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GUIDANCE**

**FURTHER VALIDATION OF CHILD AND ADOLESCENT MINDFULNESS  
MEASURE (CAMM)**

**MASTER'S THESIS  
AYŞE BEYZA SARI**

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## ABSTRACT

### FURTHER VALIDATION OF CHILD AND ADOLESCENT MINDFULNESS MEASURE (CAMM)

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Master's Program in Guidance and Psychological Counseling

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The aim of this study is to reevaluate the psychometric properties of the Turkish version of Child and Adolescents Mindfulness Measure (CAMM) designed to assess mindfulness among children and adolescents. Participants were 301 children and adolescents aged between 12 and 18 years. To assess the CAMM's construct validity, Confirmatory Factor Analysis (CFA) was used to understand original scale's factor structure matched the data from the current study. Results from CFA confirmed the single-factor model with excellent fit indices. The internal consistency coefficient provided evidence for good internal reliability. The second CFA was applied by removing item 2, as demonstrated by the CFA 2 results with nine items, item 2 has been removed from the scale. The reliability of the CAMM construct, which had nine items, was determined by analyzing the internal consistency coefficients. As a result, the Cronbach's and McDonald's coefficients were used, which demonstrated that the CAMM was a reliable scale (Cronbach's = 0.75, McDonald's = 0.76). Overall, psychometric properties have shown that the Turkish version of CAMM has been a valid tool for measuring mindfulness among children and adolescents.

**Keywords: Mindfulness, Child, Adolescents, Psychometric Properties, Anxiety, Psychological Well-being**

## ÖZ

# ÇOCUK VE ERGENLER İÇİN MINDFULNESS ÖLÇEĞİNİN GEÇERLİK VE GÜVENİRLİK ÇALIŞMASI (ÇEİMÖ)

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Bu çalışmanın amacı, çocuk ve ergenlerde farkındalığı (mindfulness) değerlendirmek için tasarlanan Çocuk ve Ergen Farkındalık Ölçeği'nin (ÇEİMÖ) Türkçe versiyonunun psikometrik özelliklerini yeniden değerlendirmektir. Katılımcılar, yaşları 12 ile 18 arasında değişen 301 çocuk ve ergenden oluşmaktadır. Ölçeğin yapı geçerliliğini değerlendirmek için, orijinal ölçeğin faktör yapısının mevcut çalışmadan elde edilen verilerle eşleşip eşleşmediğini görmek için Doğrulayıcı Faktör Analizi (DFA) kullanılmıştır. DFA'dan elde edilen sonuçlar, mükemmel uyum indeksleri ile tek faktörlü modeli doğrulamıştır. İç tutarlılık katsayısı, iyi bir iç güvenilirlik için kanıt sağlamıştır. İkinci madde çıkarılarak uygulanmış doğrulayıcı faktör analizi sonuçlarında modelin uyum indekslerinin kabul edilebilir düzeyde olduğunu göstermektedir. Dokuz maddeden oluşan ölçeğin yapısının güvenirliliği, iç tutarlılık katsayıları analiz edilerek belirlenmiştir. Sonuç olarak CAMM'nin güvenilir bir ölçek olduğunu göstermektedir. (Cronbach's = 0.75, McDonald's = 0.76). Sonuç olarak, psikometrik özellikler CAMM'nin Türkçe versiyonunun çocuklar ve ergenler arasında farkındalığı ölçmek için geçerli bir araç olduğunu göstermiştir.

**Anahtar Kelimeler: Farkındalık, Mindfulness, Çocuk, Ergen, Psikometrik Özellikler, Kaygı, Psikolojik İyi Oluş**



To Begüm,  
My lovely friend whom I lost during massive earthquake.

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# **Chapter 1**

## **Introduction**

The theoretical framework of the present study is a brief definition of the term "mindfulness" is provided, and this section emphasizes the significance of structure assessment. This section also contains key terms, the purpose study, research questions, significance, and the problem statements.

### **1.1 Theoretical Framework**

The nondual awareness of holding all of one's experience in an open and accepting manner is mindfulness. At the heart of a mindful mind is the mindful perspective of noticing awareness that is always within you (Shapiro & Carlson, 2009). In daily life, when individuals switch to autopilot, they can skip contacting their environment or their own selves. Being able to integrate mindfulness tenets into life can help people get out of autopilot and encourage individuals to stay in the moment. The positive effect of being able to live in the moment on human psychology is indisputable (Germer, 2004).

With adult populations, there is a growing demand for mindfulness-based interventions (Zhang et al., 2021). Over time, adults with severe and chronic conditions who practice mindfulness can improve their self-awareness and emotional stability. Even though mindfulness shows great clinical promise for young people, research on the child and adolescent populations is still in its infancy (Thompson & Gauntlett-Gilbert, 2008). Mindfulness-based programs for adults are becoming progressively useful (Burke, 2010). The utilization of mindfulness-based programs and exercises with youngsters and teenagers is still in its early stages. Students' ability to pay attention can be improved by incorporating mindfulness into the classroom, which has been shown to improve learning and reduce stress effects (Napoli et al., 2005).

Students can improve their learning performance by focusing more and coping better with stressful situations if they can learn to be "fully present," or at least incorporate mindfulness practices into their daily lives (Langer, 1993).

Students' professional and personal lives can be impacted by stress. Stress has been shown to have a negative impact on students' emotional, physical, and spiritual well-being (Shapiro et al., 1998). Some stress is acceptable when it comes to academic performance; However, a child's ability to study and academic progress are hindered

by excessive anxiety (McLoone, 2006). Concerning mindfulness in schools, numerous studies with school-aged children demonstrated strong evidence for the beneficial effects of mindfulness on a variety of mental and physical health conditions, social and emotional skills, well-being, cognitive and learning abilities, and other factors (Weare, 2012). Psychological well-being refers to the individual's awareness of goals in their lives, awareness of their potential, and the quality of their relationship with other individuals. Risk-taking, refusing to attend school, morality-based issues, community involvement, academic performance, physical health, and peer adjustment have all decreased in children and adolescents who feel more psychologically well-being (Luthar et al., 2000).

In addition, scales have been developed to measure the mindfulness tendencies of children and adolescents. Child and Adolescent Mindfulness Measure (CAMM) is one of the developed scales. The CAMM is a 10-item mindfulness scale for child and adolescents between the ages of 12-18. It hypothesizes that people tend to be always mindful and conceptualizes mindfulness as a trait. The CAMM, or Child and Adolescent Mindfulness Measure, is the only valid and reliable questionnaire for evaluating children's mindfulness (Greco et al., 2011). The CAMM was initially designed to assess mindfulness skills such as present-centered awareness and non-judgment toward one's inner experiences in children under the age of 10.

In this research, it is aimed to pave the way for the development of mindfulness-based intervention plans and mindfulness-based psycho-educational programs for children and adolescents, and mindfulness term as itself.

## **1.2 Statement of the Problem**

In clinical, educational, and community settings, mindfulness-based interventions for children are receiving more attention. Various measures have been developed to evaluate the benefits of mindfulness. However, most of these instruments have been tested on adults and adolescents. As a result, mindfulness-based childcare interventions are deficient because there aren't enough reliable and valid instruments to measure mindfulness. There appear some studies conducted to translate mindfulness measurement tools for adults into Turkish. However, there still needs for using mindfulness measure for child and adolescents in Turkey. For this purpose, in this thesis, it is aimed to adapt the Child and Adolescent Mindfulness Measure (CAMM) into Turkish and to conduct a reliability and validity study.

