight weeks in total. According to results, mindfulness has a significant effect on primary school children's well being and emotional regulation.

In another study Tan et al., (2016) investigated the relationship between Chinese adolescents' mindfulness and their life satisfaction as their core self-evaluations a mediator. Four hundred thirty six participants were administered MAAS, the Core Self-Evaluations Scale, and the Satisfaction with Life Scale. Results has revealed that higher level of life satisfaction was related to greater mindfulness and more positive core self evaluations.

2.6 Overview of Available Mindfulness Measures

Due to growing evidience of positive impact of mindfulness on psychological health, emotional wellbeing, learning and physical health, assessment of mindfulness has become essential. Lately a variety of mindfulness measures have been developed. Measures that used widely are described.

The Mindful Attention Awareness Scale (MAAS) developed by Brown and Ryan (2003) is a dispositional mindful scale that consists of 15 items. MAAS is regarded to be a one- dimensional construct that focuses mainly on awareness (Cardaciotto et al., 2008) providing a single overall score. This tool emphasizes on lack of moment-by-moment awareness. It was designed a 6-point Likert-type scale (almost always to almost never). The higher scores reflect the greater degree of mindfulness. MAAS was shown to have high reliability. There have been moderate to strong positive correlations between MAAS and openness to experience, emotional intelligence, and well-being and negative correlations between MAAS and rumination and social anxiety (Baer et al., 2006).

The Langer Mindfulness Scale (LMS) was developed as a four-dimensional instrument that consists of either 21 or 14 items based on which version is used (Pirson et al., 2012). It is a 7-point Likert-type scale. Each dimesnsions of the scale are as follows: “novelty seeking”, “engagement”, “novelty producing”, and “flexibility” in line with Langerian mindfulness model.

The Kentucky Inventory of Mindfulness Skills (KIMS; Baer et al., 2004) is a 39-item questionnaire assessing four aspects of mindfulness that are observing, describing, acting with awareness and accepting without judgement. This instrument is a five-point Likert-type scale. It assesses general disposition of mindfulness like MAAS. Results have revealed good internal consistency (range from .83 to .91) and test-retest reliability (range from .65 to .86).

Cognitive and Affective Mindfulness Scale- Revised (CAMS-R) is a revised version of original CAMS (Kumar, Feldman, & Hayes, 2005). CAMS-R consists of four components that are: attention, present-focus, awareness and acceptance (Feldman et al., 2007). This measure includes 12 items on a 4-point Likert-type scale. CAMS-R was positively correlated with MAAS and cognitive flexibility while negatively correlated with rumination and worry (Baer et al., 2006).

The Philadelphia Mindfulness Scale (PHLMS) is a 20-item scale including two subscales which are awareness and acceptance (Cardaciotto, 2008). It was developed with both clinical and non-clinical samples without previous meditation experience. Participants completed a 5-point Likert-type scale (0=never and 5=very often) based on their past week experience of described item. PHLMS has demonstrated adequate internal consistency (For the Awareness subscale, Cronbach's alpha = .81, for the Acceptance subscale, Cronbach's alpha = .85).

The Five Facet Mindfulness Questionnaire (FFMQ) is a 39-item multidimensional scale that assess mindfulness as a trait like feature on a 5-point Likert-type scale. It encompasses five component of mindfulness that are nonreact, observe, actaware, describe and nonjudge. Researhes have showed that subscales of FFMQ is positively correlated with emotional intelligence and well-being whereas negatively correlated with neuroticism and depression (Baer et al. 2006).

The Freiburg Mindfulness Inventory (FMI) consists of 30 items. It was developed with participants who had meditation experience and designed to assess state mindfulness. It is bidimensional construct that includes nonjudgmental present moment observation and openness to negative experiences (Buchheld, Grossman, & Walach, 2001). In addition, FMI was found to be valid with significant correlation with self-awareness measure (Walach et al., 2006)

Toronto Mindfulness Scale (TMS) was developed by Lau and colleagues (2006) with a purpose of assessing state mindfulness like FMI. TMS contains two factors that are curiosity and decentering. It was designed to use in the aftermath of mindfulness meditation. The scale consists of 13 items on a 5-point Likert-type scale. TMS has found to have higher internal consistency. Validity of this subscales confirmed via its correlations with absorption and openness to experience (Lau et al., 2006).

These studies abovementioned that examine the measurement of mindfulness, generally included American or European populations. Meanwhile, a current movement for examining the measurement of mindfulness in Turkish population is observed. For example, Özyeşil et al., (2011) adapted MAAS into Turkish and it is named BİFÖ (Bilinçli Farkındalık Ölçeği). The BİFÖ is a unidimensional instrument that consists of 15 items. BİFÖ was found to be reliable (Cronbach's alpha = .88) and applicable to Turkish population.

In a similar vein, Turkish version of CAMS-R was developed with two different samples. First sample included 265 undergradute students whilst second sample involved 88 adults. The translated version of the CAMS-R was found to be reliable instrument since the Cronbach's alpha coefficient was .77. Also, validity of this instrument was established through its correlations with depression, anxiety, well-being and perceived stress (Çatak, 2012). Furthermore, in a recent study, Şahin and Yeniçeri (2015) investigated the psychometric properties of three existing mindfulness scales namely Psychological Mindedness Scale, Integrative Self Awareness Scale and Toronto Mindfulness Scale as well as translated them into Turkish. The study has showed that these three measures are reliable and valid for use in Turkish poplations.

All of these instruments are valuable in assessing mindfulness just in adults. Accordingly, Greco, Baer & Smith (2011) developed Child and Adolescents Mindfulness Measure (CAMM) in order to measure mindfulness among children and adolescents who are over the age of 9 years. CAMM includes 10 items and is a 5-point Lykert-type scale. It includes only negative worded items.

In another study, MAAS-A was developed to assess dispositional mindfulness level in adolescents who are 14-18 years old (Brown et al., 2011). MAAS-A consists of 14 items that are negative statements focusing on "presence" as a key element of mindfulness. It was designed as a 6-point Likert-type scale. MAAS-A was found to be relaible since the Cronbach's alpha coefficient was .86. Likewise, CHIME-A was developed as a trait mindfulness instrument for adolescents with ages ranged between 12-14 years (Johnson et al., 2017). It comprises of 25 positively and negatively worded items and is a 5-point Likert-type scale. Factor analyses results of CHIME-A has revealed eight factors with sound internal consistency (α= .65-.77).

As for the assessment of mindfulness in Turkish children, Çıkrıkçı (2016) adopted CAMM into Turkish and examined the psychometric properties with 660 children and adolescents aged 10 to 17 years. It is called Çocuk ve Ergenler için Bilinçlilik Ölçeği. It was found to be one-dimensional instrument that consists of 8 items. The study has found that Çocuk ve Ergenler için Bilinçlilik Ölçeği has been a valid measure to assess mindfulness in children and adolescents since it was found to be positively correlated with metacognitive awareness. Table 1 presents characteristics of available mindfulness measures abovementioned.

Table 1

Characteristics of Available Mindfulness Measures

Measure	Age range	Dimensions (item numbers)	Response options	Example items
Adult Measures				
MAAS	Adults	1 dimension Total (15)	6-point scale	"I find it difficult to stay focused on what's happening in the present." R
LMS	Adults	4 dimension Total (14 or 21)	7-point scale	"I try to think of new ways of doing things." (Novelty producing)
KIMS	Adults	4 dimension Total (39)	5-point scale	"I notice the smells and aromas of things." (Observe)
CAMS-R	Adults	4 dimensions Total (12)	4-point scale	"I am able to accept the thoughts and feelings I have." (Acceptance)
PHLMS	Adults	2 dimensions Total (20)	5-point scale	"When I walk outside, I am aware of smells or how the air feels against my face." (Awareness)
FFMQ	Adults	5 dimensions Total (39)	5-point scale	"I make judgments about whether my thoughts are good or bad" (Nonjudgjng of experience) R
FMI	Adults	2 dimensions Total (30)	4-point scale	"I am open to the experience of the present moment." (Present moment observation)
TMS	Adults	2 dimensions Total (13)	5-point scale	"I was curious about my reactions to things." (Curiosity)
BİFÖ	*Adults*	*1 dimension Total (15)*	*6-point scale*	*"Ne yediğimin farkında olmaksızın atıştırıyorum." R*
Turkish CAMS-R	*Adults*	*4 dimensions Total (10)*	*4-point scale*	*"Uzun süre boyunca dikkatimi tek bir şeye verebilirim." (Dikkat)*
Child & Adolescents Measures				
CAMM	10-17	1 dimension Total (10)	5-point scale	"At school, I walk from class to class without noticing what I'm doing."
MAAS-A	14-18	1 dimesnion Total (14)	6-point scale	"I break or spill things because of carelessness, not paying attention, or thinking of something else."
CHIME-A	12-14	8 dimensions Total (25)	5-point scale	"I notice details in nature (like the colour of the sky, or the shape of trees and clouds." (Awareness of external experiences)
Turkish CAMM	*10-17*	*1 dimension Total (8)*	*5-point scale*	*"Tek seferde bir şeye odaklanmak benim için zordur."*

Note: R= reversed items

2.7 Mindfulness Studies in Turkey

Stress and depression are key factors students face both in their academic and daily lifes (Schonert-Reichl & Lawlor, 2010; Snel, 2013). Depending on research, while mindfulness may have significant impact on students personal and academic life, it is possible to enhance skills and empower them. Coming to the current studies in Turkey, couple of research are explained below.

Demir (2017) examined the effects of mindfulness-based cognitive therapy on anxiety level of university students. An eight session program was administered to sixteen university students who were second and third grade in psychology department. After applying "Beck Anxiety Inventory", students who were found to have medium or severe level anxiety were included in the study. Data was collected before and after mindfulness based application. Study showed that anxiety level of students decreased significantly. It was inferred that mindfulness decreases anxiety levels of students.