### **1.3 Purpose of the Study**

The purpose of this study is to reevaluate the psychometric properties of the Turkish version of the “Child and Adolescent Mindfulness Measure” which was developed to assess the level of mindfulness among children and adolescents (Çıkrıkçı, 2016). Accordingly, within the scope of this study, the scale items were revised, and some items were retranslated. Consequently, reliability and validity studies are carried out by conducting necessary analyzes on whether the scale measures the mindfulness levels of children and adolescents. Thus, the aim of the current study was to investigate the psychometric properties of Child and Adolescent Mindfulness measure into Turkish. Within this purpose, reliability and validity of the scale were reevaluated. The Turkish adaptation and validity and reliability study of the scale was already conducted by Çıkrıkçı (2016) within 660 children and adolescents between the ages of 5-11 participated in the study. 2 items were removed from the Turkish version of the scale. It is anticipated that this study will contribute to the limited literature regarding the assessment of mindfulness in school-age children due to the lack of published studies on scale development for mindfulness.

The literature indicated a relationship between the variables of this research: (1) psychological well-being and mindfulness, (2) anxiety as state and trait and mindfulness.

This study is expected to lead additional research regarding mindfulness in children and adolescents connected with their psychological well-being, and test anxiety. Due to the changes incorporated into the Turkish education system since the 2000s, the importance of transitional exams has exponentially increased. Especially children in middle schools are adversely affected by the examination system (Çelik & Bakış, 2015). Therefore, the investigation of the state and trait anxiety levels of children and adolescents was also included in this study. In this respect, counselors and psychologists may use the findings of this study as important cues to create new programs to increase the potential benefits of mindfulness-based interventions for children.

### **1.4 Research Questions**

The following research questions were the focus of this study:

1. Is Child and Adolescent Mindfulness Measure (CAMM) a reliable scale to determine the mindfulness level of children and adolescents who are 12-18 years old?
2. Is Child and Adolescent Mindfulness Measure (CAMM) a valid scale to determine the mindfulness level of children and adolescents who are 12-18 years old?
3. What is the factor structure of the Child and Adolescent Mindfulness Measure (CAMM)?
4. Is there a statistically significant relationship between children's and adolescents' levels of mindfulness, psychological well-being, and anxiety?

### **1.5 Significance of the Study**

Although there have been studies on mindfulness in the literature, it is seen that studies on children and adolescents in Turkey are still on the border. With the increasing popularity of Mindfulness and Mindfulness Intervention Programs for children in Turkey, more studies are needed in this area.

In this study, it was aimed to retest the Child and Adolescents Mindfulness Measure, which was adapted to Turkish and whose validity and reliability studies were performed (Çıkrıkçı, 2016). Thus, it is aimed to contribute to mindfulness studies for children and adolescents in Turkey. It is anticipated that this study will contribute to the limited literature regarding the assessment of mindfulness in school-age children due to the lack of published studies on reliable scales. In order to eliminate the limitations of mindfulness measurement tools in Turkey, this study is crucial for reexamining the validity and reliability of the Child and Adolescent Mindfulness Measure. Considering the positive effect of mindfulness on the development of adults' ability to focus and stay in the moment, their coping attitudes, and psychological well-being, it becomes necessary to investigate how mindfulness will affect children and adolescents and to carry out studies in this field. In the light of all this, there has been a need for more research on children and adolescents, as in this study. In this respect, it is anticipated that this study will lead to additional research on the connection between the psychological well-being of children and adolescents and their levels of mindfulness and anxiety.

The fact that the mindfulness approach plays a significant role in the social and academic lives of children and adolescents will benefit society from the findings of this study.

## **1.6 Definitions**

The terms that are used throughout the study are defined and conceptualized as follows:

*Mindfulness:* The process of openly and unreservedly attending to one's experience in the present moment is the definition of mindfulness. The act of paying attention to the present moment in a particular way is known as mindfulness (2017 Creswell; 2009, Kabat-Zinn). In this study mindfulness will be assessed by use of the Child and Adolescent Mindfulness Measure (CAMM).

*Psychological Well-Being:* Psychological well-being is a multidimensional concept. According to Ryff and Singer (1996), the attitudes, and behaviors of individuals in these areas: self-acceptance, positive relations with others, autonomy, environmental mastery, purpose in life and personal growth explain the individual's psychological well-being (Ryff & Singer, 1996). In this study, the effect of mindfulness tendencies of children and adolescents on psychological well-being will be examined.

*Anxiety:* Anxiety is a feeling characterized by apprehension and somatic signs of tension in which a person anticipates impending danger, disaster, or misfortune. (Sarason et al., 1990) Anxiety will be handled as state and trait anxiety in this study, and it will be determined by the mindfulness tendencies of children and adolescents.

## Chapter 2

### Literature Review

In this chapter, the literature relevant to the purpose of this study is summarized. This chapter involves six sections. A brief history of mindfulness is presented in the very first section. The second section overview mindfulness scales in literature. The third section addresses adaptation, validity and reliability studies of Child and Adolescent Mindfulness Measure in different languages. The positive effects of mindfulness-based interventions and empirical research studies that emphasizes the benefits of mindfulness intervention are explained in the fourth section. The fifth section focuses on psychological well-being. In the sixth section anxiety as a state and trait addressed. Finally, the last section summarizes the general process for reliability and validity studies.

#### 2.1 Definition of Mindfulness

The underlying foundations of mindfulness come from Eastern culture, Buddhism. "To remember" is the meaning of "Sati," a Buddhist word. In fact, the goal is to remember to be aware, present, and maintain these states (Batchelor, 1998) In Western languages, Sati could be defined as being mindful (Cassaniti, 2021).

The "heart" of the Buddhist tradition has been referred to as mindfulness meditation. The definition of mindfulness is the act of openly and mindfully attending to one's experience in the present moment (Kabat-Zinn, 2003).

Mindfulness begins with awareness. Awareness, on the other hand, is a state of mind that we acquire constantly, deliberately, specifically, and non-judgmentally by giving our attention to right now (Kabat-Zinn,1994). Kabat-Zinn mentioned that mindfulness is about examining who we are, questioning our perspective on the world and our place in it, determining the purpose of our lives, and remaining in the present moment (Kabat-Zinn,1994).

Mindfulness acknowledges the connection between mind and body, and mindfulness practices increase one's awareness for this connection (Alidina, 2020). Since mindfulness is based on Buddhist approaches, in which mindful meditations help individuals awake from sleep, with an awakened mind, individuals can be able to approach conscious or unconscious states with total awareness. Mindfulness is a state of mind that makes it possible to acquire knowledge from new perspectives by looking

at life from the perspective of awareness. It is a state of mind that is open, creative, and probabilistic, and it can lead someone to find similarities in differences and similarities in differences (Jankowski & Holas, 2014). Mindfulness is the ability to see a situation or environment from multiple perspectives. When people are mindful and fully focused, they realize that there is more than one right way to look at a given situation; instead, there are many possible perspectives. We can say that people gain new perspectives by being mindful (Keng et al., 2011). Nowadays, we are constantly confronted by symbolic threats; consequently, it is critical to be mindful to rightly decide whether we are confronted with a real-life threat (Atalay, 2019). It has been demonstrated through research that mindfulness-based practices and interventions have numerous psychological, emotional, and physical advantages, as well as the potential to treat and prevent a variety of mental and physical disorders (Ivtzan & Lomas, 2016). Intelligence is a linear cognitive process that progresses from answering questions to finding answers to problems (Jaarsveld & Lachmann, 2017). On the other hand, mindfulness is a way of looking at the same situation from multiple perspectives. Individuals seek out alternative perspectives rather than rushing from one question to the next. A response from one side might prompt inquiries from another (Langer, 1993).

Mindfulness is as a universal human ability that can help people think clearly and be open-minded. As a result, this kind of being does not necessitate any cultural or religious beliefs. If mindfulness is defined simply as an “individual's focus on the present moment”, this definition remains unvarnished. In *The Heart of Buddhist Meditation*, the Buddhist scholar and monk Nyanaponika Thera said:

Mindfulness then, is the unfailing master key for knowing the mind and is thus the starting point: the perfect tool for shaping the mind and is thus the focal point; and the lofty manifestation of the achieved freedom of the mind; and is thus the culminating point.

Nyanaponika, also mentioned and emphasized the fact that the idea of mindfulness is not beyond the reach of the average person, despite its widespread praise; On the contrary, it is something quite straightforward, typical, and well-known to us (1962). Therefore, the phenomenon of mindfulness is universal. Thus, it is an approach that can be understood and applied by everyone, regardless of age, gender, religion, language, or race (Cullen, 2011). Mindfulness, which we can define as a

perspective that accompanies individuals in life, enables the development of programs that can be applied in different fields by combining with other approaches.

According to Hanh (1976), various meditation techniques derived from Buddhist spiritual practices are used to supposedly develop the capacity to elicit mindfulness. Mindfulness has become popular in contemporary psychology as a strategy for effectively responding to mental processes that contribute to emotional distress and maladaptive behavior (Bishop et al., 2004).

## 2.2 Mindfulness Scales in Literature

Mindfulness contributes positively to the psychological well-being of individuals: adults, adolescents, and children. In the literature, it is significant to develop more scales related to mindfulness and to contribute to the studies in this field. Mindfulness assessment scales developed for adults:

The 12-item, 4-point Likert-type, unidimensional Cognitive and Affective Mindfulness Scale-Revised (CAMS-R) measures individual mindfulness differences. It is the most recent and updated version of the CAMS (Kumar, Feldman, & Hayes, 2005). The scale's items measure present focused attention, awareness, and non-judgmental acceptance of thoughts and feelings, separating them from the idea of meditation and making them suitable for each individual (Feldman et al., 2007).

The Mindful Attention Awareness Scale (MAAS) a 15-item, 6-point Likert-type (almost always to almost never) scale, designed to measure a fundamental aspect of mindfulness, simply observes what is going on with attention guided by sensitive awareness of the present (MacKillop & Anderson, 2007). The scale considers consciousness in two dimensions: awareness and attention. Higher scores reflect greater levels of Mindfulness tendency (Brown & Ryan, 2003).

The Five Facet Mindfulness Questionnaire (Baer, et al., 2006), Freiburg Mindfulness Inventory (FMI), is a 14-item, valid and reliable inventory for measuring mindfulness. The five facets are: *Nonreactivity to inner experiences*, *Observing*, *acting with awareness*, *describing*, *non-judging of experience* (Walach, et al., 2006).

The Langer Mindfulness Scale (LMS) is also, 14-item inventory for measuring socio-cognitive mindfulness, has four defining dimensions: *Novelty seeking*, *Engagement*, *Novelty producing*, *Flexibility* (Pirson, et al., 2012). These tests show great psychometric characteristics. All the scales are valid and reliable in measuring individuals' tendency to be mindful. A higher quality of life and a lower incidence of

psychological diseases are linked to higher levels of mindfulness. Consequently, higher levels of mindfulness are correlated with a greater sense of psychological well-being.

The Kentucky Awareness Skills Inventory (KIMS; Baer et al., 2004), 39-item, 5-point Likert-type scale. It assesses the four aspects of awareness: *observing*, *identifying*, *acting with awareness*, and *accepting without judgment*.

The Toronto Mindfulness Scale was developed by Lau and colleagues (2003), the aforementioned scale is intended to measure state-like experiences of mindfulness meditations. Scale has 13 items, is a 5-point Likert-type scale, and its reliability was tested on 270 meditators (reliability  $\alpha = .76$ ) and can differentiate between people who have never meditated before and those who have. It was observed that those with mindfulness meditation experience scored higher on the scale (Lau et al., 2003).

The Philadelphia Mindfulness Scale (PHLMS) is a scale with two-dimensional: *awareness* and *acceptance*. The scale has 20 items, 5-point Likert-type (0 = never to 5 = very often) to measure awareness and acceptance dispositions of clinical and non-clinical participants without previous meditation experiences. PHLMS has demonstrated adequate internal consistency for the *Awareness* subscale ( $\alpha = .81$ ), for the *Acceptance* subscale ( $\alpha = .85$ ) (Cardaciotto, 2008).

Although there are mindfulness scales developed for adults, there is still a lack of studies and scales developed for children and adolescents. Some of the scales measuring mindfulness disposition developed for children and adolescents are:

The Mindful Attention Awareness Scale-Adolescents (MAAS-A) assesses mindfulness in children and adolescents, has 14-items and 6-point Likert-type scale. MAAS-A was designed to measure adolescents' dispositional mindfulness levels between the ages of 14 and 18 (Brown et al., 2011). Validation studies of Mindfulness Attention Awareness Scale-Adolescents was conducted by Brown et al. Due to the Cronbach's alpha coefficient of .86, MAAS-A was found to be reliable.

Greco and colleagues (2011) created the Child and Adolescent Mindfulness Measure (CAMM) (Greco et al., 2011) to assess mindfulness among adolescents aged 9 to 17 years old. With ten items, the CAMM is a 5-point Likert scale. All items are reversed scored. Internal consistency (coefficient alpha) of this was .80 (Greco et al., 2011).

The BAU Mindfulness Scale (BAU-MS), was developed by Taşkın (2018), to assess Turkish children's mindfulness tendencies. BAU-MS is a 16-item, 3-point Likert-type scale. Validation studies have shown that scale is reliable in terms of internal consistency ( $\alpha = 0.80$ ) (Taşkın, 2018).

### **2.3 Validity and Reliability Studies of Child and Adolescent Mindfulness Measure (CAMM)**

The Mindfulness Attention and Awareness Scale-Adolescent (MAAS-A), the first inventory designed specifically for children and adolescents, (Brown et al., 2011), which looks at how likely it is for children between the ages of 14 and 18 to be mindful. Greco and colleagues (2011) developed The Child and Adolescent Mindfulness Measure (CAMM), the first mindfulness self-report questionnaire made just for kids and adolescents between the ages of 10 and 17 (Greco et al., 2011). The CAMM is a 10-item Likert scale that measures children's and adolescents' mindfulness abilities and attitudes. (Greco et al., 2011). Greco and Baer developed the CAMM, a 25-item scale that was adapted from the Kentucky Inventory of Mindfulness (Baer et al., 2004) inventory and comprised three of this scale's four sub-dimensions: observing, acting mindfully, and embracing without judging. Fourth sub-dimension, describing, is not included in CAMM, considering the developmental period of children and adolescents (Greco et al., 2011).

With the studies, the CAMM was shortened to 16 items and then 10 items to be one dimension. The CAMM that was validated was found to have sufficient internal consistency ( $\alpha = .80$ ).

It can be said that mindfulness scales are mostly developed within the framework of the dimensions of observation, awareness, self-evaluation, without judgment. Since CAMM, is the first self-report questionnaire specially developed for children and adolescents, its validity, reliability, and adaptation studies were conducted in many different languages.

Saggino and colleagues (2017) conducted validation studies for the Italian version of the Child and Adolescent Mindfulness Measure (Saggino, et al., 2017). The CAMM has excellent psychometric properties and can be used to measure mindfulness among Italian children and adolescents. However, some modifications were required to increase its dependability: The items 2 and 5 removed from the scale. The eight-item CAMM had higher internal consistency values than the original 10-item form.

Validation studies of the French-Canadian version of CAMM was conducted by Dion and colleagues (2017) (Dion et al., 2017). To confirm the psychometric properties of the scale, 2 independent studies were conducted between French and Indigenous samples. The single factor solution was confirmed by exploratory and confirmatory factor analysis. The results showed that the French-Canadian version of CAMM had sufficient internal consistency. All 10 items of CAMM were used and no items were removed from the pool (Dion et al., 2017).