In Tırışkan et al., (2015)'s study mindfulness intervention program was found to be effective on relapse of substance abuse and coping skills. Another study also showed that mindfulness level was negatively correlated with social anxiety. According to results, students who are mindful tend to experience less social anxiety (Tuncer, 2017).

Mindfulness was also found to be effective in decreasing depression and stress (Üley, 2014). Alternatively, Özyeşil (2012) investigated the cross-cultural comparison of Turkish and American university students in terms of mindfulness level. Results has showed that American students are more likely to have greater mindfulness.

In addition, there has been a couple of mindfulness scale adaptation studies as mentioned previosly (Özyeşil et al., 2011; Çatak, 2012; Şahin & Yeniçeri, 2015; Çıkrıkçı, 2016).

2.8 Developing Psychometric Scales

Psychometric scales which ave multiple items are used in order to measure a construct reliably and validly (Kline, 2000). In case, appropriate scales do not exist to measure the variables of interest or available scales are insufficient, the new scale are needed to be developed. Developing a scale is a process that has multiple steps. The scale development process is presented in Figure 3 based on established principles manifested in literature (Churchill, 1979; DeVellis, 2003; Kline, 2000). Each step presented in Figure 3 will be explained in detail below.

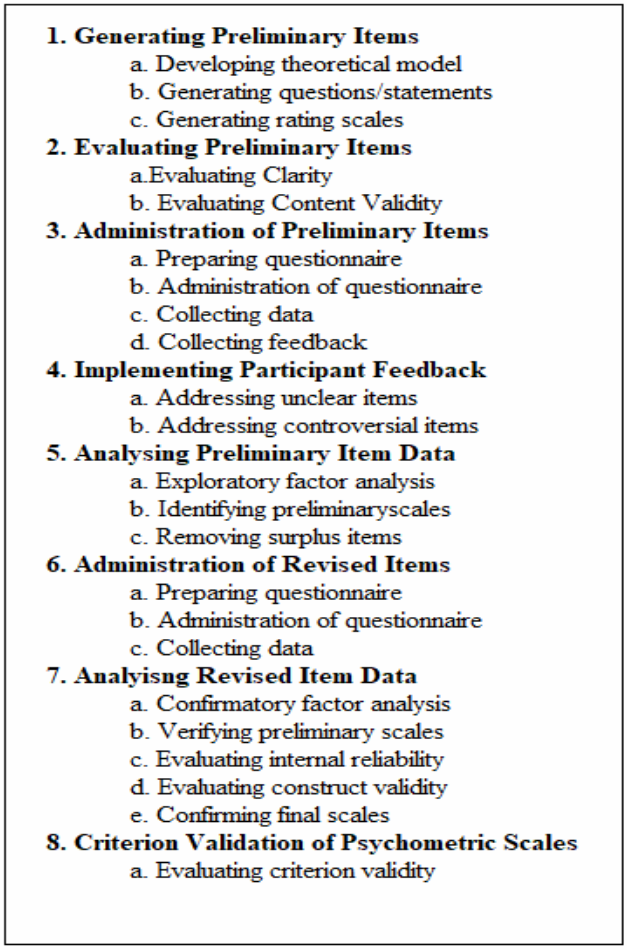

Figure 3: Process for Developing Psychometric Scales. Reprinted from "Using Multi-Item Psychometric Scales for Research and Practice in Human Resource Management" by M.A., Robinson, 2018, *Human Resource Management*, 57, 739-750. Copyright 2010 by Wiley Periodicals.

2.8.1 Generating Preliminary Items. Several methods can be applied to determine scope of the items such as literature reviews, interviews with experts, and content analysis of existing data. This step is ground for whole process, so it is quite important that it is relyed on well established theoretical framework (Robinson, 2017). According to Edward (2011), theoretical construct that is intended to measure is needed to be considered whether it is represented by only one dimension or multiple dimensions. He added, for a good content validity of a multidimensional contruct, it is important to generate items that reflect the scope and extent of the dimensions.

Ouestions should also be written clearly and specifically. Foster & Parker (1995) established several features that questions should have. According to them, questions should be written in everyday language by refraining from using specific terminalogy. Also, it is necessary to avoid ambiguity and integrating questions. It is vital to ask only one question at a time. In addition, reversed items can be misleading so negatively worded questions should be avoided. Also, leading questions should be refrained from as these may mislead participant's responses. Furthermore, item scaling should be determined.

Finally, preliminary item pool should include a greater number of items than the number necessitated for the final scale. The consequtive process of scale development will reduce item numbers for methodological or statistical rationale, so double of the desired number is suggested (Hinkin, 1998).

2.8.2 Evaluating Preliminary Items. After item generation, items are evaluated by the field experts in terms of clarity of items as well as their content whether they measure exatly what is desired. Then for the content validity of items, they are reviewed by experts to determine whether all aspects of variables have been extensively adressed by the collected items (Cook, 2009). Further, it is posiible to calculate a content validity index (CVI) to determine the proportion of experts' agreement on item relevance. Values that exceed .80 are regarded acceptable (Polit, Beck, & Owen, 2007).

2.8.3 Administration of Preliminary Items. After evaluation, preliminary items are improved if it is necessary. Then, items are converted a questionnaire form to administer to the participants. This step is regarded as pilot study. The pilot

questionnaire also generally contains additional questions in the end where participants are required to give feedback about the items and questionnaire (Robinson, 2017).

2.8.4 Implementing Participant Feedback. The feedback getting from participants' response on preliminary items and initial scale is analyzed. Based on these feedback if a particular item or some items are found to be unclear or confusing, they are removed or refined for the next questionnaire. If needed, this feedback is also obtained through interviews with participants (Robinson, 2017).

2.8.5 Analysing Preliminary Item Data. To determine the factor structure of the construct, exploratory factor analysis (EFA) is performed. According to Osborne & Costello (2004), large samples and large item-to-participant ratios are regarded good for ideal sample size for EFA. The relationship of each variable to the underlying factor is expressed by the factor loading. Comrey & Lee (1992) figured out statistical loading threshold for factor interpretation. In addition, the number of items to be retained depends on this principle. They recommended that items loading over .45 as a criterion when judging factor loadings. In a similar manner, Costello and Osborne (2005) also suggested threshold for loadings of .50 or higher. Hovewer, all these authors suggest to be cautious about retaining items loading below .30. Therefore, items with factor loadings above .45 threshold would make exellent scale as integrated. Based on statistical criteria and practical considerations, it is determined that which items will be retained or removed.

2.8.6 Administration of Revised Items. After preliminary items are analyzed, they are refined if necessary and reduced to an ideal number for each scale. These revised items are then applied to a further sample in the form of new questionnaire. In addition, to ensure construct validity, existing scales measuring conceptually related and unrelated variables of interest should be administered as well (Lewis, 2003).

2.8.7 Analysing Revised Item Data. To confirm the factor structure identified by initial EFA, confirmatory factor analysis (CFA) is then conducted on the refined items responses. If the factore structure is verified, item composition of the scale can be considered finalized. In case, the CFA does not validate the initial factor structure based on EFA, then it may be required to reapply to a further sample until achiving

statistical consensus in terms of factor structure. The sample size suggestions provided for EFA are usually also same for CFA (Mundfrom, Shaw, & Ke, 2005). After confirming final factor structure, th internal reliability of the scale should then be evaluated. Cronbach's alpha coefficient (α; Cronbach, 1951) is widely used calculation of internal consistency. Mostly, the figure of $\alpha \geq .70$ was widely suggested (Nunnaly, 1978). In case, Alpha coefficient of a scale is found to be below .70 due to an item, omitting this item is considered to improve raliability of the scale.

Lastly, in this step, construct validity which concerns whether the scales measure the what it intends to measure, is evaluated (Cook, 2009). This can be established in three procedures. First, the exploratory and confirmatory factor analysis will support construct validity to some extent by means of the distinctions of factor structures as well as shortage of cross-loadings (Tabachnick & Fidell, 2007). Second procedure for establishing construct validity is based on correlation of scores of instrument with scores from other instruments of the same variable (i.e., convergent validity) or with measures of related variables. Third, to verify validity, scale scores for each variable should be negatively correlated (i.e., divergent validity) with scores from theoretically unrelated constructs (Gregory, 2007).

2.8.8 Criterion Validation of Psychometric Scales. The reliability of the scale as well as content and construct validity have been demonstrated until reaching this step. The purpose of this step is to assess the criterion validity of the scales. The evidence of criterion-related validity can be achieved by examining the correlation between scores of scales and scores of other instruments that measure the same or related variables. Based on Cohen's (1992) recommendation, correlations exceeding .30 would represent reasonable criterion validity and correlations exceeding .50 would reflect excellent criterion validity. With reference to these values, a minimum correlation threshold of .40 is therefore suggested as an evidence of sound criterion validity (Peers, 1996).

After this final step is completed, the psychometric scales can be used in future research. It may also be published along with psychometric properties so that other researhers can easily reach it.

Finally, it may be necessary to reapply the scale to the same participants and their scores are analyzed to demonstrate test–retest reliability (Cook, 2009). Pearson

correlations exceeding .80 would identifies acceptable test–retest reliability (Kline, 2000).

Accordingly, Cohen & Swerdlik (2013) states that scale development process has particular steps: 1) Generating initial item pool; 2) Deciding on the types of items in the scale in the context of the properties intended to be defined (students' mindfulness level); 3) Asking field experts' opinions about the clarity of the scale; 4) In accordance with the field experts' opinions, giving the scale its final form before the pilot application; 5) Scoring and analysing the items; 6) Displaying psychometric properties of the scale as a consequence of pilot application; 7) Validation of the scale (replication of factor structure, construct and concurrent validity); 8) Forming the real scale based on the results obtained.

2.9 Developing A Mindfulness Scale for Children: Current Studies

A psychometrically-sound measure of mindfulness for children is required. This measure would facilitate clinical research by allowing researchers to assess mindfulness level of children in relation to other variables (e.g., well-being), track changes in mindful level during intervention, and increase the efficiency and effectiveness of interventions. Consequently, the purpose of the present study was to develop a measure of mindfulness. Specifically, this instrument was created for use with children with ages 8-11 years old.