Even though validity studies have been conducted and CAMM has been translated into numerous languages, Guerra and colleagues examined the psychometric properties of the Spanish version of the scale because there is no Spanish report. The study resulted in the removal of scale items 2, 3, 5, 6, and 10 from the Spanish version. The unidimensional structure of CAMM and the Spanish version's high internal consistency and reliability were revealed by confirmatory factor analysis (Guerra et al., 2019).

The Dutch version of the Child and Adolescent Mindfulness Measure's factor structure was conducted by Bruin, Zijlstra, Bögels, and van't Hof (2019). Internal consistency, and construct validity were examined in two samples of children and adolescents from The Netherlands (Bruin et al., 2013). Internal consistency of the 10-item CAMM was convincing ( $= 0.71$  for children and  $= 0.80$  for adolescents). All 10 items of CAMM were used and no items were removed from the pool.

Considering these, Child and Adolescent Mindfulness Measure (CAMM) has been adapted to many different languages and has shown satisfactory internal consistency as a result of validity and reliability studies. In a few of these studies, it was observed that some items were removed from the pool to increase reliability. It is aimed to adapt the scale into Turkish and to use it as a tool to measure the mindfulness skills and tendencies of children and adolescents aged 10-17 in Turkey. In the validity study by Çikrikçi (2016), it was decided to remove two items (5,10) from the scale that may not be consistent with the whole measure.

## **2.4 Positive Effects of Mindfulness-based Interventions**

The use of mindfulness-based school and clinical intervention for school-age children and adolescents is the subject of the evidence presented in this section. When the literature is reviewed, it has been observed that mindfulness-based psychoeducational programs have a positive effect on children and adolescents' math

anxiety (Atalay et al., 2017), and academic achievement development (Güldal & Satan 2019). In recent years, research that aims to improve the well-being of children has increased by incorporating mindfulness practices into education. Mindfulness practices reduce stress, anxiety, and depression by teaching individuals not to identify themselves with disorder related distressing thoughts, feelings, and behaviors (Alidina, 2020). Mindfulness interventions with adults are related to well-being (Brown et al., 2007); on the other hand, absence of focus on the present, or mind-wandering, is associated with less happiness (Killingsworth and Gilbert, 2010). Standard yoga and meditation practices combined with high school education programs and even middle schools appears to have positive effects for students (Britton et al., 2010; Mendelson et al., 2010).

Mindfulness-based stress reduction (MBSR) program developed by Jon Kabat Zinn in the early 1980s to support the treatment of psychological symptoms. Although it was initially designed to treat medical patients with chronic pain, the application of this program has now expanded to include psychological interventions due to the positive effects of mindfulness practices (Kabat-Zinn, 2003). The 8-week treatment program, developed with regular meditation practices, aims to reduce stress with mindfulness skills. The program consists of a group meditation session lasting 2-2.5 hours a week, accompanied by trainers, an audio guide application at home for approximately 45 minutes daily, and during the sixth week a mindfulness retreat that lasts all day long. The program's content incorporates a variety of mind-body practices like sitting meditations, body scans, light stretching, and yoga. Therefore, MBSR appears to be a safe and effective treatment for reducing emotional dysregulation (Hoffman & Gomez, 2017). Mindfulness-based cognitive therapy (MBCT) incorporates elements of cognitive-behavioral therapy into a 2-hour length, 8-session group program with mindfulness-based stress reduction. It was originally designed to prevent relapse in people with recurrent depression, but it has since been used to treat a wide range of mental health issues. MBCT has been shown to be effective for treating depression, according to studies (Sipe & Eisendrath, 2012).

Mindfulness-based cognitive therapy for children, or MBCT-C, is a type of group therapy for children between the ages of 8 and 12 who are struggling with issues that are affecting their well-being or daily activities. There are numerous ways that MBCT-C differs from the adult MBCT program. Mindfulness exercises are practiced

repeatedly in blocks of three to five minutes, and sessions are shorter (90 minutes) (Semple & Lee, 2014).

Napoli et al. (2005), designed and implemented the "Attention Academy Program," a mindfulness-based training program that lasted for a total of 24 weeks. The purpose of the study was to conduct a formative evaluation to determine whether it had an effect on the results of students in the first, second, and third grades on attention tests. The purpose of the training was to teach students how to concentrate and pay attention. Breathing exercises, body scans, movement, and sensorimotor awareness activities were all part of the 24-week training. Significant differences were found between the results of the attention measurement applied to the students, those who participated in the mindfulness practice training and those who did not. Accordingly, we can say that mindfulness-based intervention programs for children have a positive development in children's attention measures (Napoli et al., 2005).

Crescentini and colleagues (2016) looked at how mindfulness-meditation training affected a group of 16 healthy children from an Italian primary school who were between the ages of 7 and 8. Training in mindfulness meditation was found to reduce attention issues in a certain way. Many children's psychological well-being dimensions were positively impacted by the findings, according to the interpretation. The overall findings supported the efficacy of mindfulness-based interventions for healthy primary school students (Crescentini et al., 2016).

As a result, the positive effects of mindfulness-based intervention programs on individuals' psychological well-being have been encountered in the literature. This positive effect showed us that it is necessary to carry out more studies in this field and the lack of studies especially in Turkey.

## **2.5 Psychological Well-Being**

Psychologists frequently avoid using the term "happy" in their research due to the difficulty of defining it. Although well-being can ultimately be equated with happiness, its conceptualization in psychological research has made it possible for researchers to better define and quantify it (Vinney, 2022).

Individuals' assessments of the quality of their lives are represented by happiness, which is also known as well-being. The pursuit of happiness can be divided into two categories: happiness, both hedonic and eudaimonic (Keyes, 2010). The Greek word hedon, which means "pleasure," is the root of the word hedonia. From the

original ancient Greek, the word "eudaimonia" means "welfare," "blendedness," or "wellbeing" (Kraut, 2018). Basically, happiness is feeling significantly better. Happiness is a positive emotional state, but how each person experiences that state is subjective. The use of the term *psychological well-being* instead of *happiness* in the literature has facilitated the measurement and definition of happiness.

The importance of the quality of consciousness for maintaining and improving well-being is emphasized by many philosophical, spiritual, and psychological traditions (Wilber, 2000). Despite this, the fact that almost everyone uses their primary capacities -attention and awareness- is easy to overlook the significance of consciousness-related qualities. Mindfulness is one quality of consciousness that has received a lot of attention in relation to well-being (Brown & Ryan, 2003).

Mindfulness may play a crucial role in disengaging individuals from automatic thoughts, routines, and unhealthy behavior patterns. As a result, it may foster self-aware and informed behavioral regulation, which has long been associated with well-being enhancement (Ryan & Deci, 2000). Additionally, mindfulness may directly contribute to well-being and happiness by enhancing experience clarity and vividness. Psychological well-being is a definition that has been discussed many times in the literature. Ryff (1989) explained psychological well-being in six dimensions.

*Self-acceptance:* Jahoda mentioned that the central feature of mental health is self-acceptance (Jahoda, 1958). Self-acceptance begins with positive self-regard, also it involves awareness, and acceptance of both strengths and weaknesses of individuals' themselves (Ryff, 1989).

*Purpose in life:* In "*Man's Search for Meaning*" Frankl said that: "*Those who have a 'why' to live, can bear with almost any 'how'.*" This dimension of well-being draws on existential perspectives and Frankl's *search for meaning* vis-à-vis adversity (Ryff, 1989). This dimension is mostly based on individuals' search for meaning and living a meaningful life.

*Environmental Mastery:* An integrated framework for positive psychological functioning includes both environmental mastery and active participation. These theories place an emphasis on an individual's capacity to progress in the world and creatively alter it through physical or mental activities.

*Positive Relations with Others:* In "*Symposium*" Plato wrote: "*Love is born into every human being; it calls back the halves of our original nature together; it tries*

to make one out of two and heal the wound of human nature.” In fact, what is meant here is that human beings cannot exist without establishing relationships with others, and that the love inherent in human beings heals people. We can also evaluate this recovery as mental recovery, that is, psychological well-being.

*Personal Growth:* Personal growth is the aspect of well-being that most closely resembles Aristotle's eudaimonia because it is specifically concerned with the individual's self-realization. As a result, this aspect of positive functioning is constantly changing and involves expanding one's potential.

*Autonomy:* In this dimension of psychological well-being, autonomy is the individual's having an internal evaluation and not needing the approval of others. Individuation is also referred to as a "deliverance from convention," in which an individual no longer adheres to the norms, fears, and beliefs of the masses. We can also describe it as the individual being her own parent and allowing themselves.

The definition of psychological well-being has made it necessary to measure it. Many measurement tools have been developed in this area, and in this study, the “Psychological Well-Being Scale”, which was first named “Flourishing Scale” and developed by Diener and colleagues (Diener et al., 2010).

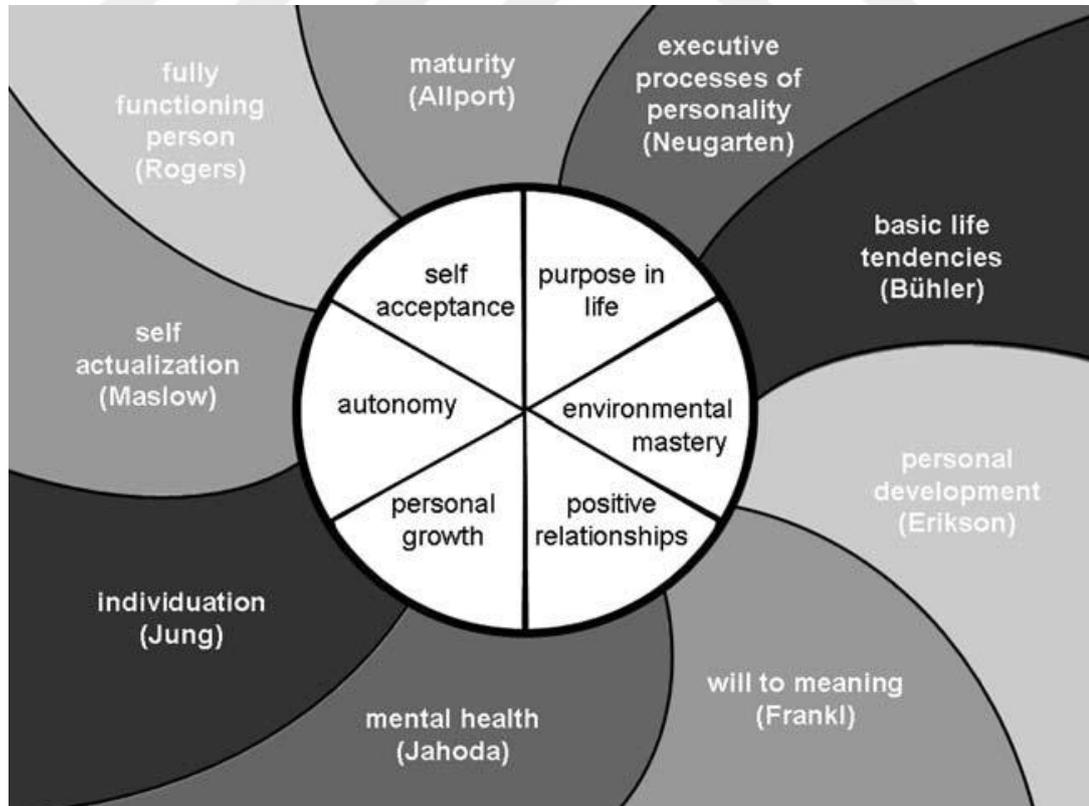


Figure 1. Core Dimensions of PWB and Their Theoretical Foundations (Ryff and Singer, 2008)

## 2.6 Anxiety as a State and Trait

It is essential to distinguish between trait and state anxiety when conceptualizing anxiety. Anxiety was conceptualized by Spielberger (1968) in two distinct ways: as a stable personality trait and as a transitory affective state.

State anxiety occurs when individuals are confronted with a danger or a frightening, stressful situation. It is a common reaction to a variety of stimuli, and many people who experience state anxiety do not have a primary anxiety disorder. As your body prepares for a particular circumstance, your sympathetic nervous system produces symptoms like a rapid heartbeat, difficulty concentrating, and intense feelings of worry. When the threat you are facing diminishes, state anxiety passes (Leal et al., 2017).

Trait anxiety is typically thought to be a personality trait rather than a symptom of a particular situation. Those with characteristic tension might feel more restless in regular circumstances, for example, their accomplice being far off or worry over their work or school life. Individuals with higher trait anxiety levels might imagine the worst-case scenario will occur in daily life (Reiss, 1997).

A mindful mind, yoga and meditation exercises are known to be very beneficial in reducing anxiety (A. W. & Goldsmith, 2012). In the light of all these, in this study, the effects of mindfulness tendencies and psychological well-being levels on the state and trait anxiety levels of children and adolescents were also investigated in this study, especially considering the stress factors that school-age children face in Turkey.

## 2.7 Reliability and Validity Studies

Validity and reliability of instruments are essential to competent and efficient research. The degree of consistency of the measurements made is reliability. If a measuring instrument or device consistently gives equal results to individuals or objects, we can say that the instrument is reliable. Reliability includes the consistency of test scores, or the degree to which, if repeated, individuals' relatively stable deviation scores can be expected in test-retest situations. Validity means you are measuring accurately what you want to measure. The determination of the type of validity is also significant for research. In general, 7 types of validity are preferred in research over others: *face validity*, *content validity*, *criterion validity*, *construct validity*, *concurrent validity*, *external validity*, *internal validity* (Fitzner, 2007). A

subjective assessment of the instrument's or question's usefulness as a measure is known as face validity. Content validity is a thorough examination by a panel of experts to see if the questions and items adequately cover the behavior you want to measure. The degree to which your measurement is consistent with other approaches to predicting an outcome and measuring the same behavior is known as criterion validity. Construct validity checks to see if different measures of the same thing have a strong correlation. We can say that a new test measure has concurrent validity if it gives the same results as another tool that has been validated in the past. The degree to which the findings can be applied to other groups or settings is known as the study's external validity. The question of whether the thing you are interested in changed or resulted is the focus of internal validity (Fitzner, 2007).

The importance of measuring instruments that can adapt culturally is growing, which has led to an increase in the number of multinational studies. It allows for international comparability and makes it easier to develop a new tool by adapting an existing one. In addition, international instrument translation necessitates standardization. It is concluded that the cross-cultural adaptation process required cultural adaptation in addition to linguistic translation of the instrument. Throughout, guidelines were in place to guarantee that an instrument would be adapted. It is concluded that the process ought to begin with linguistic translation, either forward translation or backward translation, according to a standard guideline. After that, experts' opinions should be used to ensure cultural adaptation.

In accordance with the recommendations for adaptation studies and in collaboration with the scale's creator, our study's translation and intercultural adaptation process was completed in several stages.

## Chapter 3

### Methodology

This section includes the research design, participants, measurements, and data analysis of the research. Firstly, the researcher explains the research design. Secondly, participant demographic information will be shared. Thirdly, data collection measurements' information will be explained in detail, and lastly, the researcher mentions data analysis.

#### 3.1 Research Model

The collection of research data will be carried out with the support of the head of the PCG department affiliated to the general directorate of the chain school. In this direction, necessary permissions were obtained from the chain school general directorate for the collection of data. No information other than age and gender was requested from the participants who contributed to the research. The research data were collected on the online platform. This study will be conducted according to the principles of quantitative research methodology since quantitative research methodology makes it possible to obtain the necessary generalizations, predictions, and causal relationships between the variables (Hesse-Biber, 2010). Although there are various quantitative research methods, this study was conducted with a survey research design.