In order to develop a measure that is maximally effective, the process outlined in Figure 3 and explained above, derived from well established procedures in several sources (Churchill, 1979; Cohen & Swerdlik, 2013; DeVellis, 2003; Kline, 2000), was utilized to guide measure development and psychometric analysis. As part of measure development, the structure of mindfulness was explored. Specifically, following research questions were proposed:

1. Is BAU-Mindfulness Scale for Children (BAU-MSC) a reliable scale to determine mindfulness level of school aged children who are 8-11 years old?
2. Is BAU-Mindfulness Scale for Children (BAU-MSC) a valid scale to determine mindfulness level of school aged children who are 8-11 years old?

3. What is the factor structure of BAU-Mindfulness Scale for Children (BAU-MSC)?

In order to answer these questions, BAU-MSC was created in stages which would be classified as three studies: 1) Item Generation and Selection; 2) Factor Structure and Internal Consistency; 3) Validation of the Scale.

Chapter 3

Study 1: Item Generation and Selection

3.1 Method

Relying on mindfulness definitions manifested by Kabat-Zinn (1994) and corresponding with Bishop and colleagues (2004) model, the current study intended to create a measure of mindfulness based on key elements of concept.

DeVellis (2003) suggested that an item pool should include at least twice items than the expected for the final scale. Also, According to Neteyemer, Bearden, & Sharma (2003), for multifactor constructs, an eight to ten items for each dimension have been recommended as an optimal instrument extent. In this respect, a pool of 41 item was generated. Scale items were inspired from several sources such as published writings on mindfulness, available measures of mindfulness (Turkish adaptation of CAMM, Çıkrıkçı, 2016), descriptions of mindfulness cited earlier (Kabat-Zinn, 2003; Bishop et al., 2004; Brown and Ryan, 2004). The items were designed to capture key qualities of mindfulness defined by Kabat-Zinn (1990) as presented in Appendix A.

Preliminary items were designed to reflect grades 3 and 4 reading level. Positive worded items define existence of mindfulness that assessed whilst negative worded items reflect non-existence of mindfulness. All items in the study were understandable to children who do not experience anterior mindfulness or meditation practice.

3-point Likert-type scales was claimed to be developmentally appropriate and reliable for children (Mellor & Moore, 2013). Applying this principle, BAU-MSC was designed as a 3-point Likert-type scale (1=never, 2=sometimes and 3=always). The higher scores indicate higher mindfulness.

Experts were collected to demonstrate the content validity of the preliminary items of the instrument. According to Netemeyer et al., (2003), five or more judges are recommended in order to verify content validity. Hence, five expert judges (4

females, 1 male) participated in the current study. Experts included four university proffessor from counseling psychology department of Bahcesehir University (BAU) and one practitioner psychologist who had been leading mindfulness school-based intervention.

Expert judges rated the extent to which preliminary items represented the definition of mindfulness. Preliminary items were rated on a 4-point Likert-type scale (1=not relevant, 2=relevant, 3=somewhat relevant, 4=highly relevant).

3.2 Results and Discussion

Aiken's (1996) V Index which is a content validity coefficient was utilized in order to retain items. Aiken (1985) indicates that The V Index enables determining content validity with number of respondents on an instrument for many items. The V Index ranges from 0.00 to 1.00. All items in the item pool, 41 items rated by all judges as highly representing mindfulness construct, were retained ($V>.71$, $p<.05$) based on Aiken's principle. For 41 retained items, ratings for how well these items mirrored the definition of mindfulness ranged from 3.2 to 4.00 with a mean of 3.9. The list of mean rating by experts and the V Indices are presented in Appendix B.

Overall, results showed that all items in the item pool were found to reflect mindfulness construct adequately by experts. Upon receiving expert opinion on scale items, common consensus was to retain all items. Thus, the initial version of the scale included 41 items.

Chapter 4

Study 2: Factor Structure and Internal Consistency

4.1 Method

4.1.1 Research Design. This study was a descriptive study that intended to produce a scale for assessing the level of mindfulness of the students. In addition, psychometric properties, factor structure and reliability, of the BAU-MSC were investigated in Study 2.

4.1.2 Setting and Participants. This study is conducted in different six private schools in Istanbul appearing in Turkey's prestigious private school chain during the first semester of the 2017-2018 academic year. Convenience sampling method was used as it was easily accessible to the researcher. Two hundred seventy-five participants consisting of 146 boys and 129 girls with a mean age of 8.58 years (SD= .49) were recruited for this study. 41.8 % of students were 3rd graders (n = 115) and 58.2 % of them were 4th graders (n= 160) who continue their education at private elementary schools in Istanbul, Turkey. Characteristics related to Sample 1 are depicted in Table 2.

Table 2

Sample 1 Characteristics

Characteristic	Sample
N	275
Age range (years)	8-11
Age means (years)	8.58
3rd grade(%)	41.8
4th grade(%)	58.2
3rd grade (*n*)	115
4th grade (*n*)	160
Female (*n*)	129
Male (*n*)	146

4.1.3 Procedures. Procedures followed in order to conduct Study 2 are explained. Data collection instrument, procedures of data collection, data analyses procedures including EFA and internal consistency and limitations of Study 2 are explained respectively.

4.1.3.1 Data Collection Instrument. Data was collected through Initial version of BAU Mindfulness Scale for Children (Initial-BAU-MSC) including 41 items on a 3-point Likert Type Scale (never to always). It contains items such as "Uzunca bir süre tek bir şeye dikkatimi verebilirim" and "Yolda yürürken etrafımdakileri fark etmem" (reversed). To score the scale, sum of the 41 items is simply calculated. The greater scores reflect that children have greater level of mindfulness.

4.1.3.2 Data Collection Procedures. The initial scale comprised of 41-item was administered in a group format during regular lessons. Proposed name for the scale was "BAU Mindfulness Scale for Children (BAU-MSC)". Participants were requested to rate item in terms of how much each of the items apply to them and were provided following instruction "Aşağıdaki her cümle için sizi en iyi anlatan seçeneği seçiniz ve o seçeneğin altındaki kutucuğa çarpı (X) işareti koyunuz." Participants were demanded to rate their responses on a Likert type scale with the subsequent options: 1 (Never), 2 (Sometimes), 3 (Always) in terms of the frequency of experiencing the described item in general. The higher scores indicate higher mindfulness.

Data was collected from six different private schools in Istanbul in 2017-2018 education year fall semester. Data collection process lasted 45 minutes, a lesson time, in a single session. Informed consents were obtained from parents for all child participants.

4.1.3.3 Data Analysis Procedures. The collected data have been analyzed with IBM SPSS. In order to detect the validity of the scale, KMO and Bartlett's test and exploratory factor analyzes have been performed, item discriminations have been designated. For the purpose of assessing the reliability of the scale, the internal consistency coefficient has been calculated.

Factor analyses is a technique that is implemented to reduce numerous variables into less number of factors. According to Büyüköztürk (2002), the main purpose of factor analyses is to reach few factors from a variety of variables. It is also defined as a way of establishing construct validity (Köymen, 1994). In this respect, in this study factor analyses technique is implemented.

To examine the scale factor structure, BAU-MSC was administered to a sample of 275 students. Responses to the 41-item scale were subjected to exploratory factor analysis. Exploratory factor analyses utilizing maximum likelihood extraction with varimax rotation and Kaiser normalization were performed based on obtained data.

Reliability analyses were conducted for the instrument. Due to these analyses items were deducted to assure that correlations remain amidst the suggested values which are between .15 to .50 recommended by Clark & Watson (1995).

4.1.4 Limitations. The present study has some limitations to be taken in to consideration. One of the limitation is the limit in the number of participants. For this research study 275 participants for Explotary Factor Analyses were recruited. The number of participants could have affected the internal validity of the research.

This study sample size is limited to several private schools in Istanbul which means that the data can be generalized only to the specific population.

4.2 Results and Discussion

4.2.1 Exploratory Factor Analysis. The explotary factor analysis (EFA) process was executed in order to explore the factorial structure of BAU-MSC in Turkish sample. The principal component analysis was initially conducted with using a Varimax rotation to determine item retention. The Kaiser-Meyer-Olkin (KMO) was .694, and Barlett's Test of Sphericity was significant. The factor analysis revealed a 15-factor solution with eigenvalues greater than one, which recovered 52.97% of the sample variance. Nevertheless, consideration of eigenvalues and the scree plot produced a remarkable distinctions between the first two factors and the remaining factors and the first two factors accounted for 19.25 % of the total variation across factors. The use of eigenvalues greater than one can direct to overestimate the number of factors to retain. For this reason, the scree plot is more likely to be beneficial to identify meaningful factors (Floyd & Widaman, 1995). The scree plot has revealed two-factor solution. Using explotary factor analysis it is found that many items did not clearly load on any one factor, or did not load at all above .40 as recommended (De Vellis, 2003; Hair et al., 1998). Furthermore, some items loaded on several factors. Therefore some items were deleted gradually. It was also found that deleting these items fostered the overall reliability of the scale.

After excluding items from the instrument, retained 18 items were accumulated under two factors. The numbers left (27, 31, 35, 26, 40, 34, 33, 32, 37, 22, 13, 12, 19, 16, 14, 18, 24,28) were renumbered as (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, and 18). Getting high score from the scale manifests that students have a high level of mindfulness, whereas getting low score from the scale exhibits that they have a low level of mindfulness.

After elimination process, a factor analysis was performed with remaining 18 items. The KMO value was found to be .80 and Barlett's Test of Sphericity was significant. The two factor model with 18 items accounted for 32.99 %of total variance and factor loadings ranged from .31 to .66. The results of the factor analyses are depicted in Table 3.