#### 3.2 Participants

The universe of the research consists of children and adolescents between the ages of 12-18 residing in Turkey. Convenience sampling was used to collect data.

The participants' descriptive statistics are presented in Table 1.

Table 1. *The Participants' Descriptive Statistics*

| Variables | n   | <i>M</i> | <i>SD</i> | %      |
|-----------|-----|----------|-----------|--------|
| Age       | 297 | 15.20    | 1.59      |        |
| Gender    | 297 |          |           |        |
| Female    | 171 |          |           | 57.60  |
| Male      | 126 |          |           | 42.40  |
| Total     | 297 |          |           | 100.00 |

The current study has 297 participants (126 men and 171 women). The average age of the participants is 15.20, and the standard deviation is 1.59.

### **3.3 Measures**

#### **3.3.1 Demographic Information Form**

In the demographic information form, information about the age and gender was collected from children and adolescents participating in the study and an informed consent form was included.

#### **3.3.2 Child and Adolescents Mindfulness Measure (CAMM)**

The CAMM was initially designed to assess mindfulness abilities in children under the age of 10 such as present-centered awareness and being non-judgmental toward one's inner experiences (Ester et al., 2013). Greco, Baer, & Smith (2011), developed the Child and Adolescents Mindfulness Measure, a 10-item questionnaire that evaluates children and adolescents' present-moment awareness and non-judgmental responses to thoughts and feelings. On a 5-point Likert scale ranging from 0 to 4, each item was evaluated. (e.g., from "Never True" to "Always True") and all items are reverse scored. Turkish adaptation of the CAMM was conducted by Çıkrıkçı (2016). The CAMM Cronbach's Alpha value was found to be .80. On the CAMM, every item received a reverse score. Fit indices (RMSEA = .07, SRMR = .06, NNFI = .87, C = .90) supported the single factor structure, according to confirmatory factor analysis (Çıkrıkçı, 2016).

#### **3.3.3 The Flourishing Scale**

The Flourishing Scale is a concise summary of the respondent's self-perceived success in crucial areas like relationships, self-esteem, purpose, and optimism. It consists of eight items. A single psychological well-being score is provided by the scale (Diener et al., 2009).

Different from the scales in the literature on Psychological Well-being, Diener et al. also examined the items of "connectedness and concern" and "optimism" with the Flourishing Scale they developed. Baki, carried out the scale's adaptation, validity, and reliability study in Turkey. The reliability study found that the Cronbach alpha coefficient was .80. The test-retest results showed that the first and second scale

applications had a strong positive and statistically significant relationship ( $r = 0.86, p < .01$ ). It was determined that the psychological well-being scale is a valid and reliable method for assessing psychological well-being (Baki, 2013).

### **3.3.4 The State-Trait Anxiety Inventory (STAI)**

A common instrument for measuring trait and state anxiety is the State-Trait Anxiety Inventory (STAI) (Spielberger et al., 1983), containing 20 items for evaluating trait anxiety and 20 for evaluating state anxiety. Each item is scored on a 4-point Likert scale. For instance, moving from ("Almost Never" to "Almost Always") Higher scores indicate more anxiety, while lower scores indicate less anxiety. In clinical settings, the STAI can be used to diagnose anxiety and distinguish it from depression. The scale's inner consistency coefficients have increased from .86 to .95; Test-retest reliability coefficients have ranged from .65 to .75 (Speilberger et al., 1983). STAI, which Öner and Le Compte translated into Turkish (1985). N. Öner conducted inventory validation and reliability testing in Turkey in 1977.

After separately determining the total weights of the direct and reversed items, the reverse items' total weight score is subtracted from the direct items' total weight score. This number is increased by an unchanging, predetermined value: The State Anxiety Inventory has a constant value of 50, while the Trait Anxiety Inventory has a constant value of 35. The person's anxiety score is the most recent value. The State Anxiety Inventory is a 20-item, highly sensitive instrument for evaluating emotions that change quickly. The Trait Anxiety Inventory, which has 20 items in its second section as well, aims to measure the person's anxiety over time. The State Anxiety Inventory's reversed items are as follows: 1, 2, 5, 8, 10, 11, 15, 16, 19 and 20. The Trait Anxiety Inventory's reversed items are as follows: 21, 26, 27, 30, 33, 36 and 39. The range of anxiety ratings is from 20 (low) to 80 (high).

## **3.4 Procedure**

At the beginning of the present study, ethical consent was taken from the Bahçeşehir University Faculty of Educational Science, the translation process was initiated. Faculty members in the Psychological Counseling and Guidance department and English Language Teaching department of the Bahçeşehir University translated the scale into Turkish. After translations were completed, bilingual faculty members in the same department rated the translations based on the suitability and

appropriateness of the items by considering the culture. To be able to finalize the adaptation procedure, a grammar checks and meaning check was handled by making individuals with different educational levels read the translated scale and give their feedbacks. The final research instrument package consisted of the demographic information form and other instruments of the study described above. All the scales which were used in the current study were used with the permission from the Turkish adaptors of the instruments. Written informed consent was provided for voluntary participation; thus, the participants were informed about the researcher, the aim of the study, and confidentiality before the instruments were distributed. In total, 297 individuals were reached; the completion of the instrument booklet took approximately 10 minutes for each participant.



## Chapter 4

### Results

In this chapter, firstly analyses of the data were reported. Then, adaptation studies of CAMM were explained. The results of the Confirmatory Factor Analysis were presented. Lastly, reliability studies of the scale were explained and the relationship between psychological well-being, anxiety and mindfulness were presented.

#### 4.1 Data Analysis

Before the analysis, the distribution of the scores of the scales was examined. The data relating to the analyzes for the assumption of normality are shown in table 2. When the skewness and kurtosis coefficients are examined, it is seen that the assumption of normality is met since they have values between -1.5 and +1.5 (Tabachnick & Fidell, 2013). Thus, parametric tests were used.

Table 2.

##### *Parametric Tests*

| Variables     | N   | Min   | Max   | Mean  | S.D.  | Skewness | Kurtosis |
|---------------|-----|-------|-------|-------|-------|----------|----------|
| Well-being    | 296 | 8.00  | 56.00 | 39.73 | 9.69  | -0.78    | 0.62     |
| Mindfulness   | 297 | 9.00  | 45.00 | 27.80 | 76.85 | -0.13    | 0.01     |
| Trait Anxiety | 297 | 23.00 | 77.00 | 47.00 | 11.00 | 0.06     | -0.43    |
| State Anxiety | 297 | 15.00 | 68.00 | 41.10 | 10.70 | 0.10     | -0.56    |

Mplus 7 and Jamovi 1.8.4 versions were used for the construct validity of the scale. Also, the excel program is utilized to calculate composite reliability value. When the Jamovi 1.8.4 version was used for reliability analysis, the IBM SPSS package program was utilized to determine the relationship between the study variables.

#### 4.2 Adaptation Studies of the CAMM

Before the analysis, the distribution of the scores of the scales was examined. The data relating to the analyzes made in terms of the assumption of normality are shown in the table below. When the skewness and kurtosis coefficients are examined, it is seen that the assumption of normality is met, since they have values between -1.5 and +1.5 (Tabachnick & Fidell, 2013). For this reason, parametric tests were used. The correlation between the items on the scale is shown below. It is seen that all items on

the scale have a positive relationship with each other. It is seen that the relationship between the second item and the two items is not significant and only the second item has such a situation.

### 4.3 Confirmatory Factor Analysis

Before performing the confirmatory factor analysis, the data distribution of each variable (item) was examined, and it was seen that the kurtosis-skewness values provided the assumption of normality.

According to the kurtosis and skewness values range from -1.31 to 1.37, and it can be said that the data do not deviate from normality (Tabachnick & Fidell, 2013). In light of the data, confirmatory factor analysis was conducted.

### 4.4 The CAMM's Construct Validity

To assess the CAMM's construct validity, Confirmatory Factor Analysis (CFA) was used to see if the original scale's factor structure matched the data from the current study. The first confirmatory factor analysis revealed, as shown in Table 3, that the values of the fit index and Chi-square fit index were not acceptable. As a result of the analyses, the second CFA was applied by subtracting item 2, which has the lowest factor load and the highest residual value, which was also excluded from the scale by researchers who adapted the original scale to other cultures, and which had the lowest correlation with other items. Moreover, CFA 2 results with nine items to be removed from item 2 show that the fit indices for the model are at an acceptable level. The results are presented in table 3.

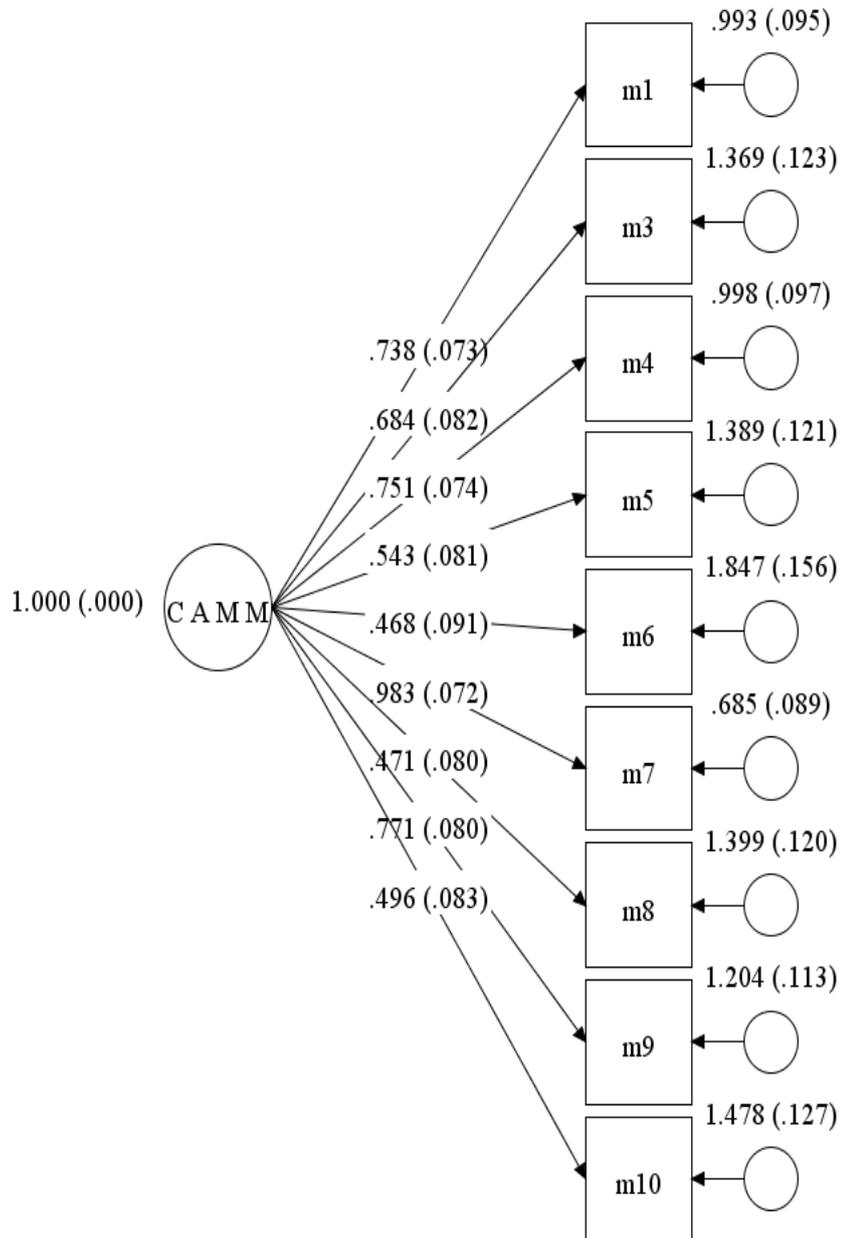
Table 3.

*Modification Fit Indexes of CAMM*

| Model | $\chi^2$ | df | $\chi^2/df$ | CFI  | TLI  | RMSEA | SRMR |
|-------|----------|----|-------------|------|------|-------|------|
| CFA 1 | 88.10    | 35 | 2.52        | 0.89 | 0.86 | 0.07  | 0.05 |
| CFA 2 | 60.26    | 27 | 2.23        | 0.93 | 0.90 | 0.06  | 0.05 |

Table 4 determined that CFA2's modification fit indices of the current nine-item CAMM scale are at an acceptable level ( $\chi^2/df = 2.23$ ,  $p < .00$ ; CFI = 0.93, TLI = 0.90, RMSEA = 0.06, SRMR = 0.05). The path diagram of the scale is shown below.

Table 4. *CFA2's Modification Fit Indices of The Current Nine-Item*



The path diagram above shows the standardized factor loads of the nine-item CAMM scale. It is seen that the lowest factor load is greater than .30. Factor loads vary between .47 and .77. In addition, residual covariance values vary between .42 and .89. Detailed data are presented in Table 5.

Table 5.

*Factor Loads of The Nine-Item CAMM Scale*

| Factor | Indicator | Estimate | SE     | 95% Confidence Interval |       | Stand. Estimate |
|--------|-----------|----------|--------|-------------------------|-------|-----------------|
|        |           |          |        | Lower                   | Upper |                 |
| CAMM   | M1        | 0.738    | 0.0733 | 0.595                   | 0.882 | 0.595           |
|        | M3        | 0.684    | 0.0823 | 0.523                   | 0.846 | 0.505           |
|        | M4        | 0.750    | 0.0740 | 0.605                   | 0.896 | 0.601           |
|        | M5        | 0.543    | 0.0810 | 0.384                   | 0.702 | 0.419           |
|        | M6        | 0.468    | 0.0910 | 0.289                   | 0.646 | 0.325           |
|        | M7        | 0.983    | 0.0718 | 0.843                   | 1.124 | 0.765           |
|        | M8        | 0.471    | 0.0798 | 0.315                   | 0.628 | 0.370           |
|        | M9        | 0.771    | 0.0798 | 0.615                   | 0.927 | 0.575           |
|        | M10       | 0.496    | 0.0826 | 0.334                   | 0.658 | 0.378           |

**4.5 Reliability Studies**

**4.5.1 According to Internal Consistency Coefficients (Cronbach's  $\alpha$  and McDonald's  $\omega$ )**

The internal consistency coefficients were analyzed to determine the reliability of CAMM which had a construct with nine items. Thus, Cronbach's  $\alpha$  and McDonald's  $\omega$  values were utilized and these values showed that the CAMM was a reliable scale (Cronbach's  $\alpha = 0.75$ , McDonald's  $\omega = 0.76$ ). These results are seen in table 6.

Table 6.

*Scale Reliability Statistics*

|      | Cronbach's $\alpha$ | McDonald's $\omega$ |
|------|---------------------|---------------------|
| CAMM | 0.75                | 0.76                |

According to table 6, the CAMM is a reliable scale based on the relationship between each item and the whole scale. The results are presented in table 6.

Table 7.

*Item Reliability Statistics*

|      | item-test correlation | if item dropped     |                     |
|------|-----------------------|---------------------|---------------------|
|      |                       | Cronbach's $\alpha$ | McDonald's $\omega$ |
| M1   | 0.469                 | 0.724               | 0.732               |
| M3   | 0.433                 | 0.729               | 0.739               |
| M4   | 0.504                 | 0.718               | 0.726               |
| M5   | 0.388                 | 0.736               | 0.747               |
| M6   | 0.311                 | 0.750               | 0.757               |
| M7   | 0.624                 | 0.698               | 0.703               |
| M8   | 0.321                 | 0.746               | 0.755               |
| M9   | 0.491                 | 0.719               | 0.729               |
| MI10 | 0.352                 | 0.742               | 0.752               |

Table 7 determined that the coefficients of the item-test correlation ranged from 0.31 to 0.62. As a result of that, the CAMM is a reliable scale.