Table 3

Two Factor Solution and Item Factor Loadings for Initial BAU-MSC

	Factor Loadings	
Items (Maddeler)	Attitudes (Tutumlar)	Fully Awareness (Farkındalık)
11. Düşüncelerimi oldukları gibi kabul ederim.	.628	
5. Sahip olduklarım benim için yeterlidir.	.608	
16. Üzgün olan arkadaşımla yakından ilgilenirim.	.576	
3. Duygularımı oldukları gibi kabul ederim.	.573	
18. Yardıma ihtiyaç duyan birine karşılık beklemeden yardım ederim.	.572	
15. Sevdiklerim için içimden iyi düşünceler geçiririm.	.548	
14. İçimden herkesin mutlu olmasını dilerim.	.547	
13. Sahip olduklarım (ailem, oyuncaklarım gibi) beni mutlu eder.	.536	
17. Başkaları hata yaptığında onları affederim.	.491	
2. Yaptığım işe dikkatimi vermek benim için kolaydır.	.343	
9. Rüzgarın saçlarımda bıraktığı hissi fark ederim.		.659
1. Banyo yaparken suyun vücudumda bıraktığı hissi fark ederim.		.652
10. Doğadaki detayları (renkleri, şekilleri, farklı dokuları, ışıkta ve gölgede kalan noktaları) fark ederim.		.620
4. Yiyeceklerin koku ve tatlarını fark ederim.		.616
6. Güneşin yüzümde bıraktığı sıcaklık hissini fark ederim.		.608
7. Bir resimdeki detayları (renkleri, şekilleri, ışık ve gölge oyunları gibi) fark ederim.		.449
8. Uzunca bir süre tek bir şeye dikkatimi verebilirim.	.309	.409
12. O an hissettiklerimi detaylıca ifade edebilirim.		.347

The result of EFA has showed that all item loadings were above .40 except two items. For these two items, item loadings were above .30 which literature mostly regards .30 and above as a cut off points (La Greca & Stone, 1993).

The scree plot has shown a two-factor solution (Figure 4). It was determined as a result of examination of eigenvalue and scree plot that the scale has two factors. The first factor included ten items, whereas second factor encompassess eight items. Based on items' content, factors were entitled. Because of the fact that first factor included items related acceptance, foregiveness, self compassion and gratitude, it was entitled as attitudes (e.g., "Duygularımı oldukları gibi kabul ederim"). The second factor comprised items related awareness, being present, noticing, observing

and paying attention to present moment experience. Thats'why it was named as fully awareness (e.g., "Yiyeceklerin koku ve tatlarını fark ederim").

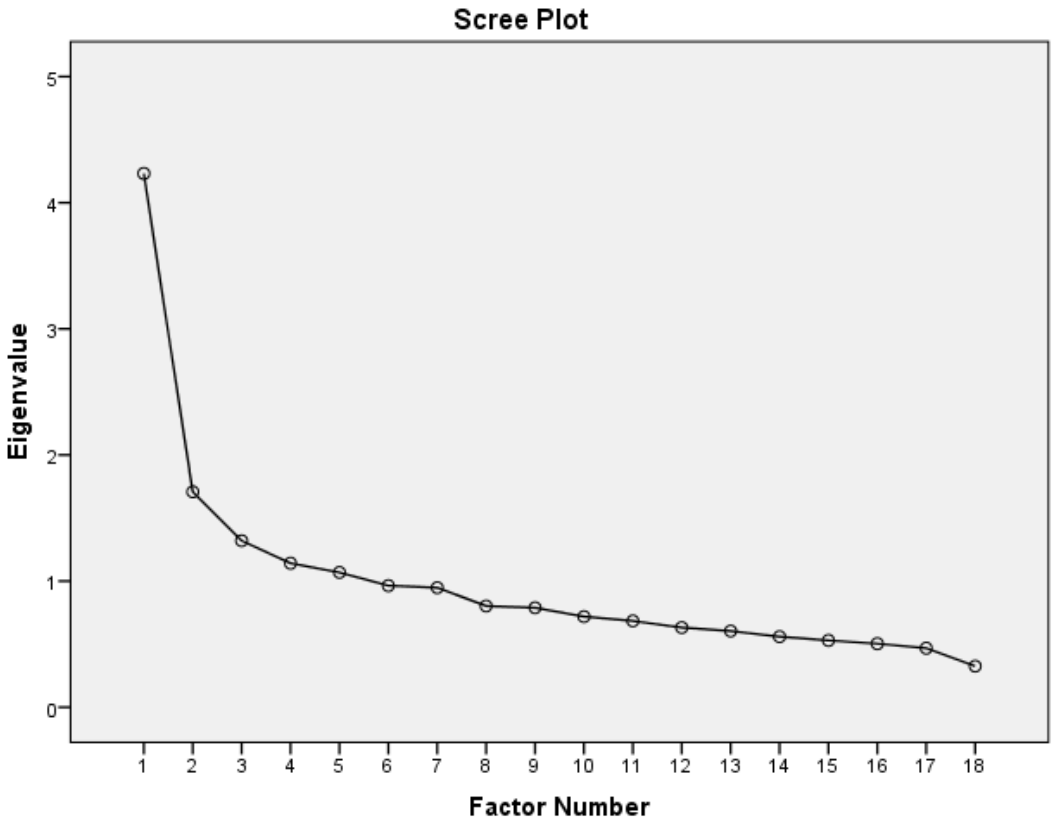

Figure 4. Scree Plot of the Initial Version of BAU-MSC

It was determined because of EFA that the first factor of BAU-MSC which is attitudes, is comprised of ten items as 11, 5, 16, 3, 18, 15, 14, 13, 17 and 2, and that the item factors loads vary between .343 and .628; whereas, the item-total correlations vary between .166 and .519. Results related to Factor 2 which is fully awareness indicated that the items of 9, 1, 10, 4, 6, 7, 8, and 12 had an item factor load of between .347 and .659 and that the item-total correlations vary between .182 and .500.

Correlation values were calculated for determining the relations between Initial BAU-MSC general total score and the factors of this scale (Table 4).

Table 4

Correlations between total score and factors of Initial BAU-MSC

	Total	Factor1	Factor2
Total	-	-	-
Factor1 Attitudes	.62**	-	-
Factor2 Fully Awareness	.72**	.45**	-

** Correlation is significant at the 0.01 level.

It was depicted that all factors in the scale display positive and significant relationships ($p<0.01$). In this regard, it was determined that Factor 1 and Factor 2 display positive and statistically significant relationships with entire scale score at values of .62 and .72 respectively. Statistically significant relationships were also found between the factors of the scale ($p<0.01$). The fact that the significant relationship between factors are not at high levels can be interpreted as due to each measuring a different property.

4.2.2 Internal Consistency. Responses from sample in Study 2 were utilized to explore internal consistency and to diminish the item number. Cronbach Alpha coefficient was calculated. Item total and interitem correlations were examined. Those items with the lowest item-total correlations were ommitted. Cronbach Alpha was recalculated, and the process was repeated until the scale had been reduced to 23 items while retaining adequate internal consistency and content coverage. At the conclusion of this process, 18 items remained.

Cronbach Alpha value for the whole scale was calculated as .80. For attitudes factor, cronbach's alpha=.75, and for fully awareness factor, cronbach's alpha=.70, offering very good internal consistency for both factors. Thus, internal consistency was found to be adequate to good (Nunnelly, 1978).

Chapter 5

Study 3: Validation of the Scale

5.1 Method

5.1.1 Research Design. In Study 3, psychometric properties of the revised version of BAU-MSC as well as convergent validity was investigated.

5.1.2 Setting and Participants. One hundred eighty eight students (97 male, 91 female) with a mean age of 8.51 (SD= .50) were recruited. The sample for the Study 3 was derived from different schools whilst students were same age and graded as in the Study 2. Characteristics related to Sample 2 are exhibited in Table 5.

Table 5

Sample 2 Characteristics

Characteristic	Sample 2
N	188
Age range (years)	8-11
Age means (years)	8.51
3rd grade(%)	48.9
4th grade(%)	51.1
3rd grade (*n*)	92
4th grade (*n*)	96
Female (*n*)	97
Male (*n*)	91

5.1.3 Procedures. Procedures followed in order to conduct Study 3 are explained. Data collection instruments, procedures of data collection, data analyses procedures including CFA, internal consistency, and correlations as well as limitations of Study 3 are explained respectively.

5.1.3.1 Data Collection Instruments.

5.1.3.1.1 Revised Version of BAU Mindfulness Scale for Children (Revised-BAU-MSC). Refined BAU Mindfulness Scale for Children (BAU-MSC) consisting of 18 items was administered to students on a 3-point Likert (never to always). Positive worded items were included in the final version of BAU-MSC such as "Güneşin yüzümde bıraktığı sıcaklık hissini fark ederim" (fully awareness) and "Sevdiklerim için içimden iyi düşünceler geçiririm" (attitudes). To score the scale, sum of the 18 items is simply calculated. Higher scores reflect higher levels of mindfulness.

5.1.3.1.2 The Pediatric Quality of Life Inventory for Children-Student Form. The Pediatric Quality of Life Inventory for Children-Student Form was originally developed for 2-18 years old children (Varni et al., 1999). It consists of 23 items. The Inventory provides three different scores. First score is derived from total score of inventory, the second score is phsical health score and the third one is psychosocial health score. The greater score indicates higher level of life quality. It was found realible (coefficient alpha of .93) and valid.

Çakın Memik et al., (2008) adopted The Pediatric Quality of Life Inventory for Children-Student Form into Turkish. Turkish version of inventory consists of 15 items. 334 children ages between 8-12 years and their parents were recruited in the study. The sample comprises of three groups that are healthy children, children with acute diseases and children with chronic diseases. The results have showed fairly enough internal consistency (coefficient alpha of .86) and this inventory was a psychometric measure to assess life quality of 8-12 years old children.

5.1.3.2 Data Collection Procedures. The students completed Revised Version of Bahcesehir Mindfulness Scale for Children (BAU-MSC) which were developed in the framework of this study and the Quality of Life Scale for Children-Student Form (Çakın Memik et al., 2008). It lasted 40-45 minutes to complete both scale for students.

Data was collected from six different private schools in Istanbul in 2017-2018 education year fall semester 3 weeks after collected the Sample 1 data for Study 2. Informed consents were obtained from parents for all child participants.

5.1.3.3 Data Analysis Procedures. Confirmatory Factor Analysis (CFA) is a technique which is usually performed for validity analysis during scale development process and for confirming a former established structure (Çokluk, Şekercioğlu, & Büyüköztürk, 2010). LISREL was used in order to conduct confirmatory factor analysis. Factors that factor analysis might be produced will be replicated with confirmatory factor analysis. Additionally, Pearson correlation was conducted to determine relationship between Final BAU-MSC and The Pediatric Quality of Life Inventory for Children.

5.1.4 Limitations. The present study has some limitations to be taken into consideration. The measurement tool could be extended for some other fields such as clinical settings, hospitals etc. Also, the inclusion of merely positive worded items on the revised version of BAU-MSC may be considered as a limitation. Although reversed-scored items were formed, they were excluded after factor analyses and examination of items.

The use of merely students as normative samples for exploring factor structure and conducting validity analyses may be regarded another limitation. In addition, BAU-MSC could be extended for some other populations such as student with meditation experience etc.

5.2 Results and Discussion

5.2.1 Confirmatory Factor Analysis. Confirmatory Factor Analyses was applied for controlling the validity of scale construct consisted of two factors and 18 items obtained by EFA. Factorial validity of the scale was confirmed by means of confirmatory factor analyses. Two items (one included in fully awareness an one included in humanstic values) were omitted sequentially based on the magnitudes and degrees of MIs. These items are "Banyo yaparken suyun vücudumda bıraktığı sıcaklık hissini fark ederim." (fully awareness) and "Sahip olduklarım benim için yeterlidir." (Attitudes). Eliminating these two items improved the fit of the model to the data: $\chi^2 = 213.75$, $df = 134$, $\chi^2 / df = 1.59$; GFI = 0.95; CFI = 0.97; AGFI = 0.93; RMSEA = 0.056. Additionally, factor loadings ranged from 20 to .76 (Figure 5). The fit indices supported that two factor solution with 16-items could be considered as a good fit to the sample data.

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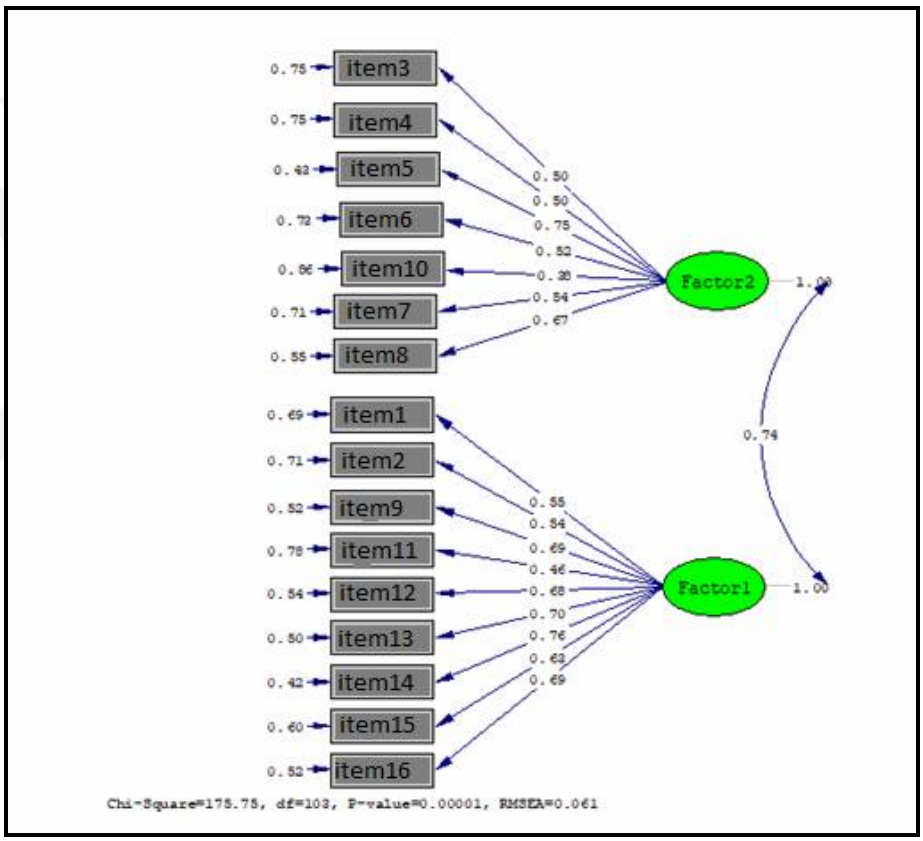

Figure 5: Factor loads of Revised BAU-MSC obtained as a result of CFA

When Table 6 (presented below) is examined, it can be seen that the values of Chi-square and degree of freedom obtained from confirmatory factor analysis (CFA) are $\chi^2 = 213.75$, (df=134, p<.01), and the ratio of $\chi^2 / df = 1.59$ is obtained. According to Kline (2005) the ratio obtained from sample is less that 3 remarks perfect consistency. Thus, it can be proposed that the consistency between the data set and the model found in CFA is perfect. Goodness of fit values obtained by means of CFA are summarized in Table 6.

Table 6

Goodness of Fit Values Obtained From CFA

χ^2	Df	χ^2 / df	RMSA	AGFI	RMR	CFI
213.75	134	1.59	0.056	0.93	0.11	0.97

As presented in the Table 6, RMSA (rootmeansquareerror of approximation) which is a goodness of fit indexes in CFA, is 0.056 in this study. In addition, the AGFI (Adjusted Goodness of fit index) value higher than 0.80 and the RMR (Root mean squareresidual) lower than 0.10 can be accepted as values that provide model-data fit (Anderson & Gerbing, 1984). As a result of CFA analysis, AGFI value was found 0.93 and RMR value was determined as 0.11. Due to these results, it can be claimed that model-data fit is convenient. In this manner, it may be inferred that two factor structure of BAU-MSC was validated. The t values obtained as a result of CFA, R^2 values, p values at a significance level of 0.01 are given in Table 7, together with the standardized factor loads of items.

Table 7

Standardized factor loads, t values, and R^2 and p values obtained as a result of CFA

Item	Standardized factor loads	R^2 values	t value	p
Yaptığım işe dikkatimi vermek benim için kolaydır.	.55	.31	5.96	.000
Duygularımı oldukları gibi kabul ederim.	.54	.29	6.05	.000
Yiyeceklerin koku ve tatlarını fark ederim.	.50	.25	3.98	.000
Güneşim yüzümde bıraktığı sıcaklık hissini fark ederim.	.50	.25	5.83	.000
Bir resimdeki detayları (renkleri, şekilleri, ışık ve gölge oyunları gibi) fark ederim.	.75	.57	10.37	.000
Uzunca bir süre tek bir şeye dikkatimi verebilirim.	.52	.27	5.86	.000
Rüzgarın saçlarımda bıraktığı hissi fark ederim.	.54	.29	4.89	.000
Doğadaki detayları (renkleri, şekilleri, farklı dokuları, ışıkta ve gölgede kalan noktaları fark ederim.	.67	.45	7.95	.000
Düşüncelerimi oldukları gibi kabul ederim.	.69	.48	9.68	.000
O an hissettiklerimi detaylıca ifade edebilirim.	.38	.14	3.07	.000
Sahip olduklarım (ailem, oyuncaklarım gibi) beni mutlu eder.	.46	.22	3.91	.000
İçimden herkesin mutlu olmasını dilerim.	.68	.46	8.24	.000
Sevdiklerim için içimden iyi düşünceler geçiririm.	.70	.50	8.56	.000
Üzgün olan arkadaşımla yakından ilgilenirim.	.76	.58	8.48	.000
Başkaları hata yaptığında onları affederim.	.63	.40	8.23	.000
Yardıma ihtiyaç duyan birine karşılık beklemeden yardım ederim.	.69	.48	7.57	.000

$p<.01$

Due to examination of Table 7, all t values are statistically significant at a level of .01 and that all items make significant contributions to their respective factors.

5.2.2 Internal Consistency. In order to check the internal consistency of the items in the data collection instrument, the SPSS reliability scale procedure was conducted and Cronbach's Alpha estimation was calculated. The results showed that the Cronbach alpha coefficient was .80 for overall scale. The reliability of the 16-item BAU-MSC was found satisfactory. The internal consistency of two factors computed by means of Cronbach alpha were .74 and .65 attitudes and fully awareness respectively.

To determine the inter-correlations between two factors of the scale, Pearson correlation coefficient was calculated. The result showed that there was a positive significant relationship between the two factors and the amount of the relationship was .52.

Interitem correlations also were calculated. Interitem correlations ranged from .01 to .63. Inter-items correlations were positive and statistically significant (see Table 8).