#### 4.5.2 Composite Reliability

Another technique to assess the reliability of the CAMM is through Composite Reliability. The CR value was determined to be 0.76. Since the value is higher than 0.70, the CR value is acceptable (Hair, Black, Bain & Anderson, 2014).

#### 4.5.3 The Relationship Among Mindfulness, Well-being, and State-Trait Anxiety Levels of The Participants

The Pearson correlation coefficient was used to determine whether there is a statistically significant difference between the levels of mindfulness, well-being, and state-trait anxiety of the adolescents. The results are shown at table 8.

Table 8.

*Pearson Correlation Coefficients of The Study Variables*

| Variables        | n   | M     | SD    | 1      | 2      | 3     | 4 |
|------------------|-----|-------|-------|--------|--------|-------|---|
| 1. Mindfulness   | 297 | 27.80 | 6.85  | 1      |        |       |   |
| 2. Well-being    | 297 | 39.70 | 9.69  | .14*   | 1      |       |   |
| 3. Trait Anxiety | 297 | 47.00 | 11.00 | -.49** | -.49** | 1     |   |
| 4. State Anxiety | 297 | 41.10 | 10.70 | -.30** | -.50** | .71** | 1 |

Note. \* $p < .05$ , \*\* $p < .01$ .

Table 8 said the common core and that there was a statistically negative relationship between the levels of mindfulness and state - trait anxiety of the participants (respectively,  $r = -.49$ ,  $r = -.30$   $p < .01$ ). This implies that when mindfulness levels increase, state and trait anxiety levels decrease. In addition, the well-being levels are positively associated with the mindfulness levels ( $r = .14$ ,  $p < .05$ ). Accordingly, participants with high levels of well-being have high levels of mindfulness. Alternatively, well-being is negatively associated with both trait and state anxiety levels (respectively,  $r = -.49$ ,  $r = 0.50$ ,  $p < .01$ ). The results showed that whereas the respondents had high levels of wellbeing, they had low levels of trait and state anxiety.

#### 4.6 Limitations

There are a few constraints in this review. The primary restriction relates to the methodology. Generalizability of the outcomes is one more restriction of the review, true to form in each review. The Turkish population still requires additional psychometric validation for the CAMM. Furthermore, additional research is required to demonstrate the scale's temporal stability. Research into test-retest reliability is necessary.

## Chapter 5

### Discussion

This section discusses the major findings of the current research, describe the theoretical and practical implications of the study, express the study limitation as well as some recommendations for the upcoming studies.

#### 5.1 Overall Discussion and Conclusion

**5.1.1 Discussion of findings regarding the importance of measuring mindfulness tendencies on school-aged children and adolescents.** The concept of mindfulness has taken its place in recent years as an increasingly popular awareness approach in Turkey. Therefore, defining Mindfulness in children and adolescents and measuring the mindful tendencies of school-aged children and adolescents has become an important concern. Despite this, the tools to evaluate mindfulness are limited in Turkey. This study provides psychologists and educators with the opportunity to evaluate mindfulness among Turkish children and adolescents.

**5.1.2 Discussion of findings regarding validation studies of CAMM.** This study aims to describe the adaptation of the Child and Adolescents Mindfulness Measure, which adaptation and validation study was conducted by Çıkrıkçı (2016). First, the items of CAMM were translated into Turkish. Whether the tool provides language equivalence was examined by the back translation method. Then, item analysis was conducted to evaluate whether each item was sufficient to measure the attitudes of the participants. As a result of the item analysis, it was concluded that no item was removed from the scale. Overall, results showed that all items in the item pool were found to be significant for measuring mindfulness construct adequately by experts. Thus, the initial version of the scale included 10 items. To assess the CAMM's construct validity, Confirmatory Factor Analysis (CFA) was used to see if the original scale's factor structure matched the data from the current study. The second CFA was applied by removing item 2, which had the lowest correlation with other items and had the lowest factor load and was also removed from the scale by researchers who adapted the original scale to other cultures. Furthermore, the fit indices for the model are at an acceptable level, as demonstrated by the CFA 2 results with nine items, item 2 has removed from the scale. The reliability of the CAMM construct, which had nine items,

was determined by analyzing the internal consistency coefficients. As a result, the Cronbach's and McDonald's coefficients were used, which demonstrated that the CAMM was a reliable scale. Composite reliability is yet another method for evaluating the CAMM's reliability.

Saggino and colleagues (2017) conducted validation studies for the Italian version of the Child and Adolescent Mindfulness Measure. The CAMM has excellent psychometric properties and can be used to assess mindfulness in Italian adolescents and children. However, some modifications were required to increase its reliability and the items 2 and 5 removed from the scale. The eight-item CAMM had higher internal consistency values than the original 10-item form. Guerra and colleagues examined the psychometric properties of the Spanish version of the scale and the study resulted in the removal of scale items 2, 3, 5, 6, and 10 from the Spanish version. The unidimensional structure of CAMM and the Spanish version's high internal consistency and reliability were revealed by confirmatory factor analysis (Guerra et al., 2019). Considering these, Child and Adolescent Mindfulness Measure (CAMM) has been adapted to different languages and has shown satisfactory internal consistency as a result of validity and reliability studies. Studies conducted in Italian and Spanish versions it was observed that some items were removed from the pool to increase reliability. In the validity study by Çıkrıkçı (2016) conducted in Turkish, it was decided to remove two items: 5 and 10 from the scale that may not be consistent with the whole measure. In this study, as in the adaptation studies conducted in other languages, it was decided to remove the item 2 from the scale which has the lowest factor load and the highest residual value.

**5.1.3 Discussion of findings regarding the effect of mindfulness tendencies on state-trait anxiety and psychological well-being.** The Pearson correlation coefficient was used to see if the adolescents' levels of mindfulness, well-being, and state-trait anxiety were statistically significant. The participants' levels of state-trait anxiety and mindfulness were statistically negatively correlated ( $r = -.49$ ,  $r = -.30$ ,  $p.01$ , respectively). This suggests that state and trait anxiety levels decrease when mindfulness levels rise. Additionally, there is a positive correlation between mindfulness tendencies and well-being levels. Appropriately, members with elevated degrees of well-being have elevated degrees of mindfulness. Then again, prosperity is

adversely connected with both trait and state anxiety levels. The findings revealed that, despite their high levels of well-being, respondents had low levels of trait and state anxiety.

## **5.2 Suggestions**

In this section, the direction to be taken in the next studies with the findings obtained in the research is given. The data in the study were obtained by applying the Child and Adolescent Mindfulness Measure, whose Turkish adaptation, validity, and reliability studies were carried out, in a school in Turkey. Future studies can be conducted in public schools in Turkey or schools located in disadvantaged regions, and the effect of socio-economic levels on mindfulness tendencies can be investigated. There is an intensive examination system in Turkey. For this reason, academic anxiety levels of children and adolescents are quite high, and this is one of the biggest obstacles to success (Yıldırım, 2008). Mindfulness studies can be included in the annual guidance targets determined by the Ministry of Education in Turkey. In this way, it can be attributed to the inclusion of Mindfulness-based programs in the Turkish education system. General targets are the targets in the annual plans of all schools in Turkey. Local targets are determined by the district education directorate and are implemented in the schools in that region. Special goals are the goals that schools set according to their own needs. Including the concept of mindfulness in the school curriculum can pave the way for the implementation of the studies in the literature in Turkey.

This study can be used by researchers in studies conducted to develop measurement tools to measure mindfulness tendencies. It can also be used in the development of mindfulness-based intervention plans.

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