Table 8

Inter-items Correlations

Items	I1	I2	I3	I4	I5	I6	I7	I8	I9	I10	I11	I12	I13	I14	I15	I16
Item1																
Item2	.25**															
Item3	.26**	.29**														
Item4	.19**	.11**	.20**													
Item5	.45**	.29**	.22**	.44**												
Item6	.31**	.21**	.26**	.22**	.43**											
Item7	.25**	.28**	.33**	.52**	.18**	.31**										
Item8	.32**	.23**	.15**	.29**	.63**	.40**	.24**									
ıtem9	.24**	.63**	.25**	.23**	.34**	.27**	.19**	.37**								
Item10	.36**	.43**	.33**	.06**	.16**	.26**	.17**	.20**	.18**							
Item11	.27**	.05**	.17**	.13**	.01**	.02**	.08**	.27**	.45**	.11**						
Item12	.40**	.10**	.36**	.22**	.22**	.18**	.38**	.16**	.39**	.14**	.53**					
Item13	.48**	.24**	.24**	.21**	.38**	.10**	.25**	.31**	.40**	.16**	.47**	.63**				
Item14	.33**	.31**	.53**	.30**	.46**	.32**	.42**	.29**	.45**	.20**	.37**	.59**	.41**			
Item15	.16**	.25**	.13**	.15**	.34**	.24**	.21**	.42**	.51**	.07**	.37**	.51**	.46**	.48**		
Item16	.36**	.26**	.28**	.22**	.47**	.21**	.18**	.39**	.37**	.29**	.09**	.32**	.61**	.59**	.50**	

Pearson's correlations; **p<.001

5.2.3 Convergent Validity. Pearson Correlations were applied to investigate the relationships between the 16-item BAU-MSC factors and Quality of Life Scale for Children-Student Form (see Table 9). With regard to the convergent validity, two subscales of BAU-MSC correlated significantly with life satisfaction evaluated by means of Quality of Life Scale for Children-Student Form.

Table 9

Pearson's Correlations Between the factors of Final BAU-MSC and PedsQL

	Total	Factor 1	Factor 2	PedsQL
Total	-	-	-	-
Factor 1 Attitudes	.89**	-	-	-
Factor 2 Fully Awareness	.86**	.52**	-	-
PedsQL	.33**	.35**	.19*	-

** Correlation is significant at the 0.01 level.

*Correlation is significant at the 0.05 level.

Based on the data obtained from the scale development process, fnal version of BAU-MSC was formed as presented in Appendix C. BAU-MSC is a bi-dimensional measure of mindfulness that assess elements such as attitudes and fully awareness. Attitudes, is comprised of nine items as numbered 1, 2, 9, 11, 12, 13, 14, 15, 16 whilst fully awareness is consists of seven items as numbered 3, 4, 5, 6, 7, 8, 10 in BAU-MSC.

Chapter 6

Overall Discussion and Coclusion

This chapter includes four sections. In the first section, it discusses the findings of the studies by going back to the research questions. In the second section, it presents some theoretical and pedagogical implications. In the third section, conclusion drawn from the study is presented. In the last section, it presents recommendations for further research studies.

6.1 Discussion of Findings for Research Questions

This research study aimed to develop a psychometric mindfulness scale for children. This study comprises three consequtive sudies using two different samples. Moreover, mindfulness in the current study is conceptualized as orienting attention to the current experience and developing an accepting, nonevaluative and nonreactive point of view towards life experiences (Kabatt-Zinn, 2003; Bishop et al., 2004; Fletcher & Hayes, 2005 & Siegel, 2007).

Based on the literature rewiev and expert opinions, the initial scale with 41 items was generated as a three point Likert Scale ranging from never (1) to always (3). To calculate the scale score, all items are summed. The greater scores obtained from scale reflect higher level of mindfulness.

In study 2, exploratory factor analysis was performed to examine the factor structure and construct validity of Initial BAU-MSC. In order to examine validity and reliability of BAU-MSC Kaiser-Meyer-Olkin (KMO) test and Cronbach alpha reliability coefficient were used. 23 items were extracted from the scale after EFA, because their correlation values were low, or they load on multiple factors. Thus, 18 items remained. It has been found in the EFA that the scale revealed two factors. The scree plot graph in Figure 4 confirmed that the instrument contains two factors.

Although both positive and negative (reversed coded) items were created in the initial item pool of the BAU-MSC, solely the positive items of the factors of attitudes and fully awareness were retained after exploratory factor analysis.

In study 3, confirmatory factor analysis was conducted to determine whether EFA results are verified or not. As a result of CFA, an appropriate model with good fit was found. After CFA two items were extracted from the scale and final version of BAU-MSC was formed. All items in the final version of BAU-MSC were direct scored. Getting high scores implies that children have high level of mindfulness. Overall, BAU-MSC seems to be an appropriate measure with good reliability and validity.

The first research question aimed to examine reliability of BAU-MSC in 8-11 years old Turkish children. In this respect, reliability analyses were conducted for both Initial BAU-MSC and Final BAU-MSC. Cronbach's alpha coefficient was calculated to ensure satisfactory internal consistency. According to Creswell (2002), reliability coefficient .70 was admitted as a criterion for the internal consistency. For both Initial and Final BAU-MSC, overall Cronbach's alpha coefficient was found .80 suggesting good internal consistency. In addition, for the Initial BAU-MSC, for attitudes subscale Cronbach's alpha coefficient=.75, for fully awareness subscale Cronbach's alpha coefficient=.70 showed good internal consistency. For the Final BAU-MSC, for attitudes subscale Cronbach's alpha coefficient=.74, for fully awareness subscale Cronbach's alpha coefficient=.65 established acceptable internal consistency (Nunnally, 1978).

Moreover, Correlation values between Initial BAU-MSC general total score and the factors of this scale depicted that all factors in the scale display positive and significant relationships ($p<0.01$). In this regard, it was determined that Factor 1 and Factor 2 display positive and statistically significant relationships with entire scale score at values of .62 and .72 respectively. Statistically significant relationships were also found between the factors of the scale ($p<0.01$). The fact that the significant relationship between factors are not at high levels can be interpreted as due to each measuring a different property (Table 4).

Further, Interitem correlations also were calculated. Interitem correlations ranged from .01 to .63. Inter-items correlations were positive and statistically significant (see Table 8). Depending on the statistical findings, data obtained from two samples; sample 1 (275 students) and sample 2 (188 students) revealed that BAU-MSC is a reliable tool. According to results of reliability analysis, it can be

concluded that the BAU-MSC presented adequate model, demonstrated strong internal consistency as expected.

The second research question was proposed in order to investigate the validity of BAU-MSC. Correlation of the BAU-MSC with The Pediatric Quality of Life Inventory for Children-Student Form (PedsQL) was conducted to assess for convergent validity. As predicted, BAU-MSC Total score was moderately related to PedsQL *(r = .33, p < .0001)*. As for convergent validity, significant correlation between mindfulness and life quality was determined. It should be noted that acceptable convergent validity was established. Additionally, factor analyses results (explained in detail below) supported the construct validity of BAU-MSC as a bi-dimensional measure of mindfulness.

The third research question sought to investigate the factor structure of the scale. Exploratory factor analysis (EFA) was employed for that reason. Two factors with 18 items were determined in EFA process. After results of EFA obtained, CFA was applied. Two items were eliminated after CFA. Moreover, results from CFA showed an appropriate model with good fit indices. It was also determined as a result of examination of eigenvalue and scree plot that the scale has two factors. The first factor included nine items, whereas second factor encompassess seven items. Based on items' content, factors were entitled. Because of the fact that first factor included items related acceptance, foregiveness, self compassion and gratitude, it was entitled as "attitudes". The second factor comprised items related awareness, being present, noticing, observing and paying attention to present moment experience. Thats'why it was named as "fully awareness". Results of EFA yielded two factors with eigenvalues greater than 1.00 and accounting for 33- % of the total variance.

In the study 3, Confirmatory factor analysis (CFA) was performed on 18-item revised BAU-MSC with 188 subjects (97 male, 91 female). The results of the CFA yielded a good fit (χ^2 = 213.75, *df* = 134, χ^2 / *df* = 1.59; GFI = 0.95; CFI = 0.97; AGFI = 0.93; RMSEA = 0.056). The fit indices suggested that two factor solution with 16-items could be considered as a good fit to the sample data.

BAU-MSC is a bi-dimensional measure of mindfulness that assess elements such as attitudes and fully awareness. Attitudes, is comprised of nine items as numbered 1, 2, 9, 11, 12, 13, 14, 15, 16 whilst fully awareness is consists of seven items as numbered 3, 4, 5, 6, 7, 8, 10 in BAU-MSC.

In conclusion, it can be inferred that BAU-MSC might be a useful tool for researchers and clinicians working with mindfulness and its application. The availability of measures of mindfulness may encourage the increased consistency among researchers for operationalization of it and examining its relationships with other construct.

6.2 Pedagogical Implications

Several mindfulness instruments have been validated and are recently utilized in research. Each of the scale covers broad aspects of mindfulness that causes the restricted consensus related to which elements of mindfulness should be involved in a scale. In the meantime, there is still a lack of mindfulness scale for children. Due to the increasing value of the mindfulness and its common application in various areas, the assessment of mindfulness should be put on a solid and theoretical and methodological basis.

The purpose of this study is to contribute to the development of a self-report scale that is appropriate for the assessment of mindfulness in children. The availability of a psychometric scale, however, is necessary for research in the rapidly growing field of mindfulness research. New self-report instruments may therefore be required that are theoretically grounded.

This finding has a significant pedagogical implication for school psychologist and counsellor suggesting that greater mindfulness level is associated with students' gretaer amount of life satisfaction. Higher self reports of mindfulness were linked to better functioning in students' social and academic areas of life. This is in accordance with previous studies that displayed positive impact of mindfulness training on psychological well being and quality of life (Brown, Kasser, Ryan, Linley, & Orzech, 2009; Kong et al., 2004; Brown and Ryan 2003).

6.3 Conclusions

In this study, a scale that aims at determining mindfulness level of students was produced. A total of 25 items were eliminated from the scale because their correlation values were low and some of the items did not clearly load on any one factor, or some items loaded on several factors. It was detected that the remaining 16 items comprised two factors due to validity and reliability of the scale. Validity and reliability values of BAU-MSC showed that the scale is appropriate for application.

It was determined that the two factors in the scale explain 32.99 % of the total variance. In addition, it was determined as a result of explatory factor analysis that factor loadings ranged from .31 to .66. In this regard, it can be stated that factor load values are sufficient and BAU-MSC is good at measuring the mindfulness level of students.

It was also determined as a result of confirmatory factor analysis that the factor loads values ranged from .38 to .76. After excluding two items, the AGFI, CFI and χ^2 / df have perfect fit indices and RMSEA has acceptable fit indices. In this case, it can be stated that the scale structure obtained through EFA is verified by CFA.

The correlation analysis was performed for examining the relationships of the factors of BAU-MSC with the test total. Results have showed that factors of BAU-MSC were related with the total score at levels of .62 and .72 respectively. These relationships were statistically significant at a level of .01. Moderate and high statistically significant correlation values indicate that these two factors are components of the scale.

The Cronbach Alpha coefficients for two factors in the scale were calculated as .74 and .65 amidst the scope of the reliability analysis. The Cronbach Alpha value for whole scale was calculated as .80. In this case, it can be indicated that BAU-MSC is internally consistent and reliable tool.

This study also provided initial validation of a theoretically-based (Kabat-Zinn, 2003; Bishop et al., 2004) self-report instrument of mindfulness, namely BAU-MSC. The psychometric evidence suggests that BAU-MSC adequately measures mindfulness and its key elements, attitudes and fully awareness.

As Final BAU-MSC holds items loading .30 or above for underlying factor is consistent with other available mindfulness measure in literature (MAAS, Brown & Ryan, 2003; KIMS, R.A. Baer, Smith, & Allen, 2004; CAMS, Feldman, Hayes, Kumar, Greeson, & Laurenceau, 2007; FMI, Walach, Buchheld, Buttenmüller, Kleinknecht, & Schmidt, 2006; PHLMS, Cardaciotto et al., 2008; TMS, Bishop et al., 2004; FFMQ, R.A. Baer, et al., 2008; BİFÖ, Özyeşil et al., 2011; CAMM, Çıkrıkçı, 2016). Further, attitudes such as non-judgment, acceptance, trust, patience, non-striving, curiosity, and kindliness are considered as foundations of mindfulness by many theoreticians (Baer,2003; Bishop et al., 2004; Kabat-Zinn, 1990). Hence, congruent with existing conceptualization of mindfulness, items related to acceptance, non-judgment, foregiveness, self compassion and gratitude, entitled as attitudes in BAU-MSC. Attitudes subscale includes items in BAU-MSC such as "Üzgün olan arkadaşımla yakından ilgilenirim" (item 14), "Düşüncelerimi oldukları gibi kabul ederim" (item 9), "Sahip olduklarım (ailem, oyuncaklarım gibi) beni mutlu eder" (item 11).

Awareness can be defined as ongoing observation of internal experience (Deikman, 1996). It also allows people to notice own internal or external environment at present instead of relying on past or future events (Roeemer & Orsillo, 2003). Based on these definitions, items related being present, noticing, observing and paying attention to present moment experience underlies fully awareness subscale. This subscale contains items such as "Rüzgarın saçlarımda bıraktığı hissi fark ederim", "Yiyeceklerin koku ve tatlarını fark ederim" and "Uzunca bir süre tek bir şeye dikkatimi verebilirim". This kind of items are presented under subscales such as: "observe" (KIMS, Baer et al., 2004), "Awareness" (PHLMS, Cardaciotto, 2008), and "present moment awareness" (FMI, Buccheld et al., 2001).

Factor analyses results supported the construct validity of BAU-MSC as a two-dimensional measure of mindfulness in accordance with TMS (curiosity and decentering), and PHLMS (present moment awareness and acceptance) however they measure different elements of mindfulness or name differently same or similar factors in BAU-MSC.

Another worthy point from the findings is that there is a significant positive correlation between BAU-MSC and PedsQL, suggesting there is a relationship between children mindfulness level and quality of life degree. That is, children who are more mindful, are tend to be satisfied with their life (Brown, Kasser, Ryan, Linley, & Orzech, 2009; Kong et al., 2004). This finding has a significant implication for the schools suggesting that mindfulness interventions integrated into school curriculum may create a friendly and stress-free atmosphere so that it increases a positive school climate.

6.4 Recommendations for Further Research

In consideration of the findings, it can be stated that the scale developed as a result of this study has a necessary psychometric feature such as reliability and validity and could be administered in further research. However, to generalize or transfer the results, participant population should have been expanded to get representative sample size. This study sample size is limited to several private schools in İstanbul.

There is for sure need for future research on this issue. The measurement tools could be extended for some other fields such as clinical settings, hospitals etc.

The inclusion of merely reverse items on PedsQL also may be a limitation.

Since the validty analyses with other measures solely based on convergent validty in this study, a divergent validity with negative directed measures with BAU-MSC for future research should be conducted for further validation analyses.

When the results of this current study are evaluated, it can be stated that BAU-MSC is an appropriate, reliable and valid measure for the assessment of mindfulness level of children. It is thought that data collected by means of this measurement tool is likely to provide important information for the determination of level of mindfulness in children. It can be suggested to other researchers to conduct relevant studies in the future with BAU-MSC.

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APPENDICIES

A. Mindfulness Qualities Defined by Kabat-Zinn (1990)

Quality	Definition
Nonjudging	Impartial witnessing, observing the present moment-by-moment without evaluation and categorization
Nonstriving	Non-goal oriented, remaining unattached to outcome or achievement, not forcing things
Acceptance	Open to seeing and acknowledging things as they are in the present moment; acceptance does not mean passivity or resignation, rather a clearer understangin of the present so one can more effectively respond
Patience	Allowing things to unfold in their time, bringing patience to ourselves, to others, and to the present moment
Trust	Trusting both oneself, one's body, intuition, emotions, as well as trusting that life is unfolding as it is supposed to
Openness	Seeing things as if for the first time, creating possibility by paying attention to all feedback in the present moment
Letting go	Non-attachment, not holding onto thoughts, feelings, experiences; however, letting go does not mean suppressing
Gentleness	Characterized by a soft, considerate and tender quality; however, not passive, undisciplined or indulgent
Generosity	Giving into the present moment within a context of love and compassion, without attachment to gain or thought of return
Emphaty	The quality of feeling and understanding another person's situation in the present moment-his or her perspectives, emotions, actions (reactions)- and communicating this to the person
Gratitude	The quality of reverence, appreciating and being thankful for the present moment
Lovingkindness	A quality of embodying benovelence, compassion and cherishing, a quality filled with forgivenessand unconditional love

Note. Adapted from "The Role of Intention in Self-Regulation: Toward Intentional Systemic Mindfulness", by S.L. Shapiro and G.E. Schwartz, 2000, In M. Boekaerts, M. Zeidner, & P.R. Pintrich (Eds.), Handbook of Self-Regulation, p.263.

B. List of Expert Judges' Mean Ratings of Preliminary Items and the V Indices

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1 **2** **3**
4

Not Relevant **Relevant** **Somewhat Relevant**
Highly Relevant

Mean Rating:	V Index:	Items
3.80	0.93	1.Bir şeye odaklanmak benim için zordur.
3.80	0.93	2.Olumsuz duygulara sahip olmamam gerekir diye düşünürüm.
3.80	0.93	3. Bir şeyler yaparken o an neler düşündüğümü fark etmem.
3.60	0.87	4. Bir şeyler yaparken o an neler hissettiğimi (duygularımı) fark etmem.
4.00	1	5. Yolda yürürken etrafımdakileri fark etmem.
4.00	1	6. Şimdi olan şeyler yerine eskiden (geçmişte) olan şeyleri düşünürüm.
3.80	0.93	7. Aynı anda pek çok şeyi birden yaparım.
3.80	0.93	8. Hoşuma gitmeyen düşüncelerimi yok sayarım (yokmuş gibi davranırım).
3.80	0.93	9. Hoşuma gitmeyen duygularımı yok sayarım (yokmuş gibi davranırım).
4.00	1	10. Aklımda başka bir şey olduğunda dikkatsiz davranırım.
3.60	0.87	11. Birilerini dinlerken aynı zamanda başka bir işle uğraşırım.
4.00	1	12. Banyo yaparken suyun vücudumda bıraktığı hissi fark ederim.
4.00	1	13. Rüzgarın saçlarımda bıraktığı hissi fark ederim.
4.00	1	14. Güneşin yüzümde bıraktığı sıcaklık hissini fark ederim.
4.00	1	15. Saat tik takları gibi sesleri fark ederim.
4.00	1	16. Yiyeceklerin koku ve tatlarını fark ederim.
4.00	1	17. Üzgün olduğumu ifade edebilirim.
4.00	1	18. Bir resimdeki detayları (renkleri, şekilleri,ışık ve gölge oyunları gibi) fark ederim.
3.80	0.93	19. Doğadaki detayları (renkleri, şekilleri, farklı dokuları, ışıkta ve gölgede kalan noktaları) ayırt ederim.

4.00	1	20. Duygularımın (öfke, mutluluk, endişe gibi) ismini söyleyebilirim.
4.00	1	21.Yemeklerimi yavaşça tadını hissederek yerim.
4.00	1	22. Yaptığım işe dikkatimi vermek benim için kolaydır.
3.20	0.73	23. Değitiremeyeceğime inandığım düşüncelerimi kabul ederim.
4.00	1	24. Uzunca bir süre tek bir şeye dikkatimi verebilirim.
4.00	1	25. O an yaşadıklarıma dikkatimi verebilirim.
3.20	0.73	26. Duygularımı oldukları gibi kabul ederim.
3.20	0.73	27. Düşüncelerimi oldukları gibi kabul ederim.
4.00	1	28. O an hissettiklerimi detaylıca ifade edebilirim.
4.00	1	29. Üzgün olduğumda kendime üzülmemem gerektiğini söylerim.
4.00	1	30. Öfkelendiğimde bu duygumu ifade edebilirim.
4.00	1	31. Sahip olduklarım benim için yeterlidir.
4.00	1	32. Sahip olduklarım (ailem, oyuncaklarım gibi) beni mutlu eder.
4.00	1	33. İçimden herkesin mutlu olmasını dilerim.
4.00	1	34. Sevdiklerim için içimden iyi düşünceler geçiririm.
4.00	1	35. Üzgün olan arkadaşımla yakından ilgilenirim.
4.00	1	36. Hata yaptığımda kendime kızarım.
4.00	1	37. Başkaları hata yaptığında onları affederim.
4.00	1	38. Düşünmek istemediğim şeyler olur.
4.00	1	39. Bazı düşüncelerim beni rahatsız eder.
4.00	1	40. Yardıma ihtiyaç duyan birine karşılık beklemeden yardım ederim.
4.00	1	41. Belli bir süre dikkatimi tek bir şey üzerinde toplamak benim için zordur.

C. BAU Çocuklar için Mindfulness Ölçeği (BÇMÖ)

Turkish Version

Sevgili Öğrenciler,

Aşağıdaki her cümle için sizi en iyi anlatan seçeneği seçiniz ve o seçeneğin altındaki kutucuğa çarpı (X) işareti koyunuz.

1.	Yaptığım işe dikkatimi vermek benim için kolaydır.	Hiçbir Zaman	Bazen	Her zaman
2.	Duygularımı oldukları gibi kabul ederim.	Hiçbir Zaman	Bazen	Her zaman
3.	Yiyeceklerin koku ve tatlarını fark ederim.	Hiçbir Zaman	Bazen	Her zaman
4.	Güneşin yüzümde bıraktığı sıcaklık hissini fark ederim.	Hiçbir Zaman	Bazen	Her zaman
5.	Bir resimdeki detayları (renkleri, şekilleri, ışık ve gölge oyunları gibi) fark ederim.	Hiçbir Zaman	Bazen	Her zaman
6.	Uzunca bir süre tek bir şeye dikkatimi verebilirim.	Hiçbir Zaman	Bazen	Her zaman
7.	Rüzgarın saçlarımda bıraktığı hissi fark ederim.	Hiçbir Zaman	Bazen	Her zaman
8.	Doğadaki detayları (renkleri, şekilleri, farklı dokuları, ışıkta ve gölgede kalan noktaları) fark ederim.	Hiçbir Zaman	Bazen	Her zaman
9.	Düşüncelerimi oldukları gibi kabul ederim.	Hiçbir Zaman	Bazen	Her zaman
10.	O an hissettiklerimi detaylıca ifade edebilirim.	Hiçbir Zaman	Bazen	Her zaman
11.	Sahip olduklarım (ailem, oyuncaklarım gibi) beni mutlu eder.	Hiçbir Zaman	Bazen	Her zaman
12.	İçimden herkesin mutlu olmasını dilerim.	Hiçbir Zaman	Bazen	Her zaman
13.	Sevdiklerim için içimden iyi düşünceler geçiririm.	Hiçbir Zaman	Bazen	Her zaman
14.	Üzgün olan arkadaşımla yakından ilgilenirim.	Hiçbir Zaman	Bazen	Her zaman

15.	Başkaları hata yaptığında onları affederim.	Hiçbir Zaman	Bazen	Her zaman
16.	Yardıma ihtiyaç duyan birine karşılık beklemeden yardım ederim.	Hiçbir Zaman	Bazen	Her zaman

AÇIKLAMA: ÖLÇEKTE TERS (REVERSE) PUANLAMA BULUNMAMAKTADIR. ÖLÇEK PUANI TÜM MADDELERİN (Hiçbir Zaman=1, Bazen=2, Her Zaman= 3) TOPLANMASIYLA ELDE EDİLİR. TOPLAM PUANLARIN YÜKSEKLİĞİ MINDFULNESS SEVİYESİNİN YÜKSEK OLDUĞU ANLAMINA GELMEKTEDİR.

D. Final Version of BAU Mindfulness Scale for Children (BAU-MSC)

***English Version**

Please respond to each item by marking one box per row. Make a cross in the box that best describes your own opinion of what is generally true for you.

1.	It is easy for me to give my attention to what I am doing.	Never	Sometimes	Always
2.	I accept my emotions as they are.è	Never	Sometimes	Always
3.	I notice the taste and smell of the food.	Never	Sometimes	Always
4.	I notice the warmth of the sun on my face.	Never	Sometimes	Always
5.	I notice details in an artwork such as colors, shapes, and the way the artist plays with light and shadow.	Never	Sometimes	Always
6.	I can give my attention to one specific thing for a long period of time.	Never	Sometimes	Always
7.	I notice the sensation of the wind in my hair.	Never	Sometimes	Always
8.	I notice details in nature such as colors, shapes, different textures, areas with light and shadow.	Never	Sometimes	Always
9.	I accept my thoughts as they are.	Never	Sometimes	Always
10.	I can describe how I feel at the moment in detail.	Never	Sometimes	Always
11.	What I have in life (like my family and toys) make me happy.	Never	Sometimes	Always
12.	I wish for everyone to be happy.	Never	Sometimes	Always
13.	I have good thoughts in me for my loved ones.	Never	Sometimes	Always
14.	I involve closely with my friend who is sad.	Never	Sometimes	Always
15.	I forgive others who make mistakes.	Never	Sometimes	Always

16.	I help a person in need without any expectation in return.	Never	Sometimes	Always

*Note: *Reliability and validity studies of english version of BAU-MSC has not still been established.*

Scoring Information:

To score the scale, simply compute value of the items as for never=1, sometimes=2, always=3. The higher the score, the greater the mindfulness level. Scale does not include reverse scored items.

E. Çocuklar için Yaşam Kalitesi Ölçeği Türkçe Formu

Turkish Version

Sevgili Öğrencimiz,

Son bir ay içinde aşağıdakiler sizin için ne kadar sorun yarattıysa o seçeneği seçiniz ve o kutucuğa çarpı (x) işareti koyunuz.

	Duygularımla ilgili sorunlar			
1.	Korkmuş ya da ürkmüş hissederim.	Hiçbir Zaman	Bazen	Her zaman
2.	Hüzünlü ya da üzgün hissederim.	Hiçbir Zaman	Bazen	Her zaman
3.	Öfkeli hissederim.	Hiçbir Zaman	Bazen	Her zaman
4.	Uyumakta zorluk çekerim.	Hiçbir Zaman	Bazen	Her zaman
5.	Bana ne olacağı konusunda endişelenirim.	Hiçbir Zaman	Bazen	Her zaman
	Başkaları ile ilgili sorunlar			
6.	Arkadaşlarımla geçinmekte sorun yaşarım.	Hiçbir Zaman	Bazen	Her zaman
7.	Arkadaşlarım beimle arkadaş olmak istemezler.	Hiçbir Zaman	Bazen	Her zaman
8.	Arkadaşlarım benimle alay eder.	Hiçbir Zaman	Bazen	Her zaman
9.	Arkadaşlarımın yapabildikleri şeyleri yapamam.	Hiçbir Zaman	Bazen	Her zaman
10.	Arkadaşlarımla oyun oynarken geri kalırım.	Hiçbir Zaman	Bazen	Her zaman
	Okul ile ilgili sorunlar			
11.	Sınıfta dikkatimi toplamakta zorlanırım.	Hiçbir Zaman	Bazen	Her zaman
12.	Bazı şeyleri unuturum.	Hiçbir Zaman	Bazen	Her zaman
13.	Derslerimden geri kalmamak benim için zordur.	Hiçbir Zaman	Bazen	Her zaman

14.	Kendimi iyi hissetmediğim için okula gidemediğim olur.	Hiçbir Zaman	Bazen	Her zaman
15.	Doktora ya da hastaneye gittiğim için okula gidemediğim olur.	Hiçbir Zaman	Bazen	Her zaman

AÇIKLAMA: ÖLÇEK MADDELERİNİN TÜMÜ TERS KODLANMAKTADIR. ÖLÇEK PUANI TÜM MADDELERİN (Hiçbir Zaman=3, Bazen=2, Her Zaman= 1) TOPLANMASIYLA ELDE EDİLİR. TOPLAM PUANLARIN YÜKSEKLİĞİ YAŞAM KALİTESİ DÜZEYİNİN YÜKSEK OLDUĞU ANLAMINA GELMEKTEDİR. GEÇERLİK VE GÜVENİRLİK ÇALIŞMALARI ÖLÇEK MAKALESİNDE BULUNMAKTADIR.

F. Curriculum Vitae

Personal Information

Surname, Name	: Taskin, Sibel Zeynep
Nationality	: Turkish
Date of Birth	: 26/09/1989
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Education

Degree	Institution	Year of Graduation
MA	Bahcesehir University, Guidance and Psychological Counselling	2018
BA	Bahcesehir University, Psychology	2012

Work Experinece

Year	Place	Enrollment
2014 - …..	Bahcesehir College Psychologist	School Psychological Counsellor
2012 - 2014	Günısıgı Child Centre	Psychologist

International Conferences Attended

1. Taskin, S.Z., Uzun, B., Vatanartıran, S. & Yazgan, O. (2018). Assessing mindfulness in school-aged children: development and validation of BAU Mindfulness Scale for Children (BAU-MSC). Poster presented at 2018 International Conference on Mindfulness (ICM), Amsterdam, Netherlands (Poster presentation).

2. Taskin, S.Z., (2017). The relationship between emotion regulation and social competence in school-aged children. Paper presented at 2017 American Education Research Association (AERA) Annual Meeting Conference, Texas, USA (Paper presentation).

Certificates

1. İstanbul University, Cognitive Assessment System (CAS) Practitioner training, Assisst Prof Tamer Ergin, 2017
2. MEF University, Conference on Mindfulness-based interventions, 2017
3. University of Reading, Online Understanding Anxiety, Depression and CBT, 2016
4. Oxford House College General English Advanced Level Certificate, London, United Kingdom, 2015
5. Bahcesehir University & Georgia State University, New Trends in Early Education Conference, 2014
6. İstanbul Bilgi University, Introduction to DIR®Floortime™ (101), 2013
7. İstanbul Bilgi University, DIR/Floortime in Action, 2012, Dr. Cecilia Breinbauer